

**DIRECTORATE OF HIGHER SECONDARY EDUCATION
CAREER GUIDANCE AND ADOLESCENT COUNSELLING CELL**

Hand Book

**ON
CAREERS AND COURSES AFTER PLUS TWO**



GOVERNMENT OF KERALA

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INTRODUCTION

The discipline that makes use of statistical and mathematical methods as to determine the level of risk with respect to insurance and other financial instruments is known as Actuarial science. Actuaries are risk managers. They deal with application of statistical and economic analysis for decision making in insurance investment, financial planning and management.

Actuaries provide firms with their services in a variety of business as well as social contexts. Those include:

- Investment And Financial Services
- Life Insurance
- Health Insurance

Content

Financial Mathematics

Finance and Financial Reporting

Probability and Mathematical Statistics

General Insurance

Financial Economics

Business Awareness

Concepts of assets and liabilities

Modeling

Communications

Health & care Insurance

Life Insurance

Pension & other employee benefit

Finance & Investment

Actuarial risk

Eligibility

For M.Sc Actuarial Science

B.Sc Statistics or B.Sc Mathematics (with 50% Score)

Nature of Work

An actuary has to design an insurance policy and set its price, select the right people for insurance products and design reinsurance policies to minimise the loss of the company. Their specialization areas are life insurance, health insurance, property insurance, casualty insurance, finance benefits, employee benefits and pension planning.

Job Prospectus

The United India Insurance, New India Assurance Company and General Insurance Corporation and general insurance firms provide excellent opportunities in India. The career scope for actuaries can be found not only within our country, but also in foreign countries.

Life Insurance

General Insurance

Employees State Insurance Corporation

Banks

Stock Exchanges

Financial Organisations

Pension / Retirement Plans

Institutes

B.Sc + MSc Actuarial Science (5 years Dual Degree)

Amity School of Insurance Banking and Actuarial Science, Noida

M.Sc Actuarial Science

Amity School of Insurance Banking and Actuarial Science, Noida

BishopHerber College, Tiruchirapalli

University of Madras

MBA Insurance

National law University, Jodhpur

B.Sc Statistics with Actuarial Science

Farook College, Kozhikode

Post Graduate Diploma Insurance and Risk Management

CMD School of Insurance and Actuarial Sciences, Modi Nagar, UP

International Institute for Insurance and Finance (IIIF), Secundarabad

Institute for Integrated Learning in Management (IILM), New Delhi

Birla Institute of Management Technology, New Delhi

Jaipuria Institute of Management Luknow.

Post Graduate Diploma in Actuarial Science

Bishop Herber College, Tiruchirapalli

Diploma Insurance Marketing and Risk Management

CMD School of Insurance and Actuarial Sciences, Modi Nagar, UP

P.G. Diploma in Insurance Management

Amity School of Insurance Banking and Actuarial Science, Noida,

Master in Insurance Business and Financial Planning Certificate (FPC)

RNIS College of Insurance, New Delhi

College Of Insurance, Mumbai

College of Vocational Studies, Delhi University

Directorate of Distance Education, Alagappa University

Ernakulam Insurance Institute

Kalyani University

The National Insurance Academy

Tolani Institute of Management Studies

Personal Traits

Mathematical Reasoning Skill

Statistical Analysis Skill

Problem Solving Skill

Lateral Thinking

Premier Institutes

- Institute of Actuaries of India (IAI)
- AMITY school of Insurance & Actuarial Science
- Aligarh Muslim University
- CMD school of Insurance & Actuarial Science : UP



INTRODUCTION

The study of agriculture is known as agricultural science. Agriculture provides ample scope for different kinds of job opportunities. There are various fields like food production, processing, farm machineries, soil conservation and irrigation. The related practice of gardening is studied in horticulture.

Content

Agricultural courses include chemistry, botany, microbiology, soil science and animal physiology. Students are also introduced to basic concepts in agricultural systems, data analysis, agricultural business and economics. Topics studied by student in the later years include crop and pasture science, pasture agronomy, animal nutrition and agribusiness, Management of plant pests and diseases, crop science, soil fertility Horticultural Science, Natural Resource Management, Agricultural Engineering, Agricultural Education, Agricultural Extension and Agricultural Knowledge Management. Horticulture and Floriculture, which mainly focus on rearing of plants and flowers, also come under agriculture.

Nature of Work

Candidate should possess a liking for field work and an adaptive nature. Researchers should have intense concentration and a keen analytical thought process. Naturalistic intelligence is necessary for pursuing agricultural courses.

Personality Traits

- aptitude for research
- ability to work as part of a team
- Physical stamina to put in long hours of work with patience.

Job Prospectus

Candidate can seek employment in Central and State Government ministries and departments; Agricultural finance corporation research institutions; nationalized banks and rural banks; Krishi Vigyan Kendras; Agro - Industry Sector; Agricultural universities and various agricultural service organizations.

They can also be employed as agricultural managers / inspectors in farm related organizations, food-processing unit, dairy fields, NGO's and breeding centres. They can also set up their own business in primary economic sector such as farming, plantations, fisheries, mining, cattle rearing, poultry farming etc.

Trends

World food production must be doubled by the mid-21st century using less land and water in adverse climate. Besides, growing bio fuel from grain crops (corn and oil seeds) and sugar cane is also increasing the pressure on food demand. So the area offers career for talented persons.

Branches

- Agronomy.
- Agricultural Economics.
- Agricultural Entomology.
- Agricultural Engineering.
- Agricultural Extension.
- Agricultural Marketing Co-Operation.
- Agricultural Microbiology.
- Agricultural Statistics,.
- Apiculture.
- Biotechnology.
- Crop Physiology..
- Genetics and Plant Breeding.
- Horticulture.
- Plant Pathology.
- Seed Science and Technology.
- Sericulture.
- Soil Science & Agricultural Chemistry.

Rare Specializations

- Turf-grass management- for sports fields, public gardens, golf courses, botanical gardens and residential establishments.
- Hydroponics- Method of growing [plants](#) using mineral [nutrient](#) solutions, in water, without [soil](#)
- Weed Sciences- Weed Science is the study of vegetation management in agriculture, aquatics, horticulture, essentially anywhere plants need to be managed.
- Pasture Management- Pasture management is the process of ensuring pasture persistence, maintaining soil nutrition for growth and making the best use of the pasture

- Arid Horticulture- Realizing the potential of horticultural crops in arid zone
- Agrometeorology- Study and use of weather and climate information to enhance or expand agricultural crops and/or to increase crop production.

Competitive Exams

Course	Entrance Test	Institution & Address	Website
B.Sc Agriculture	KEAM	Kerala Agriculture University, Thrissur	(www.kau.edu)
		College of Agriculture Vellayani, Thiruvananthapuram	(www.kau.edu/coavellayani.htm)
		College of Horticulture Vellanikkara, Thrissur	(www.kauhort.in)
		College of Agriculture Padannakkad, Kasaragod	(www.kaupad.edu.in)
BTech. Agricultural Engineering	KEAM	Kelappaji College of Agriculture Thavanur, Malapuram	(www.tnau.ac.in/)
		Agriculture College and Research Institute Coimbatore, TN	(www.tnau.ac.in/)
		College of Agriculture Engineering Dharwad, Karnataka	(www.uasd.edu/)
		College of Agriculture Hebbal, Karnataka	(www.uasbangalore.edu.in/)
BTech. Agriculture		Vasantrao Naik Marathwada Krishi Vidyapeet Prabhani, Maharashtra	(http://www.mkv.ac.in/)
Agriculture in BSc, Horticulture, Fisheries, Forestry, Home Science, Sericulture, Biotechnology, Agricultural Engineering, Dairy Technology, Food Science, Agricultural Marketing and Cooperation	AIEEE	ICAR	www.icar.org.in/
BSc in Horticulture	4 yrs	TN Agri. University, Coimbatore	(www.tnau.ac.in)

Course	Duration & Eligibility	Institution & Address	Website
MSc. Agriculture		College of Agriculture Vellayani, Thiruvananthapuram	(www.kau.edu/coavellayani.htm)
		College of Horticulture Vellanikkara, Thrissur	(www.kauhort.in)
MSc. Horticulture		College of Agriculture Vellayani, Thiruvananthapuram	(www.kau.edu/coavellayani.htm)
		College of Horticulture	(www.kauhort.in)
MSc. Agriculture Statistics		Vellanikkara, Thrissur	
		College of Horticulture Vellanikkara, Thrissur	(www.kauhort.in)

Premier Institutes

- The Indian Council of Agricultural Research (ICAR). The Council is the apex body for coordinating, guiding and managing research and education in agriculture including horticulture, fisheries and animal sciences in the country. It has 99 ICAR institutes and 53 agricultural universities spread across the country). Website. www.icar.org.in/
- Indian Agricultural Research Institute (IARI) commonly known as Pusa Institute, Bihar. Website www.iari.res.in

Special /Research Institutes

- Kerala Agricultural University Mannuthi, Trissur(www.kau.edu/)
- Central Plantation Crops Research Institute (CPCRI),Kasaragod(www.cpcri.gov.in/)
- Central Tuber Crops Research Institute, Thiruvananthapuram(www.ctcri.org/)
- Indian Institute of Spices Research, Kozhikode (www.spices.res.in/)
- The Indian Agricultural Research Institute, New Delhi(www.iari.res.in/)
- National Research Center for Arid Horticulture (NRCAH now as CIAH) at Bikaner.(www.ciah.ernet.in/)
- Central Institute of Agricultural Engineering, Bhopal (www.ciae.nic.in/)
- Indian Institute of Horticultural Research,Karnataka (www.iihr.ernet.in/)
- Directorate of Cashew Research Puttur,Karnataka (www.cashew.res.in)
- National Research Centre for Banana Trichi,T N (www.nrcb.res.in/)

Eminent in the field



Mankombu Sambasivan Swaminathan (M S Swaminathan) born 7 August 1925, is an Indian [geneticist](#) and international administrator, renowned for his leading role in India's "Green Revolution," a program under which high-yield varieties of wheat and rice seedlings were planted in the fields of poor farmers.

Swaminathan is known as the "[Father of the Green Revolution in India](#)," for his leadership and success in introducing and further developing high-yielding varieties of wheat in India. He is the founder and chairman of the [MS HYPERLINK "http://en.wikipedia.org/wiki/MS Swaminathan Research Foundation"](#)Swaminathan[HYPERLINK "http://en.wikipedia.org/wiki/MS Swaminathan Research Foundation" Research Foundation](#). His stated vision is to rid the world of hunger and poverty. Swaminathan is an advocate of moving India to [sustainable HYPERLINK "http://en.wikipedia.org/wiki/Sustainable development"](#)development, especially using environmentally [sustainable agriculture](#), sustainable [food security](#) and the preservation of [biodiversity](#), which he calls an "evergreen revolution."

From 1972 to 1979 he was director general of the [Indian Council of Agricultural Research](#). He was minister of Agriculture from 1979 to 1980. He served as director general of the [International Rice Research Institute](#) (1982–88) and became president of the [International Union for the Conservation of Nature and Natural Resources](#) in 1988.



INTRODUCTION



Archaeology is a challenging career for those who have an analytical bend of mind and a keen desire to know about the past. It gives awareness about the culture, heritage and tradition of a country. It is the field of conservation and protection of architectural relics, old monuments, inscriptions etc. In fact, Archaeology is the science that helps to build up a picture of the past.

Archaeology is a multidisciplinary science which draws help from geography, history, anthropology, chemistry, geology, art and literature. It is also regarded as one of the four branches of Anthropology. The cultural and social events of the past have been relived through archeological studies. Archaeological studies or inputs are considered important in issues such as environmental conservation, urban societies, town planning etc. These discoveries involve a variety of field techniques and laboratory procedures.

Content

Archaeology is a multidisciplinary subject that integrates the knowledge of history and anthropology with subjects like geology and chemistry. The areas of specialization include numismatics and epigraphy. Subject content of archaeology includes Introduction to Archaeology Paleography and Epigraphy Archaeology and Literature, An Outline of World Prehistory, Environmental Archaeology (Bio archaeology), Biological Anthropology, Advanced Archaeological Theory and Research Methodology History of Indian Archaeology, Harappan Civilization, Cultural Heritage Management and field visit programme.

Eligibility

Archaeology is a career for those who have an acute interest and training in culture and history. It is preferable for candidates to have a background of ancient history and culture. The basic eligibility criteria for Bachelor course in History/ Archaeology (i.e. B.A level) of three-year duration is 10+2 or equivalent. After graduation one can opt for a Post graduate Diploma or Degree course in Archaeology.

Graduates in any stream can apply for Diploma, Postgraduate Diploma or Post graduation (MA/ M.Sc.) in different fields of Archaeology. However, graduates in sociology, history, botany, anthropology, ancient Indian history, archaeology are given a preference.

Duration of these courses may vary from 1 year to 2 years. Most of the institutes are conducting their own entrance examinations for selecting eligible candidates.

Personal Traits

An Archaeologist should be with perspective and probing mind, keen observation, analytical and logical thinking. He must also possess accuracy and should be able to recognize and appreciate arts. He should be adaptable to physical stress and strain since he may have to work outdoors, sometimes in uncomfortable conditions. Besides dedication, a lot of patience is required since researches in this field can take years on one project.

Nature of Work

There are many different roles an archaeologist can fulfill. There are the hands on - digging up of ancient and perhaps not so ancient artifacts. There are archaeologists that prefer to stay out of the field and do research on ancient civilizations and the artifacts that come with them.

Job Prospects

In India, students who pass out from the Institutes of Archaeology, the academic wing of the Archeological Survey of India, have brighter prospects because they are readily absorbed by the Archaeological Survey of India (ASI).

Archaeologists are employed in Defense services, museums, Ministry of Information and Broadcasting, cultural centers and historical division of the Ministry of External Affairs.

A degree holder in Archaeology can work as tourist guides, heritage managers, interpreters, resource persons of trip organizers in the tourism industry.

After obtaining Doctoral degree or successfully clearing SLET (State Level Eligibility Test) or NET (National Eligibility Test) one can take up teaching and research work. Archaeologists can even seek employment in other disciplines as historians

Archaeology graduates have great scope abroad for jobs as well as research as various colleges and universities are well furnished with research programmes.

Branches

Indian History, Culture and Archaeology (IHC)

Museology and Archaeology

Archaeology and Heritage Management

Specialisation

Some specialisations in Archaeology are

- Post-Roman Archaeology of Britain: Arthur and the Anglo Saxons
- Archaeology of Southeast Asia
- Archaeology in Film and Fiction
- Supervised Research in Archaeology
- Britons and Romans: Archaeology of the Western Roman Empire

Institutes

Degree course in archaeology [only one college in Kerala]

1. Assumption College, Changanassery (Kerala)

Changanassery (Kottayam Dist.) - 686101

Course : BA Museology and archaeology

The Department of Archaeology, University of Kerala, University Campus, Kariyavattom, Thiruvananthapuram – 695581 is the only institution that offers the MA course in archaeology in the State. This is a two-year fulltime four-semester course having 12 seats.

Meritorious graduates in any discipline are eligible for admission. The University of Kerala also provides M.Phil. and Ph.D. study facilities. Details can be collected from the Department of Archaeology or from the website www.keralauniversity.edu.

PG diploma

The Centre for Heritage Studies, Hill Palace, Thripunithura conducts a one-year postgraduate diploma course in archaeology; museology, archival studies and conservation. The course has been designed to train students in the fundamentals of archaeology. Graduates in any discipline from a recognised university are eligible for admission. Age limit is 25 years. Details can be collected from the centre (Phone: 0484 – 2776374).

Outside Kerala

Degree Courses

Banaras Hindu University, Varanasi [3 year BA, 2 year MA]

Barkathullah VishwaVidyalaya, Bhopal [3 year BA, 2 year MA]

Institutes with PG Courses in Archaeology

- ◆ Bangalore University, Bangalore – 560056
- ◆ The University of Madras, Chepauk, Chennai – 600005 [MA and M.Phil. courses in ancient history and archaeology , PG diploma in archaeology and tourism]
- ◆ Dr. Harisingh GourVishwavidyalaya, Sagar- 470003
- ◆ Nagpur University, Nagpur – 440001
- ◆ Osmania University, Hyderabad – 500007

Premier Institutes

- ◆ Archaeological Survey of India, Delhi
- ◆ Banaras Hindu University, Varanasi
- ◆ Deccan College of Archaeology and ancient Indian History, Pune
- ◆ Allahabad University, Allahabad



INTRODUCTION

Aviation is one of the world's largest industries in terms of capital investment and contribution to state exchequer. It is poised for a vibrant growth. Aviation or flying by an aircraft attracts young boys and girls who want to mix up adventure with career. A job in aviation is a dream for many but in some field it is expensive especially for a pilot job.

CONTENT

Physics, Meteorology, Management, HR, Aviation Policies & Procedures, Pre-flight lessons, Airline Pilot Experiences, Aircraft manufacturing , Equipment etc

Aviation sector has opened avenues for Pilots, Co-Pilots, Aircraft Maintenance Engineers, Cabin Crew, Technicians and Ground Duty Service Officers. In 2003-04, India had only three domestic airlines with 123 commercial jets. But today, the scenario has changed.

ELIGIBILITY

Pass in 10+2 with 50% marks in Physics Chemistry and Mathematics

PERSONAL TRAITS

Need a scientific bent of mind, Good communication and interpersonal skills and Spatial intelligence in general.

There are certain attributes to be a Pilot. First of all, one should not be afraid of heights and should have a passion to fly those machines. One should possess a good coordination of mind and limbs. The ability to remain calm under any circumstance and quick thinker and apply theoretical knowledge into practice while flying is very important. One should have patience, commitment, responsibility and self-confidence, hard work, stamina, adaptability to follow difficult time schedules, good team spirit etc., are also required for an aspirant.

JOB PROSPECTS :

The most popular Aviation Exploring careers include:

- Pilots
- Aircraft mechanics
- Flight Engineers
- Avionics Technicians
- Air traffic Controllers
- Flight Attendants
- Flying Instructor etc

One could start off as a trainee pilot in smaller aircraft. Besides large corporate houses that own private aircraft, there are about 40 aviation companies in the country that rent out helicopters and small aircraft (for a fee of Rs.30, 000-Rs.1.30 lakh per hour + 15% air travel tax.)

NATURE OF WORK

Aviation involves preparation of flight plan, analyzing meteorological reports, checking the air worthiness of the air craft, checking the fuelcargo load, monitoring the automatic flying system maneuvering navigation and communication system .

PILOT :-

Pilot training involves two major steps

The first step is getting a Student Pilot license (SPL). The next step is to start flight training to get Private Pilot License (PPL). This includes 60 hours of flying comprising 20 hours of dual flying, 20 hours of solo flying and 5 hours cross country flying. One must clear theory also.

Hindustan Aeronautics Ltd's (HAL) Rotary Wing Academy at Bangalore would be good. However in compliance with the flight-safety requirements that are being followed worldwide, the DGCA has recently upped the mandatory flying time from the present 100 hours to 150 hours before the CPL can be issued.

After PPL another 190 hrs flying training is required for commercial pilot (CPL). i.e. a total 250 hrs of flying training. A flight radio operator's license & radio telephone license have to be obtained .In addition to theoretical papers medical test have to be cleared. Usually it takes 2 to 3 years to get a license Entry to PPL course is through an entrance test conducted at certain centers.

Training Process : There are two types of pilot training

Free of cost

Selection passed NDA / Naval Academy Examination conducted by UPSC

Age between 16 Yrs and 19

With fees

Join IGRUA (Indira Gandhi Rashtriya Uram Academy) or any other pilot training center

Age 17 years completed

Training institutions

1. Kerala Aviation Academy - Trivandrum
2. Indira Gandhi RastriyaUram Academy, Rae Bareli, U.P.
3. Delhi Flying Club - Delhi.
4. Gujarat Flying Club - Baroda

5. Madras Flying Club - Madras
6. Coimbatore Flying Club - Coimbatore,T.N.
7. Andra Pradesh Flying Club - Hyderabad.
8. Assam Flying Club - Guwahati.
9. Patyala Aviation Club - Punjab
10. Flying Club, Civil Aerodrome - Indore.
11. Fly Tech Aviation Academy - Seceuderabad
12. Ludhiyana Aviation Academy - Ludhiyana.
13. Govt. Flying School - Bangal - Mumbai.
15. Nagpur Flying club - Maharashtra
16. Sahara India Aviation Academy - New Delhi.

Scholarships

1. Full scholarship by Indian Airlines.
2. Full scholarships by Air India
3. Full scholarships by I.G.ItU.A (To SC/ST students)
4. Scholarship to girl student by Rajiv Gandhi foundation Amounting 75% of training fee

AIR HOSTESS

Airhostess is a glamorous & interesting job for women. The airhostess is the first person to welcome a passenger aboard an aircraft. Her welcoming smile acknowledges every passenger. She has to make the arrangements for the comfort of the passenger. The airhostess has to be on duty throughout the duration of the flight. She has to provide first aid when a situation arises and has to work continuously and she is like an angel in the plane.

The trouble free, comfortable and safe journey of a passenger is of prime importance to the aviation sector. In this regard, it is an Air Hostess / Flight Steward whose role becomes really crucial as they are the first one to welcome passengers aboard an aircraft.

ELGIBILITY

Qualification: - + 2 in any discipline (preference will be given to Tourism or Hotel Management Diploma holders or home science graduates) Fluency in English & Hindi is required (preference for those who can handle foreign languages)

Age :- 18 to 25 yrs. (varies for different airlines). Height: - min 152 cm

Weight: - Proportionate to height

PERSONAL TRAITS

To be an Air Hostess or a Flight Steward, one should have sense of responsibility, initiative, friendly outgoing personality, politeness, physical stamina and the capacity to work for long hours on the feet.

The ability to react quickly in time of emergency, presence of mind, systematic approach, attractive appearance, a well-modulated pleasant voice and a proportionate figure with a graceful carriage are the important traits required in an Air hostess or a Flight Steward. Marital Status: - Unmarried

Hemoglobin level should be normal at least 12

Vision : - Preferable normal eyesight without glasses

Mode of Selection

It includes objective type test, interview, group discussion, medical check up etc

NATURE OF WORK

Their job also includes giving instructions to the passengers on how to use safety measures during crisis, catering foods and drinks to the passengers and answering passengers' inquiries on facilities and services. They are supposed to provide First Aid to passengers who feel sick.

JOB PROSPECTS

There is a great demand for Air Hostesses/Flight Stewards in the Aviation sector.

Training Institutes

1. Aptima Airhostess Academy, JI/I64, Rajouri Garden, New Delhi -110027, Ph-011- 25176407 (Duration 6 months)
2. Franfinn Management Consultants (FMC) 721, Suneja Tower II, Dist Centre, Janatpuri, New Delhi-110058 (Ph-011-25532757)
3. Flyers Inc, 33, jangpura Road, New Delhi-110014 Ph-011-24313411
4. Pacific Airways, Pocket GH-6/35, PaschimVihar, New •Delhi 110087 Ph-011-25576463
5. Free Bird Aviation and Management Service, Trivandrum
6. Dean Travel and Tours (Pvt) Limited, Bangalore.
7. Skyline Educational Institute, Laxman Public School Campus, HAUS KHAS, New Delhi-110016 (Offers BA (Hons) International Business and Tourism (3years))

CABIN CREW OR FLIGHT ATTENDANTS

They are called so as they assist the passengers during the journey. They ensure the safety and comfort of the passenger

Flight Attendants or Cabin Crew are members of an aircrew employed by airlines primarily to ensure the safety and comfort of passengers aboard commercial flights, on select business jet aircraft, and on some military aircraft

ELIGIBILITY

Graduation in any discipline .

Fluency 'in English, Hindi and Foreign languages

Administration are preferred. Some companies need only 10 + 2 qualification)

(Preference: Degree holders .in Hotel Management and Diploma/Degree in Catering and First Aid

Age: - 19 to 22 (International age group is 18-35 which varies in different airlines)

Height: - 5'4

Marital Status: - Unmarried

Selection Process :- Written test, Interview, Group Discussion (procedures are slightly different for various airlines)

PERSONAL TRAITS

A pleasant demeanor, confidence, patience, resourcefulness and congeniality and fact are the requisites of Flight Attendants.

Main Institutes of Training

1. Indian Airlines Central Training Establishment, Hyderabad.
2. Airhostess Academy, New Delhi.
3. Shilon Institute of Hospitality Management, New Delhi.
4. Flyers Institute, New Delhi.
5. Free bird Aviation and Management Service, Trivandrum.
6. Ampita Airhostess Academy, New Delhi.
7. Frankfinn Management Consultants, New Delhi.
8. Flyers inc, 33, Jangpura Road, New Delhi-110014.
9. Fighters Aviation Academy, Secundrabad, Hyderabad.

AIR TRAFFIC CONTROL SYSTEM

It is a vast network of people and equipment that ensures the safe operation of commercial and private aircraft. The A TC's work demands work speed, immediate apprehension, efficiency and total concentration. ATC's are trained in basic meteorology, navigation, and telecommunication, principle of radar and associated techniques and operation of traffic control system.

Air traffic control (ATC) is a service provided by ground-based controllers who direct aircraft on the ground and through controlled airspace, and can provide advisory services to aircraft in non-controlled airspace. The primary purpose of ATC worldwide is to prevent collisions, organize and expedite the flow of traffic, and provide information and other support for pilots. In some countries, ATC plays a security or defensive role, or is operated by the military

To prevent collisions, ATC enforces traffic separation rules, which ensure each aircraft maintains a minimum amount of empty space around it at all times. Many aircraft also have collision avoidance systems, which provide additional safety by warning pilots when other aircraft get too close.

Different Categories of ATCs

- **ATC Manager- Eligibility**-Engineering degree in Electronics, Telecommunication, Radio Engineering of a recognized university with 60%of marks.

Mode of selection - written test, interview.

Age limit not more than 28years (5years relaxation for SC/ST and 3years for OBC).

- **ATC Superintendent - Eligibility** - (a) Degree in science with Physics or Maths with 60% (b) first class diploma in Electronics Engineering from a recognized Polytechnic.
- **Manager** (Personal, Legal, Commercial, Cargo, Economic Planning, House Keeping etc) Eligibility- Basic degree in relevant discipline.
- **Communication Officer** - routine maintenance, repair and adjustment of communication equipment
- Eligibility- Degree with Physics or Diploma in Radio Electronics, Telecommunication, Electrical or Communication.
- **Flight engineer** - Check all the system of aircraft before, during and after the flight to ensure the safety and the efficiency of the aircraft .

Eligibility :-

- (a) Engineering graduates in Electronics, Electrical, Mechanical, Aeronautical or Computers
- (b) SSC holder with Science subject who completes the Flight Engineers ground course or has an Aircraft Maintenance Engineers license.

- **Assistant flight purser** - Works along with airhostess and is concerned with providing meals and other service to passengers Mode of selection-written test, and interview - **Eligibility**- 10+ 2 pass (preference are given to those who have 3 years experience in catering or in tourism or who can converse in more than one language)

Age limit- not exceed 26 years.

- **Navigator** - Giving direction and location of aircraft while flying in the air - Mode of selection written test and oral exam .Age limit -not less than 20yrs.
- **Aerodrome Officer**- One who takes care of Radar Communication equipments linking the aerodrome and ATC displays ground markings.

- Eligibility- B.Sc Physics or Maths Age limit : 18-25.
- **Meteorologist** - Compile and interpret data of temperature sunlight, rainfall, humidity and wind.

Eligibility - M.Sc or B.Sc in Meteorology/Physics/ Maths, Computer Application/ Electronics/ Telecommunication.

- **Ticketing and Reservation staff**- interact with passengers arrange flight requirements and tickets for traveling – **Eligibility**:- Degree in any discipline or Diploma in Travel and Tourism (computer.literacy preferred) generally women are preferred.

AIR CRAFT MAINTENANCE ENGINEER

The Aircraft Maintenance Engineers play a stellar role in Aviation sector as they are the ones who ensure that the aircraft is in a perfect condition before take-off. An engineer needs to be completely focused on safety as the casual attitude can pose a danger to the lives of people on board. The job includes diagnostic and mechanical duties covering maintenance, repair, trouble shooting and overhaul, in addition to performing inspection and modification on an aircraft.

ELIGIBILITY

The basic and minimum qualification required to be an Aircraft Maintenance Engineer is a Higher Secondary School Certificate with Mathematics, Chemistry and Physics as main subjects. Candidates are required to undergo a 3-year certificate course on aircraft maintenance engineering, conducted by various Training Schools approved by the Director-General of Civil Aviation.

PERSONAL TRAITS

An Aircraft Maintenance Engineer, at times, has to work under stringent conditions, tough deadlines and harsh weather in difficult locations. To overcome all this, one should be logical, focused and have perseverance.

NATURE OF WORK

The Aircraft Engineer has to certify the aircraft fit for release. The job ensures the availability of safe aircraft at the best possible cost. The Engineering and Maintenance Department of an airline performs scheduled and unscheduled tasks, leading to restoration of the expected airworthiness.

TREND

With the privatisation and foreign collaboration increasing everyday, the future is very bright in Aviation sector. Most airline offices are looking to increasing their fleet and this itself is opening avenues for the aspirants.

Additions :

Distance Education Programme at

YashwantraoChavan Maharashtra Open University .

1. Master of Business of Administration(Aviation Management) 2years

Eligibility : Bachelor's Degree OR Professional degree OR Master's degree,fee-20,000.

2. Master of Business Administration.(Airport Management) 2 years

Eligibility : Bachelor's degree, OR Master's Degree, Fee-20,000.

3. Master of Business Administration(Air Line Management) 2 Years

Eligibility : Bachelor,s degree OR Professional degree OR Master,s Degree, Fee-20,000.

4. Master of Business Administration (Air Travel Management) 2 Years

Eligibility : Bachelors degree OR Professional degree OR Masters degree Fee-20,000.

5. Bachelor of Business Administration(Aviation Management)

6. Bachelor of Business Administration(Airport Management)

7. Bachelor of Business Administration.(Air Line Management)

3 Years-10+2- Fee 16000



INTRODUCTION

The courses in banking sector includes BBA & MBA in Banking B.Com & M Com. in Banking, B.Sc. & M. Sc. Agriculture and Banking. Also there are different varieties of Diploma courses. However a scrutiny of the current scenario reveals the fact that various nonbanking courses also enable job seekers obtain various vacancies in banking sector.

Content

The course content comprises the need of modern banking and develop the candidate to achieve international standards.

Principles of Management

Business Economics

Financial Mathematics

Computer Fundamentals

Financial Accounting

Principles of Banking

Computer Lab

Principles of Insurance

Business Organization

Quantitative Techniques & Operations

Research in Management

Data Base Management System

Cost Accounting

Indian Banking System

DBMS Lab

Business environment

Legal Systems in Business

Business Statistics

Banking theory Law and Practice

Operations research

Business Taxation

Practical Auditing

Human Resources Management

International Banking

Eligibility

BBA (Banking) : Plus Two pass

B.Com (Banking) : Plus Two pass

MBA (Banking) : BBA (Banking) or Any Degree

M.Com (Banking) : B. Com

Diploma (Banking) : Graduation

Certificate Banking Courses : Graduation

Personality Traits

Numerical ability

Logical reasoning

Proficiency in English and regional languages

Positive attitude

Problem solving skill

Ability to work under pressure

Time management

Interpersonal skill

I T skill

Nature of work

One who wishes to take up a Profession in banking sector is obliged to work until the target is accomplished. Perfection and accuracy are the topmost nature of the work.

Job Prospects

There are a lot of vacancies arising every year in India and around the world. The main posts are as followed.

RBI (Reserve Bank of India)

Staff Officer Grade 'A'

Staff Officer Grade 'B'

Assistant

Scheduled Banks

Clerical Grade

Officer Grade

Computer Professionals

Agricultural Officers

Law Officer

IBPS (Institute of Banking Personnel Selection)

Others

Financial analysts

Personal financial advisors

Accountants

Auditors

Research Officer

Loan officers

Collectors

Bank tellers

Buyers

Treasurers

Budget analysts

Financial Managers

Senior Executives

Economists

Clerks

Trends

Employment Trend Survey reported Banking and Insurance, Health Care, Hospitality and IT sectors would together create more new jobs in the country. Engineering graduates prefer to work in banking sector since it provides high earning and job security. Besides the graduates in commerce other graduates are also able to find their profession in this sector.

Branches

- BBA in Banking & Finance
- B.COM in Banking & Finance
- BBA in Banking
- B.COM in Banking Management

- B.COM in Banking & Insurance
- MBA in Banking & Taxation
- B.Sc. in Banking & Finance
- M.Com Banking Management
- M.Com in Bank Management
- M.Com in Banking & Insurance Management
- Ph.D in Banking & Finance
- Master in Banking/Finance/Insurance
- Advanced Diploma Course in Banking Services
- Diploma in Banking and Finance
- Diploma in Banking and Insurance
- Advance Diploma in Urban Co-operative banking
- Diploma in Banking Laws
- Diploma in Banking Management
- Diploma in Home loan advising
- Diploma in Banking Services
- Post Graduate Diploma in Bank Management
- Post graduate Diploma in Banking
- Post graduate Diploma in Banking and Financial Management
- Post graduate Diploma in Development and Investment Banking
- Post graduate Diploma in Islamic Banking and Finance
- Post Graduate Certificate in Investment Banking
- Certificate Course in Banking

Rare Specialization

- Utkal University
- ShriVenkateshwara University

Institutes

- Kerala Agricultural University
(For more details visit <http://www.kau.edu/Education.htm>)
- Co- operative training colleges in Kerala
- Ten Co- operative training colleges in Kerala
- Junior Diploma in Co-operation- Colleges in Kerala(JDC)
(premier/ special)

- Indian Institute of Bank Management in Guwahati
- Institute for Development and Research in Banking Technology- Hyderabad
- National Institute of Bank Management- Pune
- Delhi School of Economics
- Annamalai University
- The Indian Institute of Banking & Finance- Mumbai
- The Aligarh Muslim University- Aligarh
- Maharaja Sayajirao University of Baroda
- Gujarat University
- Indira Gandhi National Open University- Delhi
- Marathwada University Aurangabad
- Pondicherry University MBA in banking technology
- Centre for advanced financial studies, Institute for Financial Management and Competitive exams
- Kerala Medical Entrance for B.Sc. Banking and Co-operation
- BSRB (Banking Service Recruitment Board)
- IBPS (Institute of Banking Personnel Selection)

Areas of Clerks examination

Reasoning – 40 marks

Language – 40 marks

Numerical Ability – 40 marks

General Awareness and – 40 marks

Computer Knowledge. – 40 marks

English

Future career options

- World Bank
- Asian Development Bank

Additions

- Ph. D. Rural Marketing Management
Kerala Agricultural University

(For more details visit <http://www.kau.edu/Education.htm>)





INTRODUCTION

Bio informatics is the use of computer technology to manage biological information. Bio Pharma companies look for candidates with computer skills for the post of staff scientist. For diagnosis and for the production of new medicines, research oriented informations on bio informatics is necessary.

CONTENT

The various fields are data mining, genom project analyst, data outsourcing etc.

ELIGIBILITY

B Sc Bioinformatics

Plus two Science stream

MSc Bioinformatics

BSc Bioinformatics/ BSc Botany/BSc Zoology

PERSONALITY TRAITS

Very smart persons having interest and efficiency to continue studies up to research

NATURE OF WORK

Research oriented work in labs for improved items in Agriculture, Food Industry , Dairy Technology etc

JOB PROSPECTS

Important work will be in lab of research Institutes in Govt, and private sector

Other Jobs

- Computational Biologist
- Domain Expert
- Project Fellow/Project Assistant
- Jr/Sr Bioinformatician
- Bioinformatics analyst

TRENDS

Very Competitive field can expect competition from computer trained Microbiologist and Biochemist

INSTITUTES

Colleges in Kerala offering BSc Bioinformatics

1. Aquinas College Edakochi Ernakulam
2. Mar Athanasious College Kothamangalam,Ernakulam

Institutes in Kerala offering MSc Bioinformatics

- Aquinas College Edakochi Ernakulam
- Amritha Viswavidyapeedam, Amruthpuri Campus, Vallickavu, Kollam
- Indiragandhi College of Arts and Science, Nellikuzhi, Kothamangalam, Ernakulam dist
- Kristhu Jayanthi College of Management and Technology, Changanassery
- Mar Athanasious College for Advanced Studies, Thiruvalla
- Safi Institute of Advanced Studies, Raisa Nagar, Vazhayoor East PO Via Ramanattukara,Malappuram
- SNGIST Arts and Science College, Karumallor P O N Paravoor Ernakulam
- U C College Aluva
- University of Calicut





INTRODUCTION

Biotechnology is a research oriented field. It combines the discipline like genetics, molecular biology, biochemistry, embryology and cell biology which are in turn linked to technology disciplines like chemical engineering and information technology

CONTENT

Biotechnology has application in various areas such as Medicine, Pharmaceuticals, Agriculture, Industry and Environment. It is a very fast growing field. In medicine it has helped in improving accuracy of diagnosis and treatment. It is also applied in the development of drugs and vaccines, improved food items, control of pollution and waste management.

ELIGIBILITY

BSc Biotechnology

Plus two or equivalent in science stream Biology and admission is on merit basis

M Sc Biotechnology

Bachelor's degree under 10+2+3 pattern of education in Physical, Biological, Agricultural, Veterinary & Fishery Sciences, Pharmacy, Engineering/Technology, 4-Years B.S. (Physician Assistant course); or Medicine (MBBS) or BDS with at least 55% marks

PERSONALITY TRAITS

One must have keen observation and analytical mind. He must have very good health and patience

NATURE OF WORK

Research oriented work in labs for improved items in agriculture, pharmacy and food industry

JOB PROSPECTS

Job opportunities exist in the Agriculture, Fertilizer and Pharmaceutical Processing Industries in private and public sectors. One can find job in Research Laboratories run by Govt, Universities and Institutes of Technology as well as Corporate sectors.

Other posts

1. Application Administrator
2. Project Assistant
3. Research Associate
4. Project Fellow
5. Junior Research Fellow
6. Vaccine Biologist
7. Scientific Officer

TREND

Field is very competitive and those who are showing skill no need to turn back

BRANCHES

1. Medical Biotechnology
2. Agriculture Biotechnology
3. Food Biotechnology
4. Industrial Biotechnology
5. Pharmaceutical Biotechnology
6. Water Biotechnology
7. Animal Biotechnology
8. Environmental Biotechnology

Courses as categorized from diploma to Phd level

Institutes in Kerala offering BSc Biotechnology

- Adithya Kiran College Of Applied Sciences, Mathamangalam, Kannur
- Al-Ameen College Edathala Aluva
- Al Azhar College of Arts and Science Thodupuzha
- Amritha Viswavidyapeedam, Amruthpuri campus, vallickavu, Kollam

- Bishop Moore College Mavelikkara
- CMS College Kottayam
- Chinmaya Arts and Science College for Women, Chala PO ,Thottada, Kannur
- CUSAT ,Thrikkakara,Ernakulam
- EMEA College, Kondotty, Malappuram
- Emmanuel College,Vazhichal Thiruvananthapuram
- Gems arts and Science College ,Ramapuram, Malapuram
- Govt Arts College, Model School Road, Thycaud Thiruvananthapuram
- Govt College Karyavattom, Thiruvananthapuram
- HM Arts and Science College,Randarkkara,Muvattupuzha
- Indira Gandhi college of Arts and Science, Nellikuzhi, Kothamangalam, Ernakulam Dt
- JDT Islam Arts and Science College,Vellimadukunnu, Calicut
- Kannur University ,Mangattuparamba, Kannur
- Kerala University, Thiruvananthapuram
- Mar Augusthinose College, Ramapuram Bazar, Kottayam
- Mar Ivanios College Nalanchira, Thiruvananthapuram
- Marthoma College of Science and Technology, Ayur, Kollam
- Mercy College Palakkad
- MES College Marampally, Aluva
- New Man College Todupuzha, Idukki
- Presentation College of Applied Science, Puthenvelikkara,Ernakulam
- Safi Institute of Advanced Studies, Raisa Nagar, Vazhayoor East PO Via Ramanattukara,Malappuram
- Saga Institute of Management Studies, Downhill, Malappuram
- Sharaf Arts and Science college, Padne, Kasaragod
- SN Guru Memorial Arts and Science College, Thuravur, Cherthala
- Sree Sankara Colege, Kalady , Ernakulam
- St Xaviers College, Thumba, Thiruvananthapuram
- St Josephs College Irinjalakkuda Thrissur
- St Marys Colege For Women,Paliakara,Thiruvalla
- St Thomas College Palai, Kottayam
- The Cochin College ,Kochi
- University of Calicut
- A J College of Science and Technology, Thonnakkal ,Trivandrum

Institutes in Kerala offering M Sc Biotechnology

- Al-Ameen College Edathala Aluva
- Al Azhar College of Arts and science Thodupuzha
- Amritha Viswavidyapeedam, Amruthpuri campus, vallickavu, Kollam
- CMS College Kottayam
- CUSAT ,Thrikkakara,Ernakulam
- Indiragandhi college of arts and Science, Nellikuzhi, Kothamangalam, Ernakulam dist
- Mar Augusthinose College, Ramapuram Bazar, Kottayam
- MES College Marampally, Aluva
- Presentation College of Applied Science, Puthenvelikkara,Ernakulam
- Safi Institute of Advanced Studies, Raisa Nagar, Vazhayoor East PO Via Ramanattukara,Malappuram
- Saga Institute of Management Studies, Downhill, Malappuram
- St Josephs College Irinjalakkuda Thrissur
- St Marys Colege For Women,Paliakara,Thiruvalla
- St Thomas College Palai, Kottayam
- University of Calicut (General Biotech / Biotechnology)
- Aquinas CollEge Edakochi Ernakulam
- KVM College of Engineeringand IT Cherthala, Alappuzha
- MG University Kottayam
- Mar Athanasious College Kothamangalam, Ernakulam
- Marthoma College Kuttampuzha Thiruvalla
- Sahodaran Ayyappan Smaraka SNDP Yogam College Cherimukku Konni Pathanamtitta
- Sree Sankara Vidyapeedom College Valayanchirangara, Ernakulam Dist
- U C College Aluva
- St Peters College, Kolenchery, Ernakulam Dist
- St Berchmans College Changanassery, Kottayam
- SNGIST Arts and Science College, Karumallor P O N Paravoor, Ernakulam

Leading research Institutes in India

- Indian institute of Science NIPER Mohali, Punjab
- National Institute of Immunology
- National Dairy Research Institute
- Indial Agricultural Research Institute

COMPETITIVE EXAMINATION

Jawaharlal Nehru University(JNU) will hold a Combined Entrance Examination(CEEB) for admission to 2 years M.Sc Programme in Biotechnology on behalf of the following participating Universities

University of Allahabad, Allahabad; Annamalai University, Tamil Nadu (M.Sc in Marine Biotechnology); Baba Ghulam Shah Badshah University, Rajouri (J&K) (M.Sc in Bioresources Biotechnology); Banaras Hindu University, Varanasi; University of Burdwan, Burdwan; University of Calicut, Kerala; Devi Ahilya Vishwavidyalaya, Indore; Goa University, Goa (M.Sc in Marine Biotechnology); Gulbarga University, Gulbarga; Guru Jambheshwar University of Science and Technology, Hisar; Guru Nanak Dev University, Amritsar; Himachal Pradesh University, Shimla; HNB Garhwal University, Garhwal; University of Hyderabad, Hyderabad; University of Jammu, Jammu; Jawaharlal Nehru University, New Delhi; Kumaun University, Nainital; University of Lucknow, Lucknow; Madurai Kamaraj University, Madurai; Maharshi Dayanand University, Rohtak (M.Sc in Medical Biotechnology); MS University of Baroda, Vadodara; University of Mysore, Mysore; University of North Bengal, Siliguri; North Eastern Hill University, Shillong; Pondicherry University, Pondicherry; University of Pune, Pune; RTM Nagpur University, Nagpur; Sardar Patel University, Gujarat (M.Sc in Industrial Biotechnology); Shivaji University, Kolhapur (M.Sc in Environmental Biotechnology); Tezpur University, Tezpur (Assam) (M.Sc in Molecular Biology and Biotechnology); TM Bhagalpur University, Bhagalpur; Utkal University, Bhubaneswar; Veer Bahadur Singh Purvanchal University, Jaunpur; Visva-Bharati University, Santiniketan

NB : B Tech Biotechnology can be searched in Engineering Section

Biological Science

Biological Science is concerned with the study of life and living organisms. It includes Botany and Zoology and all their subdivisions. The study of plants is termed as Plant Sciences or Botany and that of animals as animal sciences or Zoology. In general, Biological Science recognizes the cell as the basic unit of life, genes as the basic unit of heredity, and evolution as the engine that propels the synthesis and creation of new species. It is also understood today that all organisms survive by consuming and transforming energy and by regulating their internal environment to maintain a stable and vital condition. It is increasingly observed that in the recent past, that apart from the commonality among the two which brought both the subjects together, the influence of engineering and technology on these was strongly felt. As a result, the following areas emerged - Bio-Technology, Bio-Chemical Engineering, Bio- Engineering and Bio-Sciences which are now offered to Engineers and Technologists.

Botany

Botany is related to the scientific study of plants. It has a key role in natural resource management. This field offers a wide range of career opportunities in research, industries, teaching, public service, self-employment and many more other fields.

Content :

Taxonomy, Systematic Botany, Cytology, Embryology, Genetics, Plant Breeding, Ecology, Bio Technology, Bio Chemistry, Genetic Engineering, Tissue Culture, Bio Informatics, Pollution, Evolution etc .

Courses :

Diploma in Floriculture and Landscape Gardening :

Eligibility: 12th pass.

B.Sc. Botany :

Eligibility: 12th pass. Course available in almost all reputed Science Colleges in India

M.Sc. Botany :

Eligibility: B.Sc. Botany

Course duration: 2 years

Mode of admission: Entrance.

Master of Philosophy (M.Phil.) :

Eligibility: M.Sc.

Course duration: 1-2 year

Centers: Many reputed Universities.

Doctor of Philosophy (Ph.D.) :

Eligibility: M.Sc. Duration: 3-6 years Mode of admission:

Doctor of Science (D.Sc.)

Eligibility: 2 Years after Ph.D. / 3 Years after Master's Degree / 6 Years after Bachelor's Degree and after research in approved topic by thesis.

Personality Traits:

- Curiosity, Vision, Open- Mindedness, Perseverance and Creativity, Ability to think logically, Problem Solving, Statistical Awareness. Analytical & Quantitative Abilities
- Numerical Computation, Technical Skills
- Love for nature
- A scientific aptitude.
- Keen observation
- Keen interest in plants.
- Ability to work orderly, patiently and methodically.
- Documentation skills.
- Passion for field work as well as laboratory work.

- Ability to work independently.
- Ability to handle huge data.

Nature of work

A student who enjoys the outdoors prefers job as an ecologist, taxonomist, conservationist, forester, plant explorer, etc.

A student with a strong Mathematical background might find Biophysics, Genetics, Systems Ecology, Bio Maths and Biostatistics to be exciting fields.

Student with an interest in Chemistry might become a Plant Physiologist, Plant Biochemist, Molecular Biologist, Chemo taxonomist, etc.

Student with technological bend of mind can do better in Biotechnology, Food Technology, Environmental Engineering, Genetic Engineering, Bioengineering, etc.

Students with sound background of computer can do their career in Bioinformatics, Computational biology and Numerical taxonomy.

Student with art inclination finds ornamental horticulture and landscape design as an interesting career

Job Prospects :

- Mycologist
- Administrators
- Ecologist
- Fruit Growers
- Plant Biochemist
- Researchers
- Biochemist
- Biophysicist
- Botanist
- Conservationist
- Environmental Scientist
- Herbarium Keeper
- Landscape Supervisor
- Nursery Manager
- Online Tutor (Botany)
- Plant Breeder
- Plant Pathologist
- Taxonomist
- Tissue Culturist
- Tree Surgeon

- Agricultural Scientist
- Aquarium Exhibit Coordinator
- Biomedical Engineer
- Biotechnologist
- Forensic Scientist
- Genetics and the Scientist
- College/University Faculty
- Forester & Conservation Scientist
- Horticulturist

Self-employment

- Nursery and Landscaping
- Mushroom Cultivation
- Production of Agro-based products- Bio fertilizers, Bio pesticides, Growth Promoters, Plant Growth Supplements, etc
- Production and Marketing of plant tissue cultured plants.
- Suppliers of medicinal plants to various Pharmacies, Research Institutes and Industries.
- Suppliers of plant materials to Schools, Colleges and Institutes.
- Production and Export of aromatic (Essential) oil products, herbal cosmetics, bio fuels, organic acids,
- Development of Digital content of Botany.
- Cultivation and Export of fruits, fresh vegetables and flowers.
- Preparation and Marketing of processed products viz. pickles, mixed fruit jam, jelly, sauce etc.
- Production and Export of Ayurveda products viz. herbal shampoos, hair oil and healthcare natural product

Trends

- Nanotechnology in food industry:
- Packaging and food safety
- Entomopathogenic fungal as microbial
- Bio control Agent–A safe solution in the distribution of soil fungi in cotton fields.

Branches

- Forestry
- Applied Botany
- Herbal Science
- Medico Botany
- Plant Biodiversity
- Photochemistry

- Ethno Botany
- Cytology
- Genetics
- Phytopathology
- Plant Physiology
- Agronomy
- Horticulture
- Agriculture
- Economic Botany
- Palynology
- PalaeoBotany
- Plant ecology
- Plant Genetics
- Plant Systematics

Rare Specialization

- Integrated MSc-PhD in Genomics: Madurai Kama Raj University: For Life Science Graduates
- MSc Microbial Gene Technology: Madurai Kama Raj University : For Botany and Zoology Graduates.
- MSc Biochemical Technology : Madurai Kama Raj University : For Botany and Zoology Graduates.
- M Tech Biotechnology : Anna University Chennai and West Bengal University of Technology Kolkata: For Botany and Zoology Graduates

Premier Institutes

- Tata Institute of Fundamental Research (TIFR), Mumbai Courses Offered M.Sc., M.S., Integrated PhD, and PhD research Mode of admission: Entrance test
- Indian Institute of Science (IISc), Bangalore Courses: (Integrated PhD, 4years BS in Biology, M.S., and PhD research) Mode of admission: Entrance test and JEE score for BS course.
- Indian Agriculture Research Institute (IARI), New Delhi. Courses: M.Sc. Animal biotechnology and Plant Sciences and PhD research) Mode of admission: Entrance test (held on May/June Then interviews are held in Ist or IInd week of June)
- Jawaharlal Nehru University (JNU) Courses: M.Sc., M.Phil. in Environmental Sciences, Life Science & Biotechnology and PhD research. Mode of admission: Entrance usually held in mid of May Entrance test.
- Delhi University (South campus), Delhi Courses Offered M.Sc. Genetics and Plant Molecular biology and PhD Mode of admission: Entrance test usually held in June 2nd Week.
- National Centre for Plant Genome Research (NCPGR), Delhi. Courses: Ph.D. Mode admission: Entrance held Ist week of June.
- Banaras Hindu University (BHU), Varanasi

- Centre Institute for Medical and Aromatic Plants (CIMAP),
- Centre for Cellular and Molecular Biology (CCMB), Hyderabad <http://www.paworkforce.state.pa.us/jobse>.
- Centre Drug Research Institute (CDRI), Luck now
- CSIR Centre for Bio-chemicals Technology (CBT), Delhi
- Central Food Technological Research Institute (CFTRI), Mysore
- Indian Institute of Chemical Biology (IICB), Kolkata
- Indira Gandhi Institute of Development Research (Deemed University), Mumbai
- Tata Institute of Fundamental Research, TIFR- Mumbai
- National Botanical Research Institute (NBRI), Luck now
- National Centre for Cell Science (NCCS), Pune University
- Baba Atomic Research Centre, Mumbai
- Birla Institute of Technology and Science, Pilani
- Centre for DNA Finger Printing and Diagnostics, Hyderabad
- Council of Scientific and Industrial Research, Delhi
- Indian Institute of Technology, School of Biosciences and Bioengineering, Mumbai.
- Institute of Genomics and Integrative Biology, Delhi
- International Centre for Genetic Engineering and Biotechnology, Delhi
- International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Patancheru Hyderabad.
- Kerala Forest Research Institute, Peachy
- M. S. Swami Nathan Research Foundation, Chennai
- National Centre for Biological Sciences, Bangalore. <http://www.ncbs.res.in/>
- Rajiv Gandhi Centre for Biotechnology, Trivandrum (Thiruvananthapuram).
- Wildlife Institute of India, Dehradun,



Zoologists are Life Scientists who study animals, observing them both in the laboratory and in their natural habitat. They study the origin and development of species, their habits, behaviors and interactions. They also research the development of animal diseases. Zoologists are sometimes known as animal scientists or Animal Biologists, as Zoology is the branch of Biology that relates to the animal kingdom.

Content :

Ecology, Evolution, Ethology, Economic Zoology, Embryology, Bio Chemistry, Physiology, Conservation, Pollution, Wild Life, Bio diversity, Entomology, Sericulture, Apiculture, Aqua culture, Cytology and Systematic Zoology etc.

Eligibility

- B.Sc. Zoology; 12th pass. Centre: Almost all reputed Science Colleges in India
- M.Sc. Zoology: B.Sc. Zoology. Course duration: 2 years Mode of admission: Entrance.
- Master of Philosophy (M.Phil.): M.Sc. Course duration: 1-2 year Centers: Many reputed Universities.
- Doctor of Philosophy (Ph.D.)M.Sc. Duration: 3-6 years Doctor of Science (D.Sc.)2 Years after Ph.D. / 3 Years after Master's Degree / 6 Years after Bachelor's Degree and after research in approved topic by thesis. Some important institutes offering MSc. and Ph.D. programmes:
- After taking an M.Sc. degree in Botany, Zoology or Biotechnology, students can join an M.Tech. course in Biotechnology through the Combined Biotechnology entrance test.

Personality Traits

- Love of animals
- Patience
- Willingness to do field work
- Cognitive skills
- Spirit of adventure
- Curiosity

Nature of work

- *Zoologists and Wildlife Biologists* study animals and wildlife—their origin, behaviour, diseases etc.
- *Biophysicists* study how Physics, such as electrical and mechanical energy, relates to living cells and organisms life processes
- *Aquatic biologists* study micro-organisms, plants, and animals living in water. *Marine biologists* study salt water organisms, and *limnologists* study fresh water organisms. Much of the work of Marine Biology centers on Molecular Biology, the study of the biochemical processes that take place inside living cells. Marine Biologists are sometimes called Oceanographers, a broader field that also includes the study of the physical characteristics of oceans and the ocean floor.
- *Ecologists* investigate the relationships among organisms and between organisms and their environments. They examine the effects of population size, pollutants, rainfall, temperature, and altitude. Using knowledge of various scientific disciplines, Ecologists may collect, study, and report data on the quality of air, food, soil, and water.
- Biological scientists typically work regular hours. While the 40-hour workweek is common, some Biological Scientists work longer hours. Some researchers may be required to work odd hours in laboratories or other locations (especially while in the field), depending on the nature of their research

Job Prospects :

- Animal Behaviorists
- Animal Breeders
- Animal Trainers
- Animal Caretakers
- Animal and Wildlife Educators
- Animal Rehabilitator
- Conservationists
- Documentary Maker
- Forensic Experts
- Lab Technicians
- Researcher
- Wildlife Biologists
- Veterinarian
- Zoo Keeper
- Aquarist: Aqua Culturist.

- Conservationist
- Embryologist:
- Environmental Management
- Environmental Consultancy
- Fisheries Management
- ForensicJournalism
- Marine Biologist
- Museum Curator: Parasitology,Pest Control/Entomology Laboratory Assistant & ResearchTaxonomist:
- Teaching
- Zoo Keeper/Assistant etc

Trend

- Novel genes determine division of labour in insect societies
- Researchers identify UHRF1 as oncogene driving liver cancer
- Protein serves as natural boost for immune system's fight against infection, tumors
- World's first butterfly bacteria sequenced: Suprising events found during metamorphosis

Branches

- Advanced Zoology and Biotechnology
- Advanced Zoology and Animal Biotechnology
- Bio informatics
- Microbiology, Environmental Science, Wildlife Science, Anatomy, Forestry, Sericulture Technology, Forestry Management, Industrial Fisheries and Animal Biotechnology.
- Paleontology.
- Entomology
- Cytology
- Ornithology etc.

Rare Specialization

- Acarology, Arachnology, Cetology
- Ethology, ,
- Ichthyology,
- AnthroZoology

- Oncology
- Ethology
- Helminthology
- Mammalogy
- Neuroethology
- Myrmecology
- Nematology
- Malacology
- Primatology
- Herpetology etc.

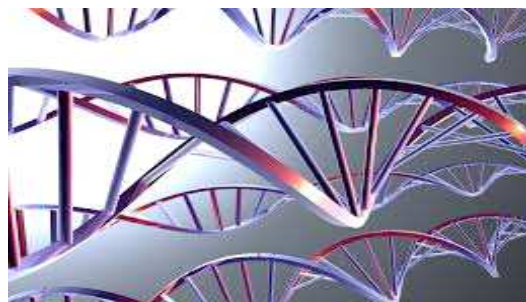
Premier Institutes:

- Cochin University Science & Technology Kochi for Environmental technology and Marine Biology
- Bangalore University for Applied Genetics and Environmental Science
- Indian Institute of Forest Management Bhopal
- Birla College Thane, Maharashtra
- Indian Institute of Toxicology Research, Lucknow
- The Central Sericulture Research and Training Institute, Mysore: Sericulture Technology
- The School of Applied Science, Mahatma Gandhi University, Kottayam: M.Sc. Course in Fishery Biology and Aquaculture
- The School of Medical Education, Mahatma Gandhi University, Kottayam: M.Sc. Course in Anatomy

Research Institutes

- Zoological Survey of India, Port Blair, Andaman and Nicobar Islands
- India Institute of Science, Bangalore
- Dr. BR Ambedkar Centre for Biomedical Research University, New Delhi
- Central Drug Research Institute, Lucknow
- Tata Institute of Fundamental Research, Integrated MSc and PhD
- Wild life Institute of India, Dehradun





Biochemistry is closely related to Molecular Biology, the study of the molecular mechanisms by which genetic information encoded in DNA is able to result in the processes of life. Depending on the exact definition of the terms used, molecular biology can be thought of as a branch of Biochemistry, or Biochemistry as a tool with which to investigate and study Molecular Biology.

The findings of biochemistry are applied primarily in medicine, nutrition, and agriculture. In medicine, biochemists investigate the causes and cures of disease. In nutrition, they study how to maintain health and study the effects of nutritional deficiencies. In agriculture, biochemists investigate soil and fertilizers, and try to discover ways to improve crop cultivation, crop storage and pest control. The essential feature is that biochemistry uses molecular methods to explain biological processes, while other biological scientists study the integrated function of organs, organisms, and the complexes of organisms represented by ecosystems.

CONTENT

Biochemistry, sometimes called Biological Chemistry, is the study of chemical processes within and related to, living organisms. By controlling information flow through biochemical signalling and the flow of chemical energy through metabolism, biochemical processes give rise to the complexity of life.

ELIGIBILITY

BSc Biochemistry

Plus two Science stream

M Sc Biochemistry

BSc Biochemistry/BSc Chemistry/BSc Zoology

PERSONALITY TRAITS

One must have keen observation and analytical mind. He must have very good health and patience

NATURE OF WORK

The work of a biochemist is based on labs in hospitals as well in agricultural and pharmaceutical industry

JOB PROSPECTS

Job opportunities in hospitals , medical , agricultural and fertilizer Industry. They can also start Laboratory in Private sector.

OTHER JOB OPTIONS

1. Biomedical Scientist
2. Clinical Biochemist
3. Clinical Research Associate
4. Forensic Scientist
5. Higher Education Lecturer
6. Research Scientist (Life Sciences)

BRANCHES

1. Molecular Biochemistry
2. Cellular Biochemistry
3. Plant Biochemistry
4. Animal Biochemistry
5. Clinical Biochemistry
6. Environmental Biochemistry

Institutes in Kerala offering BSc Biochemistry

- CUSAT ,Thrikkakara,Ernakulam
- EMEA College, Kondotty, Malappuram
- Emmanuel College,Vazhichal Thiruvananthapuram
- Gems Arts and Science College ,Ramapuram, Malapuram
- Govt College Karyavattom, Thiruvananthapuram
- Gurudev Arts and Science College, Methil, Payyannur.Kannur
- HM Arts and Science College,Randarkkara,Muvattupuzha Ernakulam
- Kannur University ,Mangattuparamba, Kannur
- Kerala University, Thiruvananthapuram
- MHES College of Science and Technology, Cherandathoor,Vadakara, Calicut
- Mar Ivanios College Nalanchira, Thiruvananthapuram
- NSS College Pandalam

- NSS Training College Pandalam
- Newman College Todupuzha
- Pazhassi Raja College Pulppally , Wayanad
- Saga Institute of Management Studies, Downhill, Malappuram
- Sree Krishna College Guruvayoor
- St Mary's College For Women,Paliakara,Thiruvalla
- St Mary's College, Thrissur
- TKM College of Arts and Science, Kollam
- University of Calicut (Biochemistry/Medical Biochemistry)
- Vedavyasa Institute of Arts and Science, Vazhayoor, Punnempadam, Malappuram

Institutes in Kerala offering MSc Biochemistry

- CUSAT ,Thrikkakara,Ernakulam
- Emmanuel College,Vazhichal Thiruvananthapuram
- University of Kerala, Thiruvananthapuram
- St Mary's College For Women,Paliakara,Thiruvalla
- University of Calicut(Biochemistry/Medical Biochemistry)
- Al Azhar College of Arts and Science Thodupuzha
- Kerala University of Health Science, Thrissur
- M G University ,Kottayam
- Mar Athanasious College for Advanced Studies, Thiruvalla
- MES College Marampally, Aluva
- PVS College of Nursing, Calicut
- SNGIST Arts and Science College, Karumallor P O N Paravoor Ernakulam
- Sree Sankara College Kalady
- Sree Sankara Vidyapeedom College Valayanchirangara, Ernakulam Dist
- St Berchmans College Changanassery, Kottayam
- St Thomas College, Ranni, Pathanamthitta
- Mar Athanasious College Kothamangalam Ernakulam

PREMIER INSTITUTES

- Kharagpur IIT
- IIT Delhi
- JNU Delhi
- Indian Institute of Science Bangalore



INTRODUCTION

A Cost Accountant specialises in taking managerial decisions, stabilising budgets and standards, assessing operational efficiency and the effectiveness of production and service management, identifying accountability for profit variance and so on. His/Her responsibilities include: designing and implementing effective management information and control systems, planning costing systems and methods, inventory control incorporating mathematical models, investment analysis, project management, internal audit, cost audit, diagnosis in the case of sick industries, fund management, pricing planning, interpreting information and data related to business activities and translating them in such a way as to guide the core management into taking the right decisions.

Particulars Total Fee (in Rs) (for details see *website www.icmai.in*)

Cost of Prospectus	:	250
Foundation(Oral / Postal)	:	4,000
Intermediate (Postal/ Oral(Includes Reg. Fees of 500)	:	16,000 / 20,000
Final (Postal/Oral)	:	12,000 /17,000
Computer Fee	:	Rs. 3,400
Modular Training Fee after passing Final Examination	:	4,000
Revalidation Fee: Intermediate per group / Final per group	:	800 /1,000
Computer Training Exemption Fee	:	3,000
Subject Exemption Fee (per Paper) (For CS and CAT Students)	:	1,000
Practical Training Exemption Fees	:	2,000

Time of Application : Twice a year- Nov&May

Students shall submit their Postal Application form, duly filled in, with relevant documents and remittances to their **respective Regional Councils / Chapters** only.

Southern India Regional Council Address :

(for A.P, Karnatka, Kerala,Tamilnadu, Pondicherry and Lakshadweep candidates)

4, Montieth Lane, Egmore, Chennai - 600 008

Ph:044-28554443/28554326/28528219

Fax : 91- 044- 28554651

Website :www.icmai.in

CAREER AND PROSPECTS

There are several areas of practice available for Cost Accountants. In the present scenario, Cost Accountants are in great demand in Private Enterprises, Government Sector, Banking & Finance Sector, Developmental Agencies, Education, Training & Research sector as well as in Service and Public Utility sector. Because of their quality training, they can hold top management position in public and private sectors' enterprises like Chairman cum Managing Directors, Managing Director, Finance Director, Financial Controller, Chief Financial Officer (CFO), Cost Controller, Marketing Manager and Chief Internal Auditor etc.

Eligibility for Admission - Foundation Course

- (a) A candidate should have passed Class 10
- (b) Passed / waiting result Senior Secondary Examination under 10+2 scheme

Papers for Foundation Course Examination

Paper 1 : Fundamentals of Economics and Management (50 Marks)

Paper 2 : Fundamentals of Accounting (50 Marks)

Paper 3 : Fundamentals of Laws & Ethics (50 Marks)

Paper 4 : Fundamentals of Business Mathematics and Statistics (50 Marks)

- Exam Fees : Rs.1000/-
- The Foundation Examination will be conducted in M. C. Q. Mode through Online only.
- Total Questions : 100 (Multiple Choice Questions), Maximum Marks : 100 (Each Question will carry 1 Mark).
- There will be no negative marking
- Examination Centres in Kerala : Kannur, Kozhikode, Kottayam, Ernakulam, Trivandrum, Trissur

Intermediate Course Paper 5: Financial Accounting Paper 6: Laws, Ethics and Governance
Paper 7: Direct Taxation

Paper 8: Cost Accounting and Financial Management

Paper 9: Operations Management & Information System Paper 10: Cost & Management
Accountancy Paper 11: Indirect Taxation Paper 12: Company Accounts and Audit

Final Course Paper 13 : Corporate Laws and Compliance

Paper 14 : Advanced Financial Management Paper 15 : Business Strategy & Strategic Cost
Management Paper 16 : Tax Management & Practice Paper 17 : Strategic Performance
Management

Paper 18 : Corporate Financial Reporting

Paper 19 : Cost and Management Audit Paper 20 : Financial Analysis & Business Valuation

The students are required to undergo the following trainings :

- For Intermediate students
 - I. “Communications and Soft Skills”
 - II. Compulsory 100 hours Computer Training
- After passing Final course
 - III. 7 days “Industry oriented Training Programme”
 - IV. Modular training
 - V. Practical training, as provided in regulations.

TREND

The starting salary for a freshly qualified Cost Accountant can vary anywhere between Rs.4,00,000/- to Rs.6,00,000/- per annum. It will depend on the work experience of the person. Pay package will also depend on whether one is working in India or Overseas. In April 2012, there was 70% placement across centres and the average salary package was Rs 6.5 Lakh/annum

The meritorious students were picked up by reputed companies at minimum of 6.5 Lakhs p.a.

Further Career Options :

1. A member of the Institute can get enrolled as a member of IMA USA.
2. Recognised by the Academic Councils of many Universities in India for the purpose of admission of the Ph.D. courses in Commerce. Various Universities have recognized CMA for registration as M.Phil. and Ph.D. candidates in commerce and allied disciplines. The list of Universities who have recognized CMA qualification to pursue M.Phil and Ph. D
3. MoU between CIMA (The Chartered Institute of Management Accountants), UK and The Institute of Cost Accountants of India introduces a new CIMA Professional Gateway examination (available from May 2009) for the students who have successfully completed the whole of the Institute’s professional examination, enabling a ‘fast track’ route into CIMA’s Strategic level examinations, final tests of professional competence and ultimately CIMA Membership.
4. MOU between Indira Gandhi National Open University (IGNOU): The Institute and IGNOU have entered into an MOU on 11th July, 2008 to offer specialized B.Com and M.Com Programs for the students. The Students can simultaneously study the specialized B.Com (Financial & Cost Accounting) programme with the Institute’s Intermediate Course and specialized M.Com (Management Accounting & Financial Strategies) with the Institute’s Final Course.

Once a candidate has passed the examination, there are several options ahead of him. He could either serve in an industry or opt for government service. There is plenty of scope in the banking and insurance sectors. There is always the option of practising as a consultant. A third option is to impart teaching at Institutes or at Universities. Higher academic pursuit for a Doctorate Degree is also possible. There is no fixed pay scale for Cost Accountants , it depends entirely on the organisation that he is employed in.



INTRODUCTION

Chartered Accountancy - A Challenging Profession, offers practice / job opportunities in the areas of accounting, auditing, corporate finance and other business laws, taxation and corporate governance. The multi-faceted knowledge a chartered accountant enjoys through unique academic programme blended with practical training is what the business and industry need in the advent of globalization of Indian economy.

CONTENT

Chartered Accountancy Course includes

- Common Proficiency Test (CPT)
- Intermediate (Integrated Professional Competence) Course
- Final Course

ELIGIBILITY

1. CPT (*For plus two students*)

- Enroll with the Institute for Common Proficiency Course (CPC) after passing class 10th examination.
- After completion of specified period (60 days) from the date of registration for CPC with the Board of Studies and after appearing for 10+2 examination, appear and pass in CPT.
- Enroll for Group I or Group II or for both Groups of Intermediate (IPC) Course.
- Complete Orientation Course of one week spanning 35 hours, necessarily before joining the Practical Training.
Complete 100 hours Information Technology Training (ITT) necessarily before joining the Practical Training.
- Appear in Intermediate (IPC) Examination on completion of 8 months of study course as on the first day of the month in which the examination is to be held
- Join Practical Training after passing either Group I or both groups of Intermediate (IPC) Course.
- Complete First General Management and Communication Skills (GMCS) course (15 days) during the first year of practical training.
- Complete Second General Management and Communication Skills (GMCS) course (15 days) after completion of 18 months of practical training but before completion of practical training.
- Pass Group II of Intermediate (IPC) Examination if not done earlier.

- Register for CA Final Course and prepare for CA Final Examination.
- Complete Advance Information Technology Training during the third year of practical training but before appearing in the Final Examination.
- Complete Practical Training of three years.
- Appear for the Final examination on completion of the practical training or while serving last six months of articulated training on or before the last day of the preceding month in which the examination is to be held.
- Pass Final examination and complete GMCS II, if not completed earlier.
- Enroll as a member of the ICAI and be designate as “*Chartered Accountant*”.

2. Direct Entry

Commerce Graduates/Post-Graduates (55%) or Other Graduates/Post-Graduates (60%)

- Enroll with the Institute for Intermediate (Integrated Professional Competence) Course for both groups.
- Complete 35 hours of Orientation Course spanning one week and 100 hours Information Technology Training (ITT).
- Register for Practical Training of three years.
- Complete General Management and Communication Skills (GMCS) -I Course during first year of practical training
- Appear in Intermediate (Integrated Professional Competence) Examination after nine months of Practical Training and Study Course of eight months concurrently from the date of registration for the Intermediate (Integrated Professional Competence) Course.
- Appear and pass in both groups of Intermediate (Integrated Professional Competence) Course.
- Register for CA Final Course and prepare for CA Final Examination.
- Complete General Management and Communication Skills (GMCS) -II Course (15 days) course while serving the last 19 to 36 months of articulated training.
- Complete Advance Information Technology Training during the third year of practical training but before appearing in the Final Examination.
- Complete three years period of Practical Training.
- Appear in the Final Examination while serving last six months of practical training on or before the last day of the month preceding the month in which the examination is to be held.
- Pass Final examination.
- Enroll as a member of ICAI and be designated as “*Chartered Accountant*”.

PERSONAL TRAITS

Honesty , Critical Thinking , Problem Solving , Legal Know-How and Confidence

NATURE OF WORK

Chartered Accountants have an impressive presence throughout the globe holding eminent positions. Many MNCs as well as KPOs prefer Indian CAs for their expertise in IFRS, International taxation, International Trade Laws and Accounting in IT environment.

JOB PROSPECTS

- Independent Professional Practice
- Management Consultancy Services
- Opt for Industry/Government Organisation
- Opportunities in Global arena

TREND

Maximum Salary Paid in 2012

- 16.70 Lakhs PA for international posting
- 13.77 Lakhs PA for national posting
- Average Salary Paid in 2012 : 7.06 Lakhs PA in India

The Institute of Chartered Accountants of India (ICAI) has placed three of its candidates at a record salary of close to ₹ 70 lakh p.a with Singapore-based Olam International. This is the highest ever salary offered to fresh CAs recruited from the ICAI campus, the apex body that conducts the CA examination and places the successful candidates every year. Earlier, a record salary of 38.25 lakh was offered in 2007.

- ◆ Highest salary offered for Domestic posting in the Campus Placement Programme is 20 Lakhs per annum offered by Hindustan Unilever Ltd at Mumbai Center to a candidate.
- ◆ Highest salary offered for International posting in the Campus Placement Programme is 24.64 Lakhs per annum (10,800 Kuwaiti Dinnar) offered by Alghanim Industries at New Delhi center to 3 candidates.
- ◆ The minimum salary paid is 4.00 Lakhs per annum.
- ◆ Average CTC offered was 7.30 Lakhs per annum.
- ◆ 685 jobs were offered to the candidates who had participated in Campus Placement Programme.

COMMON PROFICIENCY TEST (CPT) EXAMINATION

Common Proficiency Test (CPT) examinations are held twice a year : June and December

Cost of CPT Prospectus : Rs. 100

CPT Registration fee : Rs.6,000

Subjects covered in CPT

SESSION – I (*Two Sections – Two hours – 100 Marks*)

Section A : Fundamentals of Accounting (60 Marks)

Section B : Mercantile Laws (40 Marks)

SESSION – II (*Two Sections – Two hours – 100 Marks*)

Section C : General Economics (50 Marks)

Section D : Quantitative Aptitude (50 Marks)

Passing criteria in CPT : Minimum of 30% marks in each section and a minimum of 50% marks in aggregate of all the sections

Address : Southern India Regional Council of The Institute of Chartered Accountants of India, ICAI BHAWAN, 122, M.G. Road, Post Box No. 3314 Nungambakkam, Chennai – 600 034, Phone: 044 - 39893989, Fax: 044-30210355,

INTERMEDIATE (IPC) COURSE

Group I

Paper 1 : Accounting (100 marks)

Paper 2 : Business Laws (30 marks) , Company Law (30 marks)
Ethics (20 marks) ,Communication (20 marks)

Paper 3 : Cost Accounting (50 marks) ,Financial Management (50 marks)

Paper 4 : Taxation (Income-tax (50 marks) , Service Tax (25 marks) and VAT (25 marks)

Group II

Paper 5 : Advanced Accounting (100 marks)

Paper 6 : Auditing and Assurance (100 marks)

Paper 7 : Information Technology (50 marks) &Strategic Management (50 marks)

The Final Course (Eight Papers of study)

Group I

Paper 1	:	Financial Reporting (100 Marks)
Paper 2	:	Strategic Financial Management (100 Marks)
Paper 3	:	Advanced Auditing and Professional Ethics (100 Marks)
Paper 4	:	Company Law (70 Marks) , Allied Laws (30 Marks)

Group II

Paper 5	:	Advanced Management Accounting (100 Marks)
Paper 6	:	Information Systems Control and Audit (100 Marks)
Paper 7	:	Direct Tax Laws (100 Marks)
Paper 8	:	Central Excise (40 Marks), Service Tax & VAT (40 Marks) , Customs (20 Marks)

INSTITUTES

Ernakulam Branch of SIRC of ICAI

‘ICAI Bhawan’, 57/3146, Dewan’s Road, Ernakulam

Kochi - 682 016

Phones: 0484-2369238, 2372953, 2369258

FAX: 0484 2372953

***Email* : ernakulam@icai.org**

***Website* : www.icai.org**

FURTHER CAREER OPTIONS

- For pursuing PhD programme by 90 Indian Universities plus six IIMs
- For appearing in Civil Services Examinations conducted by UPSC.
- Special weightage by IIM, Bangalore.

ACCOUNTING TECHNICIAN COURSE (ATC)

***Requirements* :**

- Enrol for CPT after passing Class 10 examination and pass in CPT after (10+2) Examination.

One should pass both CTP and 10+2 examination before registering for ATC

- Enroll for Accounting Technician Course (ATC).
- Successfully complete 8 months of study course from the date of registration for the ATC.
- Successfully complete Orientation Course of one week spanning 35 hours and covering topics, such as, personality development, communication skills, office procedures, business environment, general commercial knowledge etc.
- Successfully complete 100 hours Information Technology Training (ITT).
- Pass ATE (Group I of Intermediate (Integrated Professional Competence) Examination - four papers.).
- Successfully complete one year work experience under chartered accountant in practice or in industry.
- Get Accounting Technician Certificate and designate as “*Accounting Technician*”.

**HOW TO BECOME A CA, EVEN AFTER BECOMING
ACCOUNTING TECHNICIAN**

- Enroll in Group II of Integrated Professional Competence Course
- Register as Articled Assistant for a period of 3 years.
- Undergo GMCS I (15 days) during the 1st year of practical training
- Pass Group II of Intermediate (IPC) Examination
- Undergo GMCS II (15 days) after completion of 18 months of articled training but before completion of practical training
- Appear in CA Final Examination during last 6 months of 3 years of practical training
- Complete Advanced Course on Information Technology Training during the third year of practical training but before appearing in the Final Examination
- Pass both the Groups of CA Final examination
- Complete 3 year period of practical training
- Enroll as member of ICAI and designate as “Chartered Accountant”



INTRODUCTION

Chemistry is an incredibly fascinating field of study. As it is so fundamental to our world, Chemistry plays a role in everyone's lives and touches almost every aspect of our existence in some way. Chemistry is essential for meeting our basic needs of food, clothing, shelter, health, energy, and clean air, water, and soil. Chemical technologies enrich our quality of life in numerous ways by



providing new solutions to problems in health, materials, and energy usage. Thus, studying chemistry is useful in preparing us for the real world.

CONTENT:

When a student opt BSc Chemistry for graduation, she has to study Mathematics as a subsidiary subject. The second subsidiary subject varies with Universities and Institutions. Physical Chemistry, Organic Chemistry and Inorganic Chemistry are the major topics under BSc Chemistry. In courses like BSc (Honours) there will be additional topics, elective subjects and/ or project work.

Eligibility

If you wish to pursue Chemistry you should study Science at the Higher Secondary level. After successful completion of class XII you can join for BSc Chemistry. Few seats are available in the country for BSc (Honours) Chemistry, Four year BSc Ed, BS Chemistry and Five Year Integrated MSc Chemistry. After graduation in Chemistry you can study Pure Chemistry or Applied Chemistry in Post-Graduation. After Post Graduation M Tech and PhD are the higher study options.

Personal Traits

- Analytical Nature: Much of the work involves testing the results of mixing different chemicals. Over the course of trial-and-error testing, the hope is to get to a marketable product or solution.

- Team Orientation: In the course of performing lab tests, a chemist must communicate well with other lab staff and listen to managers.
- Creativity: They must conceive how Chemistry leads to useful products.
- Attentiveness: They need to focus on safety and pay attention to the lab environment. Wearing proper equipment and goggles is important to prevent burns, injuries and eye damage.
- Chemists should have good mathematical aptitude
- Patience and curiosity

NATURE OF WORK

Chemists usually work in pleasant, well-equipped laboratories and plants. They sometimes work with materials that are poisonous or explosive. Chemists working in production must sometimes work night or weekend shifts. They must have the patience to carry out long series of tests to develop new products or hypotheses.

Job Prospects

A career for a Chemist lies in public as well as private sectors

Jobs in Government Sector

A candidate with a Bachelor's degree in Chemistry can apply to different jobs through the test conducted by following organizations in the government sector;

- Union Public Service Commission
- Staff selection commission
- Indian Forest Services
- Public Sector Banks
- State PSCs
- Indian Defence Services etc.

Some general careers include

- Tax Assistant
- Statistical Investigator
- Grade III & Compiler Exam
- Combined Higher Secondary
- Banking sector
- IT Sector
- Combined Graduate Level Exam etc.

Teaching Profession in Government Sector after B.Sc. Chemistry

Teaching profession provides numerous opportunities for Chemistry graduates and you can enter into the job as professors, lecturers etc in universities, colleges etc. For this you need a post-graduation(MSc Chemistry) and also need to pass the examination, UGC- National Eligibility Test. MSc Chemistry + B Ed in Chemistryl Science + SET(State Eligibility Test) makes a student eligible to teach in the Higher Secondary Leevel. To start a career as Teacher in High schools, you should have a B. Ed along with their BSc degree.

Job and Research Opportunities are available after MSc Chemistry in the following Institutes/ Organisations

Bhabha Atomic Research Centre (BARC)

Oil and Natural Gas Corporation (ONGC)

Bharat Heavy Electricals Limited (BHEL)

National Thermal Power Corporation (NTPC)

Indian Space Research Organization (ISRO)

Defense Research and Development Organization (DRDO)

Nuclear Science Centre New Delhi

The specific branches where you can find jobs are in the area of

Teacher

Researcher

Analyst

Higher education lecturer

Research scientist (physical sciences)

Scientific laboratory technician

Secondary school teacher

Meteorologist

Operational researcher

Product/process Development Scientist

Systems developer

Trend

Chemistry has good scope in Industry and Research fields. Establishment of five IISERs and commencement of integrated Post graduation courses by major institutions and Universities attract bright students into the field of pure sciences like Chemistry.

Branches

PURE/ THEORETICAL CHEMISTRY

APPLIED CHEMISTRY

JOB PROSPECTS:

- Chemist
- Chemical analyst
- Scientific officer
- Scientist in Chemical Laboratory
- Teacher
- Chemical Engineers
- Quality Controller

They can work in the following firms

- Food manufacturing Industry
- Textile Industry
- Petroleum Industry
- Rubber and Plastic Industry
- Cosmetic, Drugs and Fertilizer
- Detergents and Paint Companies
- Pollution Control Boards
- Scientific Research Institutes
- Health care Sectors
- Oil Companies
- Medical Labs
- Chemical Industries
- Biomedical Chemistry
- Material Technologist

BRANCHES

- Organic Chemistry: Specialize in compounds that contain the element carbon.
- Inorganic Chemistry: Works with compounds that do not contain carbon, such as metals, minerals, and other substances
- Physical Chemistry: Works with the basic theories of Chemistry
- Bio Chemistry: Study of the chemistry of living things.
- Analytical Chemistry: Study of the composition of substances.

RARE SPECIALIZATION

- MSc Hydro Chemistry
- MSc Textile Chemistry
- MSc Electro Chemistry
- MSc Polymer Chemistry
- MSc Analytical Chemistry
- MSc in Material Science
- MSc Biomedical Chemistry
- MSc Physical Chemistry

List of Major Institutions

Course	Duration & Eligibility	Name & Location of Institute	Website
BS-MS dual degree	5 Years XII Science + KVPY, JEE	IISERs in Thiruvananthapuram, Pune, Bhopal, Mohali and Kolkata	www.iiser-admission.in www.iisertvm.ac.in www.iiserpune.ac.in www.iiserbhopal.ac.in www.iisermohali.ac.in www.iiserkol.ac.in
integrated M.Sc Physical Science	5 yrs XII Science + National Entrance Screening Test (NEST)	NISER Bhubaneswar	www.niser.ac.in
M Sc Chemistry	2 yrs B Sc Physics + Joint Admission Test to MSc (JAM)	Different IITs	gate.iitk.ac.in/jam/index.html (this website may change in the coming years)

Institutes (Premier/ special)

Every year IISc.admits 12 students to its integrated Ph.D. programme in Chemical Sciences.

The Satyendra Nath Bose National Centre for Basic Sciences, Kolkata, offers integrated Ph.D. programme in Chemical Sciences. Web site: www.bose.res.in.

The Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore, offers opportunities to do research leading to a Ph.D. in Chemistry. Meritorious Chemistry graduates are eligible for admission. Web site: www.jncasr.ac.in.

The Tata Institute of Fundamental Research, Mumbai, provides research opportunities in chemistry. Web site: www.tifr.res.in

The Indian Institutes of Technology (IITs) conduct Joint Admission Test (JAM) for M.Sc. programmes in disciplines such as Chemistry. The IITs in Chennai, Mumbai, Delhi, Guwahati, Kanpur and Roorkee offers these programmes. IIT Khargpur offers an M.Sc.-Ph.D. dual degree course in chemistry.

IIT Madras offers computational Chemistry programme on software applications related to the subject. In the second year, students have to do research. The project will prepare the students to take up Ph.D. programme or jobs in sophisticated high- tech laboratories. Web site: www.iitm.ac.in.

The Cochin University of Science and Technology offers M.Sc. degree course in Applied Chemistry and Hydrochemistry.

The Department of Chemistry on the Kariavattom Campus of the University of Kerala, Thiruvananthapuram offers M.Sc. degree course with Inorganic, Organic and Physical Chemistry as electives

The School of Chemical Sciences of the University of Madras offers the M.Sc. degree course in Analytical Chemistry, Inorganic Chemistry, Organic Chemistry and Physical Chemistry.

The School of Life Sciences, University of Madras, offers advanced Biochemistry and Biochemistry courses at the Master's degree level.

The All India Institute of Medical Sciences, New Delhi, offers M.Sc. degree course in Biochemistry.

Pondicherry University, Puducherry, offers M.Sc. degree course in Biochemistry, Molecular Biology and Chemical Sciences.

University of Bombay, Mumbai, offers M.Sc. degree course in Analytical Chemistry, Inorganic Chemistry, Organic Chemistry and Physical Chemistry.

Alagappa University, Karaikudi, offers M.Sc. degree course in Industrial Chemistry, Textile Chemistry and Electrochemistry.

The Christian Medical College, Vellore, offers M.Sc. degree course in Biochemistry

Competitive exams

After HSE - JEE MAIN, JEE ADVANCED, KVPY, CUSAT CAT, Entrance for Integrated PG

After BSc Physics - JAM, CUSAT CAT,

After MSc Physics - JEST, JRF-NET, GATE



UPSC : CIVIL SERVICE EXAMINATIONS

INTRODUCTION

Civil service is the mother of all examinations as it is the topmost one conducted by UPSC. The origin of civil services is traced back to the British period. It is the most enviable service in India. Civilservice, the backbone of the Indian government machinery runs the State administration. It is highly competitive and challenging. The prestige, power, job security, salary, allowances and facilities like health care ,housing, conveyance etc make it a lucrative profession.

CONTENT

A democratic nation like India is built on three pillars - Legislature, Judiciary, Executive. Civil servants are the prominent functionaries in the Executive .They occupy the highest position in the administrative hierarchy, Government policies and programs implemented for the benefit of the society. Entry into the IAS, IPS, and Central services, Group A and Group B are made through the All India Combined Competitive Examinations for Civil Services conducted by the UPSC in different centers.

EXAMINATION PATTERN

PRELIMINARY EXAMINATION	MAIN EXAMINATION	PERSONALITY TEST AND INTERVIEW
(Held in May/June every year) Notification : December/January Result : First half of August	(Held in October/November) Result : Second week of March	(Held in April/May every year) Notification : Final Results will be announced a few days before the next Prelims.

Training program for selected candidates usually commences in August every year.

PRELIMINARY EXAMINATION

- Two compulsory papers-200 marks each.
- Both question papers are objective type.(MCQ).

PAPER - I. **General Studies - I (100x2=200)**

Time: 2hrs

PAPER - II. **CSAT.II (80x2.5=200)**

Time: 2hrs.

SUBJECT AREAS	SUBJECT AREAS
<ul style="list-style-type: none"> • .Current events of national and international. • .History of India and Indian National Movement. <ul style="list-style-type: none"> • Indian and World Geography. • Indian Polity and Governance Constitution and Political System. • Panchayath Raj system, Public Policies, Rights Issues etc. • Economic and Social Development - Sustainable Development, Poverty, Inclusion, Demographics, Social Sector Initiatives etc. • General issue on Environmental Ecology, Bio-Diversity, Climate Change, General Science 	<ul style="list-style-type: none"> • Interpersonal skills and communication skills. • Logical reasoning and analytical ability. • Decision making and Problem solving. • General Mental Ability, • Basic Numeracy, Data interpretation, English Language Comprehension Skills.

MAIN EXAMINATION

Sl. No	Papers	Subject Areas	Marks
1	Paper- I	General Essay	200
2	Paper - II (GS - I)	Indian Heritage and Culture , History, Geography of world and society.	300
3	Paper - III (GS - II)	Governance, Constitution, Polity, Social Justice, and International relations.	300
4	Paper - IV (GS -III)	Technology, Economic Development, Bio-Diversity, Environment, Security and Disaster Management.	300
5	Paper - V (GS -IV)	Ethics, Integrity, Aptitude.	300
6	Paper - VI	Optional subject-Paper-I	300
7	Paper - VII	Optional Subject Paper-II	300
Sub Total			2000

MAJOR GROUPS OF INDIAN CIVILSERVICE

Indian Administrative service Indian Police Service Indian Foreign Service	
Group 'A' Services Indian P&T Accounts & Finance Service Indian Audit and Accounts Service Indian Revenue Service (Customs and Central Excise) Indian Defence Accounts Service. Indian Postal Service. Indian Railway Traffic Service. Indian Civil Account Service. Indian Railway Personnel Service Post of Assistant Security Commissioner In Railway Protection Force. Indian Defence Estate Service. Indian Information Service (Junior Grade) Indian Trade Service. Indian Corporate Law service.	Group 'B' Services Armed Forces Headquarters Civil Service (Section officer's Grade) Delhi, Andaman & Nicobar Island Lakshadweep, Daman & Diu and Dadra & Nagar Haveli, Service. Delhi, Andaman & Nicobar Islands Lakshadweep Daman & Diu, and Dadra & Nagar Haveli, Police Service. Pondicherry Civil Service. Pondicherry Police Service.

PERSONALITY TEST/ INTERVIEW (300 Marks)

The objective of interview is to assess the personal suitability of the candidate for a career in Public Service. This would be led by a Board of competent and unbiased observers. Here one will be asked /judged /assessed....

- a) Questions on matters of general interest .
- b) Mental calibre of the candidate .
- c) Intellectual qualities and social traits and his interest in current affairs.
- d) Mental alertness, critical powers of assimilation and clear logical exposition, ability of socialisation, leadership and moral integrity.

Grand Total : 2300 Marks.

ELIGIBILITY

Nationality : Indian

Educational Qualification : Any Graduation from a recognized university.

Age: 21 to 32 years as on 1st August. *Relaxation* : Five years for SC/ST candidates, Three Years for eligible OBC candidates, Ten years for differently abled person.

Years of Attempt : General Category: 6 times, OBC: 9times, SC/ST: Any number of chance within age limits.

PERSONALITY TRAITS

Highly competitive spirit, Determination, Dedication, Diligence, Wide reading, and practise on mental ability and logical reasoning, social commitment and positive thinking, basic skills in English and regional language.

NATURE OF WORK

Civil servants are the prominent functionaries in the executive. They occupy the highest position in the administrative hierarchy and are instrumental in planning the socio-economic development of the Nation. They ensure law and order and provide services to the society. In general, they assist ministers to formulate laws policies and programs. They act as heads of the ministers and departments. To be specific they collect land revenue, maintain law and order, run public utility services like Road transport Services, Railways, Airways, Electricity, etc. They also ensure civic amenities like drainage, safe drinking water, quality health service, Education etc.

JOB PROSPECTS

Civil Service Examination helps to secure the dream of aspirants in public services. Civil Service constitutes group of services like IAS, IPS, IFS, IRS etc.

17 group A services like IAAS, IPOs,IRTS,IIS etc.

Time bound promotion at initial stage and merit based incentive and promotional avenues at higher grade. One can reach the level of Cabinet Secretary, Chief Secretary and Director General etc. There are also other opportunities such as Heads of the Public Sector under takings and variety Committees and Commission, Ambassadors and Emissaries of the Government.

TREND

There is a heavy focus on the civil service examination among Keralaites because of its reachability, glamour and prestige than any other career. Recently Keralaites have gained the top rankings. More candidates, even from rural areas of our State, have been competing, and most of them are attending coaching camps. For the last three consecutive years women have topped this prestigious Examination.

INSTITUTES

Coaching Centers and Scholarships.

- Coaching centers in Government and in Private sector also
- Central Government assisted State Institutes for the weaker sections such as SC/ST,OBC Minorities.
- Financial assistance to SC/ST and minority candidates under special schemes.
- Kerala State Civil Service Academy, Remaplaza, S. S Kovil Road, Thampanoor, TVM.Ph.0471-2333065. There are many other premier coaching institutes in Delhi and neighboring states.

“It is our choices that show what we truly are.....far more than our abilities”

J K Rowling.



INTRODUCTION

The Institute of Company Secretaries of India (ICSI) is a premier national professional body constituted under an Act of Parliament.

- * The Company Secretary is a legal expert, an expert in corporate laws, securities laws & capital market
- * Chief advisor to the board of directors on best practices in corporate governance
- * A Company Secretary being multidisciplinary professional renders services in several areas like Corporate Governance and Secretarial Services, Secretarial/ Compliance Audit and certification Services
- * Corporate Laws Advisory and Representation Services, Financial Market Services, Taxation Services etc

EMPLOYMENT PROSPECTS

- All Companies with a paid up share capital of Rs.5 crores or more are compulsorily required to appoint a whole-time Company Secretary
- All companies seeking listing on Stock Exchange are required to appoint a whole-time Company Secretary
- They are appointed in superior posts and services under Central Government
- After obtaining a 'Certificate of Practice' from the Institute, Members of the Institute can go for Independent Practice.
- Practising Company Secretaries have also been recognized to appear before various Tribunals such as Company Law Board, Securities Appellate Tribunal, Competition Commission, Telecom Dispute Settlement and Appellate Tribunal, Consumer Forums, Tax Tribunals etc.,
- Recently the Reserve Bank of India has recognized the Practising Company Secretaries to undertake Diligence Report for Banks
- A Company Secretary can issue certificates and attest various documents
- Good remuneration and growth opportunities and good career option for girls also.

TREND

The demand for trained company secretaries is enormous. A company secretary can hope to start his career with a monthly remuneration of Rs 20, 000 to Rs 25, 000. However, for an ordinary candidate, a monthly salary of Rs 10, 000 is almost guaranteed. However, with time, experience and expertise in managing company affairs one can command hefty pay packets. A

qualified company secretary may find employment opportunities in UAE, USA, Australia , UK or other European countries. They can take up position as a lecturer or a visiting faculty in various academic establishments.

THREE STAGES OF COMPANY SECRETARIES COURSE

◆ ***Foundation Programme***

Duration: Eight months duration

Eligibility: 10+2 pass or equivalent .Students of Arts, Science / Commerce stream
(Excluding Fine Arts)

◆ ***Executive Programme***

Eligibility : A Graduate in any discipline except Fine Arts)

◆ ***Professional Programme***

Eligibility : On completion of the Executive Programme)

- ***ADMISSION TO THE COURSE is open throughout the year***
- ***Examinations are held twice a year in June & December.***

Fee Structure for CS Course

CS Foundation Programme	-	Rs.4500/-
CS Executive Programme	-	Rs.9000/- for Commerce Graduates / CPT passed of ICAI / Foundation passed of ICAI-CMA
	-	Rs 10,000/- for Non Commerce Students
	-	Rs 8,500/- for CS Foundation passed students
CS Professional Programme	-	Rs.12,000/-

ICSI Students Education Fund Trust

With a view to encourage and motivate economically backward and academically bright students to pursue the Company Secretary Course, the Institute has created ICSI Students Education Fund Trust.

Exam fee

- ◆ Foundation Programme : **Rs. 1200/-**
- ◆ Executive / Professional Programme : **Rs. 1200/- per Module**

Practical experience and training requirements

The students are required to undergo the following trainings :-

1. **7 day Student Induction Programme (SIP)**- within six months of Registration to Executive Programme or exempted from for becoming eligible to seek enrolment to appear in Executive Program Examination.
2. **70 hour compulsory Computer Training Program**- for becoming eligible to seek enrolment to appear in Executive Program
3. **8 day Executive Development Programme (EDP)** - after passing the Executive Programme and before commencement of 15 months training.
4. **25 hours of Professional Development Programme (PDP) during 15 months training**
5. **15 months training** after passing the Executive Programme or Professional Programme on completion of Student Induction Program and Executive Development Program with companies and Company Secretaries in Practice registered with the Institute for imparting training
6. **3 months practical training is required to be undergone by the student if the student completes professional program examination and exempted from undergoing at least 12 months training on the basis of Company Secretaries Regulations,1982, as amended on submitting the documents to the Institute and fulfills the requirement of Regulation 48.** This training will be exempted to the students who have undergone 15 months training.
7. **15 days training in a specialized agency** such as Registrar of Companies (ROC) / Stock Exchange / Financial and Banking Institution/Management Consultancy Firm can only be commenced if the student completes SIP,EDP , 15 months training and have passed professional program examination.
8. **15 day Management Skills Orientation Programme (MSOP)**- after Professional Programme and on completion of Executive Development Program and 15 months training

SUBJECTS COVERED

FOUNDATION PROGRAMME [4 PAPERS]

- 1 Business Environment & Entrepreneurship
- 2 Business Management, Ethics and Communication
- 3 Business Economics
- 4 Fundamentals of Accounting and Auditing

EXCECUTIVE PROGRAMME [7PAPERS]

Module I (4papers)

- 1 Company Law
- 2 Cost and Management Accounting
- 3 Economic and Commercial Laws
- 4 Tax Laws and Practice

Module II (3 papers)

- 1 Company Accounts and Auditing Practices
- 2 Capital Markets and Securities Laws
- 3 Industrial, Labour and General Laws

PROFESSIONAL PROGRAM

MODULE 1

1. Advanced Company Law and Practice
2. Secretarial Audit, Compliance Management and Due Diligence
3. Corporate Restructuring, Valuation and Insolvency

MODULE 2

4. Information Technology and Systems Audit
5. Financial, Treasury and Forex Management
6. Ethics, Governance and Sustainability

MODULE 3

7. Advanced Tax Laws and Practice
8. Drafting, Appearances and Pleadings
9. Electives 1 out of below 5 subjects
 - 9.1. Banking Law and Practice
 - 9.2. Capital, Commodity and Money Market
 - 9.3. Insurance Law and Practice
 - 9.4. Intellectual Property Rights - Law and Practice
 - 9.5. International Business-Laws and Practices

Medium of Examination

The Institute allows facility for the students to take the examination either in English or in Hindi. (Except Business Communication subject of Foundation Program)

Qualifying Marks

A candidate is declared to have passed the Foundation / Executive / Professional examination, if he/she secures at one sitting a minimum of **40% marks in each paper and 50% marks in the aggregate of all subjects, in one sitting.**

Time limit for completing CS Examination

Complete the Executive and the Professional examination within the registration period.

OPPORTUNITIES ABROAD FOR CS

- Many Company Secretaries are already working in various countries like the US, Canada, UK, Singapore, Malaysia, Thailand, Australia, New Zealand, Middle-east, Africa, etc.
- After the globalisation of services through WTO and GATS, the field is opening in various countries for practicing Company Secretaries.
- The process of globalisation and the process of comprehensive economic cooperation that India is initiating has also set in motion mutual recognition agreements between the ICSI and Institutes governing the profession in various other countries. This opens the world to Company Secretaries.

ICSI - IGNOU Courses

Bachelor of Commerce (B.Com) with major in Corporate Affairs and Administration

Eligibility for Admission :

- (a) 10 + 2 or its equivalent ; and
- (b) Registration in Company Secretaryship, Foundation Programme.

Students who have passed Company Secretaryship Intermediate/Executive Programme Course shall also be eligible

Medium of Instruction : English and Hindi.

Fee Structure : Rs. 4800/-

Programme Structure : This programme comprises of:

- ◆ 4 courses of Bachelor Degree Programme (BDP) programme of IGNOU,
- ◆ 4 courses of Foundation Programme of Company Secretaryship and
- ◆ 6 courses of Executive Programme of Company Secretaryship.
- ◆ Duration of the Programme: Minimum of 3 years and a maximum of 6 years

For further Queries :

011- 4534 1076 / 4534 1077

CS Helpline: 011- 4150 4444

Website :www.icsi.edu / www.icsi.in

ICSI HEADQUARTERS

ICSI HOUSE, 22 Institutional Area,

Lodi Road, New Delhi - 110 003

Tel: 011-4534 1000, 4150 4444 , Fax: 24626727



INTRODUCTION

The term criminology was coined by Raffaele Garofalo, an Italian Professor of Law.

Criminology is the study of crime from a social and individual perspective. It involves the study of various forms of crime, the reasons leading to a crime, and its consequences. Regulation of crime by Governmental authorities also comes under the purview of this subject. It is an interdisciplinary subject comprising of Psychology, Sociology, Anthropology and Law.

As a course criminology is gaining more importance in today's world in which crime rates are very high. Changes in the approach to crime and modes of investigation of police authorities enhance the scope of criminology as a subject of study.

Content

The study of criminology includes the causes of crime as well as its consequences. As it is an inter disciplinary subject the course content generally includes psychology, sociology, crime statistics, causes of crime, prevention of crime, penology, criminal justice agencies etc. Some more areas that may come under the study of criminology are: Crime prevention, Crime statistics, Criminal behavior, Criminal careers and desistance, Domestic violence, Deviant behavior, Evaluation of criminal justice agencies, Fear of crime, The International Crime Victims Survey, Juvenile delinquency, Penology, Sociology of law, Victimology.

Eligibility

Both undergraduate (B.A/BSc) and Post Graduate (M.A/MSc) courses in Criminology are offered by various institutes in India.

In order to get admission to undergraduate course in criminology, one has to pass 12th standard in arts or science stream.

For admission to a postgraduate course, one has to be a graduate in science or arts subjects.

Personal Traits

Analytical abilities

Intelligence

Problem solving skills

Reasoning skills

Insight

Physical stamina to work long hours if necessary

Temperament

Nature of Work

Criminologists review criminal acts and assess a pattern of action, demographics and motivation. They may also report to a crime scene or an autopsy to determine whether a criminal falls into a specific category based on the nature of the crime.

They are usually required to write a report encompassing all of their findings. These reports are held on file and may be referred to when a similar crime is committed to compare criminals and crimes.

Job Prospects

After pursuing Criminology courses in India, you can apply for a variety of jobs. Graduates and post graduates in this field can be appointed as teachers of criminology, legal studies, Law and sociology. A criminologist will be employed in public and private sector companies or social welfare departments dealing with environmental crimes and human rights. NGOs, research organizations, private security and detective agencies also recruit criminology professionals. They can also find jobs of counselling and rehabilitating offenders in the prisons.

Advancement in the field of criminology depends on education and experience. Doctoral degrees are generally required for professors, directors of research departments, administrators of large social agencies or crime prevention projects, and police commissioners.

A criminologist can also find jobs in the following roles -

- Crime intelligence analyst
- Law reform researcher
- Community corrections coordinator
- Regional crime prevention coordinator
- Drug policy advisor
- Consumer advocate
- Environment protection analyst

Including incomes and expenses of the corporation.

Trend

With the increasing incidences of crime, the study of causes and consequences of such acts are becoming more and more relevant in today's society. It is but natural for a young mind to get interested in the study of deviations in human nature. Knowledge of criminology can be applied to various professions and academic fields related to the study of the society on the whole.

Institutes

Aligarh Muslim University, Aligarh - 202 002

<http://www.amu.ac.in/>

Andhra University, Waltair, Visakhapatnam - 530 003

<http://www.andhrauniversity.edu.in/>

Dr.HarisinghGourVishwaVidyalaya, Gour Nagar, Sagar, Madhya Pradesh - 470 003

<http://www.dhgsu.ac.in/>

Gujarat University, Navrangpura, Admedabad-380 009

<http://www.gujaratuniversity.org.in>

Karnataka University, Pavate Nagar, Dharwad-3

Mahatma Gandhi KashiVidyapith, Varanasi-221002

<http://www.mgkvp.ac.in/>

Nagpur University, Nagpur, Maharashtra

<http://www.nagpuruniversity.org/>

Punjab University, Sector-14, Chandigarh - 160 014

<http://jobs.puchd.ac.in/>

Tata Institute of Social Science, Deonar, Mumbai - 400 088

<http://www.tiss.edu/>

University of Madras, Chepauk, Chennai-600 005, Tamil Nadu

<http://www.unom.ac.in/>

UtkalUniversity ,Vanivihar, Bhubaneswar - 751 004

<http://utkaluniversity.ac.in/>

Premier Institutes

LokNayakJayaprakash Narayan National Institute of Criminology and Forensic Sciences



INTRODUCTION

The term Dairy denotes - A farm where dairy products are produced, milk production and processing industries and or containing or produced from milk. Thus Dairy is everything concerned with Milk in India's agriculture based economy, dairy technology has a significant role to play. Currently, India is the second largest producer of milk, after US.

Content

Professionals associated with dairy technology have to work with milk production, processing, packaging, storage, transport, and Distribution, etc. specialization is available in Dairy Micro Biology, Dairy Chemistry, Dairy Technology, Dairy Engineering, Animal Genetics and Breeding, Biochemistry, Dairy Economics, Animal biotechnology and other related areas.

Nature of Work

Dairy technologists, technicians, bio technologists and engineers are required in this industry. Production, preservation and packaging, processing and canning of various dairy products.

Personal Traits

Those who want to go in the field of dairy technology should not mind living away from cities in rural areas without basic comforts and should be comfortable working in cattle fields.

Following the personal attributes required in this industry

- Conscientious
- Meticulous
- Organizational abilities
- Particular about cleanliness and hygiene
- Sensible

Job Prospectus

Dairy products are also exported and this makes the industry a foreign exchange earner. Candidates can find jobs in dairy farms, cooperatives, rural banks, milk product processing and manufacturing industries. Research and development is another growing area, crucial for the dairy industry. Teaching is another convenient employment option. One can also establish his own dairying business. Indian Council for Agricultural Research, National Dairy Development Board, National Dairy Research Institute, Anand Milk Union Ltd, Agriculture Universities are among the major employers in India.

Some Dairy Job Types

- Dairy Scientists or Dairy Technologists
- Dairy Researcher
- Dairy Engineers
- Dairying Entrepreneur
- Dairy Consultants
- Teachers
- Researcher
- Pharmacist
- Dairy Pharmacist
- Production Executive
- Dairy Extension Officer

Few of the Dairying Employment Areas

- Dairy Farms
- Research and Development Agencies
- Universities
- Dairy Equipment Manufacturers
- Quality Control Department
- Consultancy
- Creamery
- Ice Cream units
- Milk Unions
- Dairy Boards
- Milk Cooperatives
- Milk Product Processing Plants
- Milk Products Manufacturing Industries

Trends

Dairy industry is large organized sector today. Dairy technologies and dairy scientists have employment opportunities in Public sector organizations, dairy cooperative societies, milk producing plants, milk product marketing etc

Branches

- Dairy Science
- Dairy technology
- Dairy Microbiology
- Dairy Chemistry
- Animal Biochemistry
- Animal Genetics and Breeding
- Dairy Marketing

Institutes

B Tech Dairy Science& Technology

- College of Dairy Science& Technology,Idukki
- College of Dairy Science& Technology Mannuthi, Thrissur

BSc. Dairy Science

- Dairy science college,Bengaluru
- Veterinary College Hebbal, Bengaluru
- College of Veterinary Science Tirupati,A P

B Tech Dairy Science/ M Tech Dairy Science /MSc. Dairy Science

- College of Veterinary Science Tirupati,A P

BTech/Mtech Dairy Technology

- National Dairy Research Institute Karnal,Haryana

MSc.Dairy Microbiology/ MSc Dairy Chemistry/Animal Biochemistry/Animal Genetics and Breeding

- National Dairy Research Institute Karnal, Haryana

Diploma courses

Diploma in Dairy Husbandry and Dairy technology (2yrs)

- Allahabad Agricultural Institute

National Dairy Diploma in Dairy Technology (2yrs)

- National Dairy Research Institute, Bengaluru/ Karnal, Haryana

Verghese Kurien (26 November 1921 – 9 September 2012) was a renowned Indian social entrepreneur and is best known as the “Father of the White Revolution”, for his ‘billion-litre idea’ ([Operation Flood](#)) — the world’s biggest agricultural development programme. The operation took India from being a milk-deficient nation, to the largest milk producer in the world, surpassing

the United States of America in 1998, with about 17 percent of global output in 2010–11, which in 30 years doubled the milk available to every person. Dairy farming became India's largest self-sustaining industry. He made the country self-sufficient in edible oils too later on, taking head-on the powerful and entrenched oil supplying lobby.

He founded around 30 institutions of excellence (like AMUL, GCMMF, IRMA, NDDB) which are owned, managed by farmers and run by professionals. As the founding chairman of the Gujarat Co-operative Milk Marketing Federation (GCMMF), Kurien was responsible for the creation and success of the *Amul* brand of dairy products. A key achievement at Amul was the invention of milk powder processed from buffalo milk (abundant in India), as opposed to that made from cow-milk, in the then major milk producing nations. His achievements with the Amul dairy led [Prime Minister Lal Bahadur Shastri](#) to appoint him as the founder-chairman of [National Dairy Development Board](#) (NDDB) in 1965, to replicate Amul's "Anand model" nationwide. He died on September 9, 2012 at Nadiad.

One of the greatest proponents of the cooperative movement in the world, his work has alleviated millions out of poverty not only in India but also outside. Hailed as the "Milkman of India", Kurien won several awards including the [Padma Vibhushan](#) (India's second-highest civilian honour), the [World Food Prize](#) and the [Magsaysay Award](#) for community leadership.



INTRODUCTION

There are many institutes offering Dental Mechanic or Hygienist course in Kerala. Dental Mechanic course aims to help students to understand and gain knowledge for working with various Dental Materials or Dental Appliances for the oral treatment of the patient. A professional in this field has to make dental ceramics and aid the dentists on various treatments. He must be well versed to handle full and partial dentures, crowns, bridges and orthodontic appliances.

Content

The course content include Anatomy, Physiology, Dental Design, Crown and Bridge, Orthodontics, Oral Health and Safety, Skill Development with Clinical Practical Training

Eligibility

The candidate should pass Higher Secondary School Examination or its equivalent (10 +2 years schooling certificate) with not less than 50% of marks in English, Physics, Chemistry and Biology in total or any other equivalent examination

The duration of the course is 2 years in most of the universities

Personal Traits

To be a dental technician you should have:

- an interest and ability in science
- The ability to understand and interpret complex, technical instructions
- Good practical skills and a steady hand
- The ability to concentrate for long periods
- Good communication skills
- Good eyesight and colour vision
- A degree of artistic flair
- The ability to prioritise work and meet deadlines.

Nature of Work

Ideal candidates for this career possess excellent eye-hand coordination, good color perception, dexterity with small instruments, an interest in material sciences, and the patience to attend to minute details. Dental laboratory technicians generally work in clean, well-lighted, and well-ventilated areas. Technicians usually have their own workbenches, which can be equipped with Bunsen burners, grinding and polishing equipment, and hand instruments, such as wax spatulas and wax carvers. The work is extremely delicate and time-consuming.

Institutes

Dental Wing, Medical College, Trivandrum

Dental College, Medical College, Calicut-637008

Amrita School of Dentistry, Kochi

Educare Institute of Dental Sciences, Chattiparamba, Malappuram-

Malabar Dental College & Research Centre, Manoor, Chekanoor Road, Mudur (PO), Edappal,
Malappuram(Dt.)

Royal Dental College, Iron Hills,Chalissery P.O., Palakkad Dt., Kerala – 679536



Designing is a highly developed field ranging from high-tech industrial designing and visual communication design to creative fashion design, interior design and many other allied fields.

Categories of designing

- Building Design/ Architecture
- VLSI Design
- Graphic Design.
- Web Design
- Interior Designing
- Automobile Designing
- Game Design
- Motion graphic design
- Fashion Designing
(Garment, Leather, Footwear, Jewellery)
- Industrial design (Product design)

Building design

Building design refers to the broadly based architectural, engineering and technical applications to the design of buildings. All building projects require the services of a building designer, typically a licensed architect or structural engineer. Smaller, less complicated projects



often do not require a licensed professional, and the design of such projects is often undertaken by building designers, draftspersons, interior designers (for interior fit-outs or renovations), or contractors. Larger, more complex building projects require the services of many professionals trained in specialist disciplines, usually coordinated by an architect.

An architect is a person trained in the planning, design and supervision of the construction of buildings. Professionally, an architect's decisions affect public safety, and thus an architect must undergo specialized training consisting of advanced education and an internship for practical experience to earn a license to practice architecture.

Content :

- Architectural design, Landscape design and Computer Aided Design
- Techniques of Planning: City, Traffic and Transportation Planning
- Environmental Studies in Building Science
- Drawing
- Construction materials and methods of construction
- Surveying
- Infrastructure, Services and Amenities Development Administration and Management

Eligibility :

- Candidates having 50% marks in 10+2 or equivalent examination with mathematics as one of the subjects, are eligible for admission to B.Arch.Course.(science/commerce with mathematics)
- B.Arch is a 5 year course

Entrance test :

• **NATA:**

The council of Architecture conducts an aptitude test in All India level for admission to colleges of Architecture. The National Aptitude Test in Architecture (NATA) measures the aptitude of the applicant for specific field of study, i.e. Architecture. The test measures drawing and observation skills, sense of proportion, aesthetic sensitivity and critical thinking ability that have been acquired over a long period of time and that are related to specific field of study, i.e. Architecture.

• **IIT JEE:**

For IIT JEE you must clear the entrance exam. Only then you will be allowed to sit for the architecture aptitude test. This is a rule of the IITs. Once you clear both the stages you can take admission in top arch college like IIT Kharagpur.

Personality traits :

- Pragmatism with creativity
- Interest in art, cultures, traditions and other disciplines
- Logical Reasoning
- Drawing skill
- Imagination and graphical Visualization
- Adapt to change
- Social, marketing and networking skills

Nature of Work:

1. Discuss the objectives, requirements, and budget of a project
2. Provide various pre design services which may include conducting feasibility and environmental impact studies, selecting a site, or specifying the requirements the design must meet.
3. Prepare drawings and present ideas for the client to review
4. Develop final construction plans that show the building's appearance as well as details for its construction
5. Follow building codes, zoning laws, fire regulations, and other ordinances
6. Make necessary changes throughout the planning process

Job Prospects

1. Accredited building designer
2. Architectural draftsman
3. Architectural technician
4. Building information modeller
5. Building information modelling specialist
6. CAD technician

Institutions in Kerala

1. College of Engineering, Engineering College P.O.,
Thiruvananthapuram-685 016 (Kerala)
Tel: 0471-2598310 Fax: 0471-2598370
2. MES College of Engineering, Kuttipuram, Malappuram District-679573 (Kerala)
Tel: 0494-2698794, 2698081, 2699127, Fax: 0494-2698081
3. National Institute Of Technology NIT-Calicut Campus P.O.KOZHICODE-673 601(Kerala)
Tel: 0495-2286204 Ph:0495-2286241, 2286115, 2286101 Fax: 0495-2287250, 09895293275
4. T.K.M College Of Engineering T.K.M College P.O, Kollam - 691 005
Tel: 0474-2712022-25, Fax: 0474-2712023
5. Government Engineering College THRISSUR-680 009(Kerala)
Tel: 0487-2334590, 2334144, (R) 0471-2446230, Fax: 0487-2334590, 09447241014
6. Faculty of Architecture ,Sree Sankaracharya University of Sanskrit
Sresankarapuram, Kalady Post ERNAKULAM-683 574 (Kerala)
Tel: (O): 0484-2463380, 2461639, Fax: 0484-2463480, 2463580
7. Rajiv Gandhi Institute of Technology, Kottayam
8. Asian School of Architecture and Design innovation, Cochin (private)
9. IES College of Architecture, Trichur
10. Muslim Association college of Engineering, TVM (private)
11. Bishop Jerome Institute, Kollam (private)

Premiere Institutes in India

COLLEGE	ADDRESS	PHONE NO	WEBSITE
SCHOOL OF PLANNING & ARCHITECTURE	4-Block B, Indraprastha Estate New Delhi-110002	23317390 / 23318387	http://www.indiawatch.org
CHANDIGARH COLLEGE OF ARCHITECTURE	Sector 12, Chandigarh -160012	745531 Fax: 746260	http://www.cca.nic.in
SIR J.J.COLLEGE OF ARCHITECTURE	78/3 D.N. Road Mumbai -400001 P.O.Botanical	2621118, 2621649 6684561/2/3	http://www.sirjarchitecture.com http://www.
BENGAL ENGINEERING COLLEGE	Garden Shibpur, Howrah 3, West Bengal		becollege.org/ becollege/ becollege.html
JADAVPUR UNIVERSITY	Jadavpur, Kolkata -700032	4735508	http://www.Jadavpur.edu
TVB SCHOOL OF HABITAT STUDIES	Behind Sector D Pocket-2, Vasant Kunj, New Delhi-110070	26894898	http://www.tvbshs.org
IIT,KHARAGPUR	Kharagpur -721302	03222-55386	http:// www.iitkgp.ernet.in/ acads/dept/ar/ degrees.php
IIT,ROORKEE	Roorkee-247667	91-1332-85200	http://www.iitr.ernet.in
CENTRE FOR ENVIRONMENTAL PLANNING & TECHNOLOGY	Kasturbhai Laalbai Campus, Navarangpura, Ahmedabad -380009	91-79-6302470	http:// www.ceptindia.org
RAI UNIVERSITY RAIPUR	A-41, MCIE, Mathura Road, New Delhi -110044	(011) 51560000/ 70000, 26959000	http:// www.raiversity.edu

VLSI design



Engineering students with a strong electronics background, who want something more challenging and creative than a routine software job can enter this job

The density of transistors in a single chip will double every 18 months predicted Intel

founder Gordon Moore, a statement that is now famously referred to as Moore's Law. While the central processor has kept up with Moore's law, the graphics chip has outpaced it drastically. Today billions of transistors sit on a tiny chip attempting to render high-quality cinema-like visuals to users of handhelds, HDTV's, PCs & gaming consoles. **The process of putting millions and billions of transistors together logically on a tiny chip is known as VLSI or Very Large Scale Integration.** The industry has progressed in the last 35 years from SSI (Small) to MSI (Medium) to LSI (Large) to its current stage of VLSI, where the technology is advancing towards nanometer designs.

Content

Semiconductor Physics, Computer Architecture, Nanometer VLSI chips, design tools, new post-silicon devices, GPU-based parallel computing, emerging 3D integration, and antenna design, 3D integrated circuits design, Algorithms for CAD tools etc.

Eligibility

The IITs, NITs and many other universities offer various courses with high quality education in VLSI or Chip Designing.

- M.E /M.Tech in VLSI Design
- M.E /M.Tech in Embedded Systems Technologies
- M.Tech in Embedded Systems and Design
- M.Tech in Microelectronics and VLSI Design
- Post Graduate Diploma in VLSI and Embedded Systems
- Post Graduate Diploma in VLSI Design through Correspondence/Distance learning.
- Diploma in VLSI Designing
- Diploma in Embedded Systems Design

- Students having a strong electronics background and armed with an Engineering degree in Electronics, Electrical, Instrumentation, Computer science, or Information Technology IT, etc. are eligible for a high rising and fast moving career in VLSI. If electronics students are good in programming, they will be well suited to join embedded system design. Students with a similar background, but with an interest in design and verification can opt for VLSI design. They can either focus on logic design or verification (front-end) or physical design (back-end).

Personal traits

A strong background in basic electronics ,mathematics , semiconductor concepts, good knowledge of languages like VHDL, Verilog, Spec-man and System Verilog, as well as good programming skills and scripting abilities

Job Prospects

The main job functions of a Chip Designer are Designing, Testing, Applications, Production and Process Engineering.

◆ Design Engineer ◆ CAD Engineer ◆ Packaging Engineer ◆ Product Engineer ◆ Applications/ Systems engineer ◆ Test Engineer ◆ Process Engineer.

A chip design engineer's job ranges right from the architecture, logic design, circuit design and physical design of the chip to the testing and verification of the final product.

VLSI design is an extremely challenging job. Since it is also a very creative job, most people who don't want to get stuck in routine software jobs, opt for this career. VLSI is also the fastest changing technology area and it constantly throws up opportunities.

The most rewarding aspect of a career in VLSI design is, however, the sense of ownership of what is developed. The ability of getting patents and the scope available for applied research and publication make VLSI and ASIC design a dream career for many engineers.

Trend

VLSI designers are in huge demand to develop FPGA implementations, ASICs (Application Specific Integrated Circuits) and SoCs (System-on-chip).

Institutions in kerala

1. NIT Kozhikkode
2. Model Engineering college , Trikkakara, Ernakulam
3. Rajagiri school of Engineering and Technology, Kochi
4. Viswajyothi college of Engineering and Technology , Muvattupuzha.
5. Amritha viswa vidyapeedam, kollam
6. ER&DCI Institute of Technology, TVM
7. Thangal kunju musliar Institute of Technology
8. Chengannoor Engineering college, Chengannoor

Premier Institutes

1. VEDA IIT, Hyderabad
2. Birla Institute of Technology and Science, Goa
3. JB Institute of Engineering and Technology, AP
4. BITS, Pilani,
5. Shri Vaishnav Institute of Technology and Science, Indore, MP
6. Centre for Development of Advanced Computing, Hyderabad, AP
7. Punjab University
8. Indian Institute of Technology, Kharagpur, West Bengal
9. Anna University: College of Engineering, Chennai, Tamil Nadu

Graphic Design

Graphic design is the art of communication, stylizing, and problem-solving through the use of type, space, and image. A graphic designer is responsible for creating design solutions that have a high visual impact. The role involves listening to clients and understanding their needs before making design decisions.

Their designs are required for a huge variety of products and activities, such as websites, advertising, books, magazines, posters, computer games, product packaging, exhibitions and displays, corporate communications and corporate identity, e.g. giving organisations a visual 'brand'.

The work demands creative flair, up-to-date knowledge of industry software and a professional approach to time, costs and deadlines.

Content

Emerging technologies in new media, particularly design programs such as QuarkXPress, FreeHand, Illustrator, Coral draw, Photoshop, 3ds Max, Acrobat, Director, Dreamweaver and Flash

Eligibility

Students who have passed or who are appearing for qualifying examinations under the Higher Secondary (10+2). Artistic skill is a must.

Nature of work :-

Artistic and consultative work of drafting, illustration and design nature as well as administrative work in the planning and coordinating of a graphic support service

Personal Traits



- Imagination and creativity;
- Critical awareness of self and external factors and the ability to be reflective;
- Interpersonal and social skills;
- Resourcefulness;
- An appreciation of diversity;
- Team work;
- The ability to work independently;
- Decision-making;
- Visual presentation;
- Self-motivation and self-management;
- IT, particularly using creative software.(vector and raster image producing softwares)
- An understanding of the latest trends and their role within a commercial environment

Job prospects

- Advertising agencies
- Large print houses
- Brand agencies
- Book and magazine and newspaper publishers
- Multimedia companies including the games industry and web development
- Television and broadcasting companies
- The packaging industry
- In-house graphic design services of major national and international organisations and companies.
- Studio or Consultancy
- Web development firm

Design Specializations

- Packaging Designer
- Editorial Designer / Publications Designer
- Book Designer
- Type Design
- Advertising Designer
- Trademark/Logo/Brand/Identity Designer
- Corporate/Annual Reports
- Audio/Visual Packaging
- Motion Graphics

Colleges

- School of Communication and Management Studies, Cochin, Kerala
- St Joseph College of Communication, Kerala
- Yeldo Mar Baselios College College Ernakulam, Kerala
- Zamorins Guruvayurappan College College Kozhikode, Kerala
- Department fine arts deen dayal upadhyay gorakhpur University
- Maya academic advanced cinematics Cinematics , Mumbai, Maharashtra
- Asian-academy film & Television, Noida, Delhi – NCR
- Wlc College of India Hubli Hubli, Hubli, Karnataka
- School of film and Mass Communication (SFMC), Allahabad, Uttar Pradesh

Web Design

Web design encompasses many different skills and disciplines in the production and maintenance of websites. The different areas of web design include web graphic design; interface design; authoring, including standardised code and proprietary software; user experience design; and search engine optimization. The term web design is normally used to describe the design process relating to the front-end (client side) design of a website including writing mark up. A web designer creates the visual elements that make up a web page, deciding on layout, colour schemes and text formatting.



Content

- HTML, Javascript, CSS, PHP , Dreamweaver, Photoshop, Illustrator, Coral draw, Flash etc.

Eligibility

- Students who have passed or who will appear for qualifying examinations under the Higher Secondary (10+2). Artistic skill is a must.

Personality Traits

- have creativity and imagination
- be adaptable and able to pick up new techniques
- have good interpersonal and communication skills
- keep up to date with advances in computer technology and how this affects the business environment
- have skills in graphics and software programming such as HTML, , Javascript, CSS, PHP , Dreamweaver, Photoshop, Illustrator, Coral draw, Flash etc
- Experience working with basic word processor and database packages.
- A keen eye for design, colour matching and detail.
- A genuine passion for finding out about and using the latest Internet technologies to make exciting, interactive web pages.

Nature of work

Artistic and consultative work of drafting, illustration and design nature as well as administrative work in the planning and co-ordinating of a graphic support service

Job prospects

- Advertising agencies
- Graphic design studios
- Print & publishing houses (like newspapers, magazines, etc.)
- TV production houses
- E-learning companies
- Website development companies
- Companies / firms that need to create & maintain a website

Areas of specialization

- Web Designer / Web Developer (front-end interface)
- Web Programmer/Developer (back-end systems)
- Content Manager
- Content Developer
- Flash Developer

- Information Architect
- Interactive Production Artist
- Multimedia Designer
- Interactive Designer
- Web Producer
- Webmaster
- E-commerce Site Developer

Interior Designing



The interior design discipline involves the arrangement of living space to attain greater functionality and the creation of the perfect atmosphere for the space's intended purpose. Interior design makes use of different aspects of other disciplines such as architecture, product design, environmental psychology and decoration. It emphasizes the essential characteristics of all design styles:

color, concept, proportion, ergonomics, balance and function of design.

Content

• Computer-aided design (CAD) • model making • design skills • creative design projects • drawing and visual communication • presentation skills • building techniques • materials technology • digital image manipulation • MDes exhibition •

Eligibility

The 4 years Bachelor of fine Arts (BFA) programme offers specialisation in Interior Design. The school of Interior design, CEPT, Ahmedabad offers 5 year professional programme in Interior design to candidates who have **passed +2 with 55% aggregate in Maths/Biology, Physics, Chemistry and English**. Many part- time one year diploma courses are being run in every city, which require very minimal qualification. **There are many private institutions offering certificate courses for interior designing, qualification required for such courses is SSLC.**

Personality traits

- creativity
- practical skills
- excellent organisational skills
- project-management skills
- drawing, computer-aided design (CAD) and model-making skills
- an understanding of building and safety regulations

- knowledge of products, materials and architectural history
- effective communication skills, for working with suppliers, contractors and clients
- the ability to find practical solutions to problems
- the ability to work out costs and keep to budgets
- business skills if self-employed.

Nature of work

- meeting clients to discuss their requirements and ideas
- developing designs to suit clients' needs, their budget and the type of building
- preparing initial sketches for the client to approve
- advising on colour schemes, fabrics, fittings and furniture
- working out costs and preparing estimates
- creating detailed drawings from the initial sketches, usually on a computer
- finding fittings, furniture, fabrics, and wall and floor coverings.

Job prospects

- Residential – houses, flats, canal boats, and any kind of domestic accommodation. The setting may be a new build, an established home, or a conversion
- Workplace – includes factories, offices, and any number of other settings. Design may be as much concerned with functionality, problem-solving, and creating a space where innovation and ideas can flourish as it is with “looks”
- Temporary exhibition design – museums, galleries, and a wide range of other private and public settings
- Commercial – includes retail shops and shopping malls, warehouses, conference centres and the like
- Leisure - cinemas, theatres, and health centres
- Hospitality – hotels, restaurants, cafes, and nightclubs would all fall into this category
- Education – includes schools and universities
- Healthcare – local health centres, hospitals, nursing and care homes, and private clinics

Institution in Kerala

- St. Joseph college of Communication (BA visual Arts- Interior design)
- Rays & Hues Animation & film Academy(Diploma in Interior Design)
- Noyal College of Interior Design, Ernakulam (BSc/MSc Interior Design)
- NIET college, Ponnani, Malappuram
- Brainnet – centre for Design& Management, Thrissur & Kozhikkode
- Eyes Multidesign, Ernakulam(Dipolma , BSc in Interior design)

Automobile Design



Automobile design is the process of designing the appearance and functionality of automobiles, including cars, trucks, vans, buses, and even motorcycles.

The interior and exterior of every vehicle on the market today was designed by automobile designers. These designers are usually responsible for the color scheme of an automobile, along with the way the vehicle is shaped. Besides making a vehicle attractive, designers are also partly responsible for designing the shape of the car as well.

Content

Automobile designers combine knowledge of physics with aesthetics, industrial design, electrical engineering, mathematics, environmental science, and computer-aided drafting etc.

Eligibility

- Graduate Diploma Programme in Automobile Styling(GDPAS)
- Duration: Three years.
- Eligibility: 10+2 or equivalent with creative designing skill
- Diploma in Automotive Designing
- Duration: 12 months
- Eligibility: 10+2 or equivalent
- Post Graduate Diploma Programme in Automobile Styling
- Duration: Two years
- Eligibility: Graduate in any discipline or Diploma with two years of working experience
- Course Name: Post-Graduate Diploma Programme in Industrial Design (PGPD) with specialisation in Transportation and Automobile Design
- Duration: 2 and 1/2 years
- Eligibility: Graduates in Architecture and Engineering
- Course Name: M.Sc[Engg.] in Automotive Product Design
- Eligibility: 4-year degree in Engineering or equivalent / Graduate in science with 1 or 2 years of Industrial experience
- Duration: 18 months

Personality Traits

Creativity, along with drawing 2D or 3D art and sculpting skills.

Nature of work

Once a concept has been formed, an automobile designer will then make basic sketches of the automobile using CAD, or computer-aided drafting. This computer software can then be used to make a much more detailed drawing of the vehicle. These drawings are usually 3-D images, which will often include every little detail of a vehicle, from the curves of the headlights to the tip of the exhaust. The color scheme of a vehicle, inside and out is also usually represented in these drawings.

After the drawings are complete, automobile designers will also usually create a scale model, or sculpture, of the vehicle using clay.

Some Institutes/Colleges/Universities offering courses in Automobile Designing

- DYP-DC Center for Automotive Research and Studies, Pune
- M S Ramaiah School of Advanced Studies (MSRSAS), Bangalore
- National Institute of Design, Ahmedabad
- Indian Institute of Technology, Centre for Design, Mumbai

Game design



Game design is the process of designing the content and rules of a game in the pre-production stage and design of game play, environment, storyline, and characters during production stage. The designer is the visionary of the game and controls the artistic and technical elements of the game in fulfillment of their vision.

Content

- Game mechanics
- Theory of fun
- Story and plot development
- Market research
- Feedback mechanisms
- Environmental and character assets
- Heuristic testing
- Designing for animation
- Correcting topology
- 3Dmesh data and symbolic armatures
- Rigging and skinning and testing techniques
- How to use Maya and Blender to create designs and characters for your own ultimate personal visual impact.

Eligibility

A pass in 10 / +2 in any stream with artistic skill

Personality traits

Creative, imaginative and original

Drawing skill

Strong knowledge of Maya, 3D Max, XSI and/or comparable 3D software package, as well as Photoshop, After Effects, Painter and/or comparable 2D software package

Organization teamwork

Analytical mind

Time-management skills

Updated knowledge of the history and trends of video game

enjoy IT and playing computer games.

Nature of work

Designing

- the rules of the game
- the setting
- story and characters
- props such as weapons and vehicles
- different ways the game may be played.

Job prospects

- Advertising
- Corporate Communications
- Education
- E-learning Providers
- Entertainment
- Manufacturing
- Marketing Firms
- Medical
- Online Service
- Training and Development
- Web site Development

Trend

are lot of scope over here like Gaming is now used at Bank's, for marketing, for education, to improve the IQ etc .Mobile gaming, i-Phone Gaming and Social Gaming is the next gen future .One can start his or her career as a gaming artist, game developer, game taster, game de-coder, porting etc. Another type of gaming is coming with lot of scope, X-Box, Nintendo and Simulation Games.

Motion Graphic designing



Motion graphics introduces the elements of motion, sound, and time into their work. Professional motion graphic designers use animation and video technology to create moving images and typography for big and small screens.

Content

- Basics of Art and designing
- 2D or 3D softwares such as Flash, 3D Studio max, Maya etc
- Modelling
- Post production Software such Combustion , After Effects

Eligibility

A pass in 10 / +2 in any stream with artistic skill

Personality traits

- As like in game design. And
- Software skills such as 3D Max/Maya/After Effects/Discreet/ Cinema 4D /Avid / Final Cut

Job prospects

- Video Post-Production Company
- Commercial Production Company
- Video Production Company
- Web-based Video Production Co.
- Video Effects Company
- Animation Company
- Film or TV Production Companies
- Gaming Industry

Areas of specialization

- Broadcast Designer / Motion Designer
- New Media Specialist
- Animator (2D or 3D)
- Effects Editor / Special Effects Artist
- VFX / Visual Effects Artists
- Motion Designer
- Creative Editor
- Character Animator

Fashion design



Fashion design is the applied art devoted to the designing of clothing and lifestyle accessories. Fashion design is influenced by cultural and social attitudes, and has varied over time and place.

Fashion Design can be divided into three main branches — Garment design, Leather design, Accessory & Jewellery design.

Content

Fashion Design Process, Visualization and Presentation Techniques, Contextual design studies and Communication, Fashion Form and Function, Traditional Textiles & Crafts .

Eligibility

Graduate in any discipline

Diploma courses is open for any + 2 holder.

Personality Traits

Fashion designers need

- to be creative & Artistic
- an eye for colour, texture and pattern
- the ability to visualise things in three dimensions
- technical skills in areas such as pattern cutting, grading and garment construction
- to be able to draw, either by hand or on the computer
- good communication skills to explain their ideas clearly and persuasively
- the ability to meet deadlines and work within a budget
- to keep ahead of trends in colour, fabric and style
- strong organisational skills.

Nature of work

- producing concepts
- making sketches by hand or on the computer
- developing patterns
- overseeing production
- analysing trends in fabrics, colours and shapes.

Job Prospects

In India, the fashion industry has just begun to come of age, as it is still in its fledgling stage. This industry offers plenty of opportunities for talented hard working and enthusiastic people.

- Fashion and design coordinator
- Fashion consultant
- Fashion journalist
- Cutting assistant.
- Choreographer
- Sketcher
- Freelance designer.

Trend

Films and TV soaps are the major areas of fashion designing. A lot of designers design apparels, accessories and jewellery for movie stars and TV actors. This has boosted fashion designing industry and fashion is spread across the general masses. They are being paid a huge

amount for every film project they work with. Today, Fashion industry not just caters with the demand of younger generations but it covers almost people of all ages. Fashion designers design clothes for every occasion from wedding to parties, conferences and even funerals.

Branches

1. Leather design /Accessory

India's leather industry is the fourth largest in the world which not only offers attractive products to consumers in India and abroad but also offers attractive career choices. Leather craftworkers use traditional tools and methods to make clothing, footwear, accessories and home furnishings.

Nature of work

As a leather craftworker you would:

- work from a design pattern to measure and cut out leather sections
- prepare the leather, using solvents
- hand- or machine-stitch sections together
- fit linings, handles, buckles and eyelets
- apply finishes to the leather, such as stains, waxes and polishes.

You could also use your craft skills to make and repair specialist products and equipment, for example:

- saddles, bridles and harnesses
- coverings and finishes for books, boxes, chests and tableware
- clothing, armour and weapons for museums.

2. Jewellery design(Gemmology)



Science and art rolled into one, gemology is technically the study of gemstones or semi-precious stones. Therefore, training in gemology involves understanding the genesis, structure, classification and properties of various gems and stones

To be a successful gemologist, one needs to have adequate knowledge of minerals and other organic materials such as amber, corals and pearls that are used in jewellery making-to be able to distinguish natural gemstones from the synthetic ones and the imitations, so one knows real diamond from glass or a synthetic diamond.

Content

- Basic qualities of a gem, methods employed in mining of gems, Physical properties, Optical properties & optical effects in gemstones etc.
- Theory of gem cutting techniques, crystallography & applications in Gemology
- Instruments in gem identification techniques, limitation & precautions
- Synthetic, composites, imitation gemstones & plastics, treatment of gemstones
- Synthetic identification of gemstone groups, Individual stones & their stimulants

Eligibility

Candidates who have qualified 10+2 or equivalent examination from a recognised educational institute can apply for a diploma, degree or certificate course in this field. Various NIFTs across the country, Indian Institute of Gemology, New Delhi, and The Gemological Institute of India, Mumbai are some institutions where courses in gemology are offered. Along with this, you can also do an add-on course like jewellery designing or diamond grading. There are so many private institutions like Malabar Gold which provides certificate course in gemology.

Top colleges in fashion designing

1. National Institute of Fashion Technology(NIFT) Delhi

(NIFT Centres:- Kannur, Bengaluru, Bhopal, Bhubaneswar , Chennai, Gandhinagar, Hyderabad, JodhpurKangra, Kolkata, Mumbai, Patna, Raebareli, Shillong.)

Kannur centre provides courses such as Diploma in Fashion design, Textile design, Knitwear design and B.F.Tech)

- 2 years M.Des., M.F.M. and M.F.Tech courses 3 years B.Des. courses in Accessory Designing, Fashion Communication, Knitwear Design and Leather design
- 4 years B.Des. courses in Fashion design, Textile Design
- 4 years B.F.Tech. in Apparel Production
- Ph.D. programs in Fashion designing

2. Vogue Institute of Fashion Technology, Bangalore

Affiliated to BangaloreUniversity, the institute offers following courses:

- B.Sc. in Fashion Designing, Apparel Designing, Jewelry Designing, Interior Designing, Lifestyle and Accessory Designing
- Diploma courses in Computer Aided Fashion Design and Textile Design, CAD Virtual Draping, 3D Modeling, Gemology, Diamond grading & Identification and CAD with Jewelry design.

- Graduate diploma in Fashion Design And Management, Jewelry Design And Manufacturing, and Interior Designing
- PG diploma in Fashion Marketing and Merchandising

Admission into the institute on the basis of marks obtained in your 10+2 exam.

3. School of Fashion Technology, Pune: The school offers following courses:

- 4 years B.Des. in Fashion Design, Textile Design
- 3 years B.Des. in Fashion Communication, Lifestyle Accessory Design
- 1 year PG program in fashion retail management
- 1 year PG diploma in Apparel Production, Merchandising Management, Fashion Design, Clothing Technology, CAD Textile Design

Admissions are made on the basis of score in 10+2 exam.

4. Symbiosis Institute of Design, Pune

Affiliated to Symbiosis International University, the institute offers following courses:

- 4 year B.Des. in fashion design
- 3 year B.Des. in Fashion Communication, Communication Design And Industrial Design

The institute conducts a Symbiosis Entrance Test every year, on the basis of which, admissions are made into the institute.

5. National Institute of Design, Ahmedabad

Setup under the aegis of Ministry of Commerce and Industry, Govt. of India, the institute offers following courses:

- 4 years graduate diploma in design
- 2 ½ years PG diploma in design

Admissions are made on the basis of an entrance test, followed by a personal interview.

6. International Institute of Fashion Design, Chandigarh

The institute offers following courses :

- 3 year B.Sc. degree in Interior, Fashion And Textile Designing
- 1 year diploma in Interior, Textile And Fashion Design
- Advance diploma in Interior, Textile And Fashion Design

Admissions are made on the basis of marks in 10+2 exams.

7. Northern India Institute of Fashion Technology, Mohali:

Established by the Department of Industries and Commerce, Govt. of India, the institute is affiliated to Punjab Technical University, and offers following undergraduate and postgraduate courses:

- 3 year bachelor's degree course in Fashion Designing And Textile Designing
- 2 year master's degree course in Fashion Marketing And Management, And Garment Manufacturing Technology

Admissions are made on the basis of an entrance exam conducted by the institute.

8. J.D. Institute of Fashion Technology, Delhi

This is a private institute affiliated to Kuvempu University. It offers several undergraduate and diploma courses in the field of fashion design including:

- Diploma courses in Fashion Business Management, Fashion Design, Fashion Illustration, Fashion Merchandising, Fashion Photography, Interior Design, Jewelry Design, Textile Design, Visual Merchandising And Garment Manufacturing Technology
- 3 year B.Sc. in Fashion And Apparel Design

Admissions are made on the basis of an entrance exam conducted by the institute.

9. Apeejay Institute of Design, Delhi

Affiliated to GuruNanak Dev University and approved by AICTE, the institute offers following courses in fashion design :

- Diploma courses in Fashion Design, Graphic Design, Interior Design, Animation And Multimedia
- Postgraduate diploma courses with specialty in Accessory Design, Animation, Web Design, Applied Arts, Fashion Design, Textile Design And Interior Design

Admissions are made on the basis of an entrance exam conducted by the institute.

10. Pearl Academy of Fashion, Delh

With a view for internationalism, this institute has been affiliated to the Nottingham Trent University, UK. It offers following courses for prospective students:

- 3 year B.A. (Hons.) in Fashion Design, Fashion Media Communication, Communication Design, Fashion Business Management, Fashion Marketing & Promotion, Fashion Style And Image Designing, Textile Design, Jewelry Design
- 2 year M.A. in Fashion Marketing, And Fashion And Textile Design, Fashion Management, Fashion Retail Management
- 1 year diploma courses in Fashion Media Makeup, Fashion Promotion And Events, Interior Designing
- 1 year certificate course in Creative Fashion & Technology in women's wear

Admissions into the academy are made on the basis of a 2-stage written entrance exam, followed by personal interview.

Industrial design



The people who design things like cars, bikes, furniture, tools and equipment, computers, medical devices, housewares, etc. are generally called industrial designers (sometimes referred to as I.D.) or product designers .They analyse quality, safety, and function, all of which go into making a successful product.

In this job one will need to be able to use drawings, 3D models and computer-aided designs and also need to be able to plan a project through several stages, working out prices and budgets.

Personality Traits

- ◆ Creative and imaginative
- ◆ Good communication skills
- ◆ Ability to adapt to new ideas and trends.
- ◆ Good problem-solving skills
- ◆ Work quickly under tight deadlines and being self-disciplined.

Nature of work

- taking details of what the client needs
- developing ideas and making initial sketches
- deciding on suitable materials
- using computer design software to produce detailed final drawings
- making samples or working models
- testing the design
- finding solutions for any problems with the design.

Job prospects

According to the department of labor, employment opportunities for commercial and industrial designers are expected to grow 10 percent between 2010 and 2020, which is as fast as average for all occupations.

As design demands become increasingly more consumer-driven, the designers who can anticipate new trends, and easily restructure their visions to meet the needs of the consumers are sure to do best in this creative, and ever-changing industry.

- design and product development
- technology-based industry
- information technology and communication
- research and communication

Institutions

IDC, IIT Bombay	Transportation & Automobile Design
NID, Ahmedabad	Product Design
DoD, IIT Guwahati	Product Design
IIT Delhi	Product Design
IIT Kanpur	Transportation Design





Disaster management, which is also known as emergency management, can be defined as dealing with and avoiding both natural and manmade disasters. Disaster management involves preparedness before disaster, rebuilding and supporting society after natural disasters such as, earthquakes, drought, tsunami etc. Nowadays, both government and non government organizations work in the field of disaster management. In public sector, it may be defined as civil defense or emergency services. On the other hand, in the private sector, it is generally referred to business continuity planning.

Content

- Emergency planning procedures
- Hazards, risks and disasters
- Technological development, environmental and sustainable development
- Law and management fundamentals
- Political, international and social issues
- Roles of key agencies
- Relief co-ordination and planning
- Field skills
- Disaster theory, statistics and logistics
- Disaster mitigation, preparedness and response
- Earth catastrophes, fire and explosion
- Physical, psychological and social reconstruction of disaster-affected communities

Eligibility

Disaster management courses are offered at the short term certificate, undergraduate, postgraduate degree and diploma levels. Basic educational qualification, i.e Higher Secondary Examination (10+2) is needed to pursue a career in disaster management. For Master's Degree, the student should be a Graduate in any field.

Disaster Management

Institute	Course	Eligibility	Course fee (Rs)
Jamsetji Tata Centre for Disaster Management TISS, Mumbai	MA/ M.Sc in Disaster Management	Bachelor's degree in any discipline	2.33 lakhs (including hostel fees)
Guru Gobind Singh Indraprastha University (GGSIPU)	MBA in Disaster Management	Graduates, students with Master's degree and work experience are preferred	1.6 lakhs

Personality traits

- Should have Physical and Mental Fitness
- Should have the ability to handle all and any kind of situation and circumstance, at any point of time
- Should have ability to plan
- Must be alert
- Must have the capability to implement appropriate plans, for any type of situation, immediately.
- Should have good communication skills
- Must possess good organizing abilities and should have a team spirit

Nature of work

Prevention, preparedness, relief and recovery

Job Prospects

Disaster management as a Career comes with immense scope in NGOs, International organizations like World Bank, United Nations Organizations (UNO), Asian Development Bank (ADB), Red Cross, UNESCO etc. **A career in Disaster Management** will pay you good and at the same time offer you mental satisfaction.

After joining any organization, the person can work as systems or network administrator, database analyst or administrator, security administration or operations analyst. They can also offer service as social workers, engineers, medical health experts, environmental experts, rehabilitation workers, Emergency services, emergency planning and response services, government agencies, local authorities, relief agencies.

Trend

Over the next 50 years our nation, and indeed the world, is likely to face crises on an almost unimaginable scale. If even a few of the following trends continue at current rates, then public service leaders of the future will be living in a far more challenging environment.

- With Climate Change, rising ocean levels affecting coastal areas.
- Air, Water pollution, desertification
- Ecological degradation and contamination of animal genomes.
- Depletion of ocean resources and changing ocean chemistry.
- Continued world-wide food shortages.
- Decreases in plant and animal species diversification.
- More virulent viruses spread more rapidly
- Collapse of petroleum based economy.
- Persistence of major worldwide epidemics like HIV/AIDS.
- Emergence of new lifestyle epidemics like obesity.
- Rise of militant ideologies.

Colleges Offering UG/PG/Other Courses

A number of institutions in India are admitting students to courses in disaster management, which are offered at different degree levels. Some of the prominent institutions are

1. Jamsetji Tata Center for Disaster Management, Tata Institute of Social Science
2. University of North Bengal (Darjeeling)
3. International Centre of Madras University (University of Madras)
4. Mahatma Gandhi University (Kottayam)
5. Disaster Management Institute (Bhopal)
6. Centre for Disaster Management (Maharashtra)
7. The National Civil Defense College (Nagpur)
8. National Institute Of Disaster Management (Delhi).
9. Yashwant Rao Academy of Development,Pune
10. National Institute of Disaster Management, Delhi
11. Emergency Management and Research Institute, Secunderabad, Andhra Pradesh
12. Disaster Mitigation Institute, Ahmedabad,Gujarat
13. Environment Protection Training and Research Institute, Hyderabad
14. PRT Institute of Post Graduate Environmental Education & Research,New Delhi
15. National Civil Defence College, Nagpur, Maharastra
16. Indira Gandhi National Open University (New Delhi)



INTRODUCTION

Economics is the back bone of a Nation. Globalization and consequent merging of world economy has widened the career prospects of economics students in business, education, banking, insurance, government sector etc. Though Economics is taught at the under graduate level as a separate subject, jobs in economics are offered to candidates having specialized graduate and post graduate qualification. The study of economics is aimed at allocating scarce resources to get optimum benefit for the economy.

Content

- * Degree courses like BA Economics, BA Business Economics, BSC Economics, BA applied Economics, BA International relations) etc. are offered by many universities. **In the graduate level students are exposed to Micro Economic theory, Macro Economics theory, Indian Economy, Basic statistical analysis etc.**
- * 5 year MA integrated course in Developmental Studies is offered by IIT Madras, IIT Kanpur, Hyderabad University, Madras School of Economics etc.
- * Rare Specializations Post graduation in Economics : MSC in Economics, MA in environmental science, MA in Inter National Economics, MSC in Econometrics, MSC in Mathematical Economics, Master of Business Economics (MBE) etc.
- * Admission to the Prestigious institution like IGRD, Delhi School of Economics, IIT Madras, Jawaharlal Nehru University, University of Madras, Hyderabad University, Gokhale Institute of Economics, IIT Kanpur etc. will be based on Written Test and Interview.
- * After the successful completion of MA or MSC in Economics with high academic performance one can take admission to the M.Phil or Ph D in Economics by appearing entrance test conducted by universities.
- * The Indian Economic Services and Research officers in DEAP of RBI are more prestigious job in Government Sector.

Eligibility

- ◆ ***Graduation in Economics*** :12th/HSC (To Study BSC in Economics the applicants must have studied Mathematics at Higher Secondary level.)
- ◆ Admission to the 5 Year integrated MA in developmental studies at IIT Madras is through common entrance test called Humanities and Social Sciences Entrance Examination (HSEE). The candidates belonging to the general category and OBC category must secure a minimum of 60% marks in aggregate in Plus Two/HSE

- ◆ Admission to the 5 Year integrated programme leading to MSC Economics at Madras School of Economics : 60 % of Marks at Plus Two Level and Study of Mathematics are compulsory.
- ◆ It is mandatory to appear for the Symbiosis Entrance Test (SET) for admission to BSC Economics at Symbolisis School of Economics .
- ◆ **Post Graduation in Economics** : Graduation.(For MSC in Economics the applicants must have studied Mathematics at Higher Secondary level.)
- ◆ After the successful completion of MA or MSC in Economics with high academic performance one can take admission to the M.phi or Ph D in Economics by appearing entrance test conducted by universities.
- ◆ **The Indian Economic Services and Research officers in DEAP of RBI** are more prestigious job in Government Sector. After Post Graduation , one can appear for Indian Economic Service (IES) .The Indian Economic Service (IES) is an organized Group 'A' Central Service.. They are placed in the Planning Commission, Planning Board, Ministry of Economic Affairs, National Sample Survey and other Departments that need specialists in Economics. The nature of job will be that of an economist with an administrative mould. The service conditions of IES are similar to other Civil Services. Postings are usually in Delhi, State capitals and other metros.

Recruitment : On the basis of All India Competitive Exam of UPSC .

Age : **21 - 30 years**

Qualification : Post Graduate degree in Economics or applied Economics or Business Economics or Econometrics from recognized University.

The IES Examination consists of Two Parts

Part – 1 Written Exam

- A. General Knowledge : 100 Marks
- B. General Studies : 100 Marks
- C. General Economics-I : 200 Marks
- D. General Economics- II : 200 Marks
- E. General Economics- III : 200 Marks
- F. Indian Economy : 200 Marks

Part – 2 UPSC Interview : 200 Marks

UPSC recommend to Government ,candidates successful in the IES Examination ,for appointment to the Service . Successful candidates are required to undergo Medical examination by the Central Standing Medical Board.

To see the details of IES Examination including schedules of forthcoming examination and question papers of exams already conducted , please refer to the UPSC WEBSITE (<http://www.upsc.gov.in/>)

- ◆ **Research officers in Department of Economics application and planning (DEAP) of RBI** is another prestigious avenue open to the meritorious Graduate and Post Graduate students. Candidates must be between 21 and 30 years. Educational qualification is a first class Bachelor's Degree with a minimum of 605 marks or a second class Master's degree with a minimum of 55% of marks or A Doctorate Degree with 50% marks in Master's degree or Apost graduate Diploma in management from IMM only. The selection will be through Written Examination and Interview. Written Examination will be in two phases as under

Phase I : (Objective Type Test) : This 3 hours paper for 200 marks consists of General Awareness, English Language, Quantitative aptitude and reasoning. Candidates have to secure minimum marks separately for each test

Phase II : (Descriptive Type Test) : The examination will consist of three Descriptive type papers : Paper I English Paper 2 Economic and Social Issues and Paper 3 Finance and Management. Each of these papers is of three hours duration carrying 100 Marks

For More details www.rbi.org.in

Personality Traits

- ◆ Posses some degree of numerical ability.
- ◆ Interest in current social and political activities.
- ◆ Logical and analytical bend of mind.
- ◆ Strong ability to assimilate information.
- ◆ Patience and positive attitude.

Nature of Work

Economists study how society distributes scarce resources such as land, labor, raw materials, and machinery to produce goods and services. They conduct research, collect and analyze data, monitor economic trends, and develop forecasts.

VI Job Prospects

A graduate in Economics can aspire for entry level jobs in banking, finance, insurance, stock markets, sales and marketing as well as corporations like consulting firms or government departments. They can also begin their career with **government enterprises, public undertakings, investment firms, business journals and news papers.**

As a general option to all social science students, economics students can opt for **journalism, law etc** to diversify their career opportunities. Those who have keen interest in higher studies and research can opt for **Mphil and PhD** and thereby aspire to take higher position in public and private sector.

Jobs in Economics though easily related with the financial sector and money market operations also exist in manufacturing and retail segments. Other segments having opportunities for Economics professionals are **resource planning, rural development, urban development,**

foreign trade and international relations. Development banks, commercial banks and investment banks have requirements for economics scholars.

The Institute of Applied Manpower Research, New Delhi; Institute of Economic Growth, New Delhi, National Council of Applied Economic Research, New Delhi and Indian Council of Social Science Research offer ample job opportunities to economists.

The other Job Prospects are:

- ◆ Indian Economic Service (IES)
- ◆ Economic Consulting
- ◆ Central Statistical Organization (CSO)
- ◆ Planning Commission
- ◆ National Sample Survey Organization.(NSSO)
- ◆ Research officer in RBI
- ◆ Business Manager
- ◆ Bank Officer
- ◆ Business Forecaster
- ◆ Credit Analyst
- ◆ Loan Officer
- ◆ Demographer
- ◆ Regional Planner
- ◆ Insurance Analyst
- ◆ Statistician
- ◆ Research Assistant.
- ◆ Purchasing Agent
- ◆ Data Analyst.
- ◆ Financial Analyst.
- ◆ Economic Research Analyst.
- ◆ Teaching Job
- ◆ Economic Advisor.
- ◆ MarketResearcher.
- ◆ RBI Research officer.
- ◆ Statistical Organiser
- ◆ Officers in Agriculture and Planning Departments.
- ◆ Economic Journalist.

Trend

- ❑ In the age of liberalization and globalization Economists supposed to get good return whether in public or private sectors. In most of the government services Economists are getting 20,000 to 35,000 as assistants while experienced and seniors have average 40,000 of monthly salaries. In colleges and universities economics teachers are getting 35,000 to 75,000 depending upon seniority. Economic consultants are also earning good returns depending upon number of their clients.
- ❑ There are opportunities for advanced professional degree holders in Management, Finance, Law and Public Affairs. Newspapers provide economics graduates with opportunities to write reports on economic and business events.
- ❑ The demand for economics teachers in educational institutions is growing in India and foreign universities.
- ❑ Financial institutions like the Reserve Bank of India, private and foreign banks and insurance companies offer good openings to postgraduate degree holders in Economics. Various international organizations like the World Bank and the International Labour Organisation offer ample job opportunities to well-known economists.

Branches

1. Business Economics :

It is the study of business related problems using economic techniques .

2. Agriculture Economics :

Agricultural economics applies principles of Economics to issues of agricultural production, natural resources, and rural development

3. Labour Economics :

Concerned with labour trends , labour policies ,dispute etc.

4. Industrial Economics:

Concerned with structure of business concern in relation to production and marketing of goods.

5. Mathematical Economics:

It is the application of mathematical Method to represent theories and analyze problems in Economics

6. Enviromental Economics :

Environmental economics is a subfield of Economics that dealswith environmental issues.

7. Econometrics :

It is the application of Mathematics and Statistics to the study of economic and financial data .

8. **International Economics :**

Concerned with foreign trade and Economic relations with other countries

9. **Financial Economics :**

Concerned with predicting financial activities ,credit structure and collection method.

10. **Welfare Economics :**

Concerned with wellbeing of people.

Rare Specialization

- ◆ BSC in Economics
- ◆ MSC in Economics
- ◆ Integrated MA in Developmental Studies. (After Plus Two)
- ◆ MA in Business Economics
- ◆ MA in Inter National Economics
- ◆ Master of Business Economics (MBE).
- ◆ MA Economic Planning
- ◆ MSC/MA in Environmental Science.
- ◆ MSC in Econometrics.
- ◆ MA in Developmental Economics .
- ◆ Certificate Course in Developmental studies

Institutes

Most of the colleges and universities in India offer Bachelor and Masters degree course in Economics. Doctoral courses like **Mphil and PhD** courses are offered by many universities and specific Economics school within the country. Prominent among them are **Delhi School of Economics, Jawaharlal Nehru University ,Banaras Hindu University , Indira Gandhi Institute of Developmental Research, IIT Madras , IIT Kanpur, Madras School of Economics etc.** An undergraduate in Economics can go for graduate courses like BA Applied Economics ,BA Business Economics ,BSC Economics ,BA Mathematical Economics ,BA Econometrics etc. Some of the post graduate courses newly available in Economics are MSC Economics ,MA Econometrics, MA Mathematical Economics, MA Applied Economics and MA Economic Planning, MA in Business Economics , MA in InterNational Economics ,MBA and MBE. **In Kerala** the Centre for Developmental Studies Thiruvananthapuram (**CDS**) is a best institution offering M phil and PhD courses.

Premier Institutes in Economics

Post Graduates from premier institutes have high demand all over the world. Many are recruited directly from campus by prestigious Indian and multi-national companies, who highly value the analytical and quantitative skills that programmes emphasize. Many are admitted to top

PhDprogrammes abroad and go on to establish impressive careers. Scholars from our premier institutions are found among the faculty of the world's leading universities, including Harvard, Columbia, Oxford, in international agencies like the World Bank, IMF or Asian Development Bank, as well as in the higher echelons of government.

Course	Duration & Eligibility	Name of Institute and Place	Website
Under Graduate course in BSC Economics & BA Economics	Four Year (Plus Two / HSE)	Delhi School of Economics	www.econdse.org
MSC in Economics, MA in Econometrics, MA in Business Economics .	Two Year Graduation	Delhi School of Economics	www.econdse.org
MA in Inter National Economics MA in World Economy	Two Year (Graduation)	Jawaharlal Nehru University	www.jnu.ac.in
MSC in Economics	Two Year (Graduation)	Indira Gandhi Institute of Developmental Research(IGIRD)	www.igidr.ac.in
MSC in Economics MSC in Financial Economics MSC inAppli Quantitative Economics MSC in Environmental Economics	Two Year (Graduation)	Madras School of Economics	www.mse.ac.in
MSC in Economics (Integrated Course)	Five Year (Plus Two / HSE)	Madras School of Economics	www.mse.ac.in
BSC Economics MSC Economics	Three Year (Plus Two / HSE) Two Year (Graduation)	Symbiosis School of Economics	www.sse.ac.in
Integrated MA in Developmental Studies	Five Year (Plus Two /HSE)	IIT Madras	www.iitm.ac.in

Integrated MA in Economics.	Five Year (Plus Two /HSE)	IIT Kanpur	www.iitk.ac.in
Integrated MSC in Economics MSC in Economics	Five Year (Plus Two /HSE) Two Year (Graduation)	Central University of Pondichery	www.pondiuni.edu.in
MSC Quantitative Economics MSC Econometrics	Two Year Graduation	Indian Statistical Institute Kolkatta	www.iscal.ac.in
MA Economics Master in Financial Economics Master IN Business Economics	Two Year (Graduation)	Gokale Institute of Economics and Politics	www.gipe.ac.in
MA in Planning MA in Development	Two Year (Graduation)	IIT Mumbai	www.iitb.ac.in
Integrated MA in Economics.	Five Year (Plus Two /HSE)	Hydrabad University	ww.uohydr.ac.in
MA in Applied Economics	Two Year (Graduation)	Centre for development Studies Thiruvananthapuram	www.cds.ac
MA in Applied Economics	Two Year (Graduation)	Cochin University Of Science and Technology, Ernakulam	www.cusat.ac.in
MA in Applied Economics MA in Developmental Studies	Two Year (Graduation)	(Dr. John Mathai Centre, Aranaturkara) University of Calicut	www.universityofcalicut.info.in

Competitive Exams

- ◆ Humanities and Social Sciences Entrance Examination (HSEE).
- ◆ Symbiosis Entrance Test (SET) for admission to BSC Economics at Symbolisis School of Economics .
- ◆ IES Exam
- ◆ Research Officers Test conducted by RBI
- ◆ There are some tests like NET, SET, K-TET conducted by the Government to become teachers at different levels.
- ◆ Civil Service Exam.

Further Career Option

After the successful completion of MA or MSc in Economics with high academic performance one can take admission to the M.Phil or PhD in Economics by appearing entrance test conducted by universities. They can appear UGC-NET exam to diversify their career opportunities as the demand for Economics teachers is growing in India and foreign universities. Interested graduates in Economics can do MBA in distance mode from the recognized universities like **IGNOU** for the uplift of their career and employability while working .



INTRODUCTION

Teaching is a stimulating and the most satisfying career that provides the opportunity to influence and shape many lives. Teachers are extremely important facet of any society. They are the people who educate the youth of society who in turn become the leaders of the next generation of people. They are teaching children and imparting knowledge upon them in their most impressionable years. They certainly help students develop their knowledge so that they can go on in life and be responsible and productive members of society.

Content

The content of the Teacher Education programmes seeks to equip participants with the competence to teach at all levels of school. Given the structure of school provision, the teacher is required to have a mastery and competence in all the curricular areas of the school including Physical Education, Value Education, Social & Environmental Education and Educational Technology. There is an understanding of History of Education, Philosophy of Education, Psychology of Education and Sociology of Education. Teacher Education often includes the following majors: Curriculum and Instruction, Counseling, School Psychology, Elementary Education, Teacher Education, Test Construction and Evaluation, Higher Education and Administration.

Personality Traits

- Excellent communication
- Enjoy working with people
- Enthusiasm
- Strong knowledge in particular subject areas
- Ability to work in a team
- Patience and a good sense of humour
- Coping well with change
- Loves children (acceptance of various backgrounds and ability levels), respects children and parents
- Kindness, caring, and understanding
- Good listener
- Promotes active learning; includes children's interests in curriculum
- Keeps up with current and new trends in education

Nature of Work

- It is the specialized application of knowledge, skills and attributes designed to provide unique service to meet the educational needs of the individual and of society.
- choice of learning activities whereby the goals of education are realized in the school is the responsibility of the teaching profession
- Discuss learning processes and implications for the development of effective instruction
- Conduct comprehensive needs assessments identifying important learner, environmental, and task characteristics
- Develop effective instructional materials for a variety of learning tasks, student characteristics, and learning environments
- Evaluate the effectiveness of educational materials

Job Prospects

Govt, Aided and Unaided schools, Private Educational Institutions, Pre-schools, CBSE, KVS, NVS, Anglo-Indian Boards, and municipal-funded schools.

- **Early Childhood (Pre-primary School) Teachers are mainly employed in Education and Training, Health Care and Social Assistance and Other Services.**

There are jobs in teaching Second Languages (Malayalam, Tamil, Sanskrit, Arabic, Kannada and Urdu)speaking regions.

- **The Government of India introduced the scheme of Financial Assistance for Appointment of Language Teachers in various Government schools of the country.**

Educational Service providers, Educational Software Developers and Educational Package Developers candidates with sound knowledge in Education.

Those who have qualified Hindi Bhooshan, Rashtra Bhasha Visharath can become Hindi teachers in Upper Primary schools without further training

TRENDS

There is a shortage of many teachers in India at the primary, middle and secondary levels . These shortages should be seen in the context of the Right to Education Act which lays down the teacher-pupil ratio of 1:30 and prescribe strict standards of recruitment of teachers.

Premier Institutes

Regional Institutes of Education at Mysore, Ajmer, Bhopal , Bhubaneswar and Shillong conducts integrated courses in Education for students who have completed Plus Two. The courses are

- B A Ed (Duration – 4 years) – Equivalent to B A + B Ed
- B Sc Ed (Duration – 4 years) – Equivalent to B Sc + B Ed
- M Sc Ed (Duration – 6 years) – Equivalent to M Sc + B Ed

RIE Mysore – www.riemysore.ac.in

- RIE Ajmer – www.rieajmer.ac.in
 RIE Bhopal – www.riebhopal.org
 RIE Bhuvanesarwar – www.as.ori.nic.in/riebbs
 RIE Shillong – www.nerie.nic.in

Thoughts of Eminent Teachers or Leaders

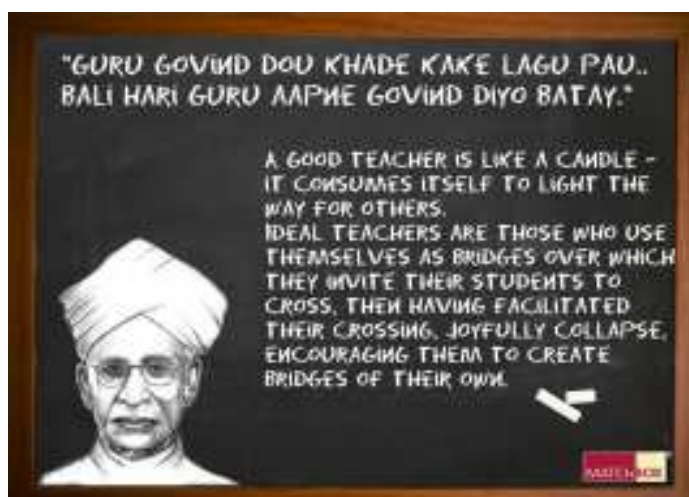
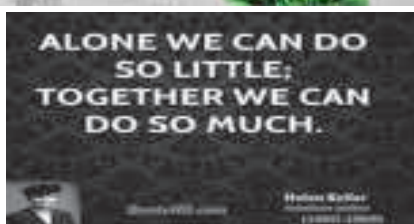


The one exclusive sign of thorough knowledge is the power of teaching.

Aristotle

The greatest sign of success for a teacher is to be able to say, "The children are now working as if I did not exist."

– Maria Montessori



B Ed. –Bachelor of Education + Degree in a subject with K TET (Kerala Teacher Eligibility Test) is the basic qualification to teach in the High school classes. Bachelor of Education + Post Graduation in a subject with SET (State Eligibility Test) is the basic qualification to teach in the Higher Secondary School classes. In Kerala B Ed graduates are considered for appointment in Upper Primary level also. (Likely to change when the central pattern (1-5, 6-8, 9-12 system) is implemented)


<i>SUBJECT</i>	<i>ELIGIBILITY</i> (some states like Kerala consider graduation with 45% as eligibility for BEd)	Institutes
(a) English	: B.A. Degree with English language and Literature/ Functional English/B.A. Communicative English with 50% mark in Part III or 50% Marks in M.A English language and Literature/ Functional English/ Communicative English or B.A. /B.Sc. with 50% of marks for Part I English and not less than 50% marks for Master's Degree in English Language and Literature.	<u>In Kerala:</u> ♦ Mar Theophilus Training College, Bethany Hills, Nalanchira, Thiruvananthapuram,


SUBJECT	ELIGIBILITY <i>(some states like Kerala consider graduation with 45% as eligibility for BEd)</i>	Institutes
(b) Malayalam	B.A. Degree with Malayalam Language and Literature with 50% marks in Part III or 50% Marks in M.A Malayalam Language and Literature or B.A./ B.Sc. with 50% of marks for Part II Malayalam and not less than 50% marks for Master's Degree in Malayalam Language and Literature.	<ul style="list-style-type: none"> ◆ Karmela Rani Training College, Fathima Road, Near St. Aloysius H.S.S., Kollam, ◆ Sree Narayana Training College, Nedunganda, Varkala, Thiruvananthapuram.
(c) Hindi	B.A. Degree with Hindi language and Literature with 50% marks in Part III or Hindi language and Literature Hindi language and Literature or B.A./B.Sc. with 50% of marks for Part II Hindi and not less than 50% marks for Master's Degree in Hindi Language and Literature.	<ul style="list-style-type: none"> ◆ Mount Tabor Training College, Pathanapuram, Kollam Malankara Orthodox Church, ◆ N.S.S. Training College, Pandalam, Pathanamthitta,
(d) Arabic	B.A. Degree with Arabic language and Literature with 50% marks in Part III or 50% marks in M.A. Arabic language and Literature or B.A./B.Sc. with 50% of marks for Part II Arabic and not less than 50% marks for Master's Degree in Arabic Language and Literature.	<ul style="list-style-type: none"> ◆ Peet Memorial Training College, Mavelikkara, Alleppy, ◆ SNM Training College Moothakunnam, Ernakulam,
(e) Tamil	B.A. Degree with Tamil language and Literature with 50% marks in Part III or B.A./B.Sc. with 50% of marks for Part II Tamil and not less than 50% marks for Master's Degree in Tamil Language and Literature.	<ul style="list-style-type: none"> ◆ St. Joseph Training College for Women, Kovilvatom Road, Ernakulam, ◆ Mount Carmel College of Teacher Education,
(f) Sanskrit	B.A. Degree with Sanskrit language and Literature with 50% marks in Part III or 50% marks in M.A. Sanskrit Language and Literature or B.A./ BSc. with 50% of marks for Part II Sanskrit and not less than 50% marks for Master's Degree in Sanskrit Language and Literature.	<ul style="list-style-type: none"> Kanjikuzhy, Kottayam, ◆ NSS Training College, Changanasseri, ◆ St. Joseph's Training College, Mannanam,
(g) Urdu	B.A. Degree with Urdu language and Literature with 50% marks in Part III or 50% marks in M.A. Urdu language and Literature or B.A./ B.Sc. with 50% marks for Part II Urdu and not less than 50% marks for Master's Degree in Urdu Language and Literature	<ul style="list-style-type: none"> Kottayam, ◆ St. Thomas College of Teacher Education, Pala, Kottayam, ◆ Titus II Teacher's College, Thiruvalla,


(h) Mathematics	B.Sc. Degree with Mathematics/Statistics/ Applied Statistics as main, with 50% marks in Part III or 50% marks in M.Sc. Mathematics/ Statistics/Applied Statistics. Candidates with Statistics/Applied Statistics should have studied Mathematics as one of the subjects.	<ul style="list-style-type: none"> ◆ Farooq Training College, Feroke, Kozhikodu, ◆ NSS Training College, Ottappalam, Palakkad, ◆ PKM College of education, Madampam, Kannur,
(i) Physical Science	B.Sc. Degree with Physics/Chemistry/ Polymer Chemistry /Geology/Petrochemicals /Bio chemistry/ Industrial Chemistry main with 50% marks in Part III or 50% marks in M.Sc. Physics/ Chemistry/Polymer Chemistry /Geology / Petrochemicals/Bio chemistry/ Industrial Chemistry.	<ul style="list-style-type: none"> ◆ Keyi Sahib Training College, Karimpam, Taliparamba, Kannur, Special Research Institutes: ◆ Central Institute of Education (Department of Education of the Delhi University)
(j) Natural Science	B.Sc. Degree with Botany/Zoology/Biochemistry/B.Sc. Plant Science/ Home Science with Zoology or Botany as subsidiary/Aquaculture (with Biochemistry and Zoology as Subsidiaries)/ Biotechnology/ Microbiology with 50% marks in Part III or 50% marks in M.Sc. Botany/Zoology/Biochemistry/ Plant Science/ Home Science. They should have studied Zoology/Botany/Bio-Chemistry as one of the subjects in Degree level.	<ul style="list-style-type: none"> ◆ Jamia Millia Islamia (Delhi) ◆ Maharaja Sayajirao University-Baroda ◆ Shreemati Nathibai Damodar Thackersey(SNDT) ◆ Banaras Hindu University (BHU)
(k) Social Science	B. A. Degree with History/ Arabic and Islamic History/ Geography/ Politics/ Economics/ Sociology/ Psychology/ Philosophy/ West Asian Studies with 50% mark in Part III or 50% marks in M.A. History/ Arabic and Islamic History/ Geography/ Politics/ Economics/ Sociology/ Psychology/ Philosophy/ West Asian Studies.	<ul style="list-style-type: none"> ◆ Calcutta University. ◆ University of Mysore ◆ National Council of Educational Research and Training (NCERT) ◆ State Councils of Educational Research and Training (SCERTs) ◆ National University of Educational Planning and Administration (NUEPA)
(l) Geography	Bachelor's Degree with Geography as Main subject with 50% marks in Part III or 50% marks in M.A/ M.Sc Geography.	<ul style="list-style-type: none"> ◆ Educational Consultants India (EdCIL) ◆ UNICEF ◆ IGNOU ◆ Azim Premji University, Karnataka ◆ RIE, Mysore
(m) Commerce	Candidates who have secured M.Com Degree with not less than 50% marks alone are eligible for admission to the B. Ed. Course in Commerce. Such candidates are not eligible for admission to any other B. Ed. Course. *(However universities outside kerala are providing B.Ed in Social Science for Commerce)	<ul style="list-style-type: none"> ◆ Educational Consultants India (EdCIL) ◆ UNICEF ◆ IGNOU ◆ Azim Premji University, Karnataka ◆ RIE, Mysore

Note:- Candidates applying for the course under the language stream with a Bachelor's Degree in the subject concerned will be ranked first in that particular stream. Candidates applying for the course under any language stream based on Part I/ Part II at under graduate level and having PG Degree in the same subject as in Part I/Part II will be ranked only after that.

M. Ed – Master of Education with UGC NET Makes a candidate eligible to teach in College of Education

Course	Eligibility	Institutes	Higher Opportunities and websites
M. Ed (General, Some universities provide M.Ed in concerned subjects) 	Bachelor's Degree in Education & PG with at least 55% Marks. 5% relaxation in marks will be allowed in the case of SEBC candidates and minimum pass is required for SC/ST candidates.	<u>M.Ed College In Kerala (Govt & Aided):</u> School of Pedagogical Sciences, Kannur University MG University Campus, Kottayam University of Calicut Campus, Thenhippalam, MLP University of Kerala Kariyavattom, TVM Farook College, Feroke, Calicut NSS Training College Ottapalam IASE (Govt Training College), Thrissur SPECIAL/ RESEARCH INSTITUTES: Regional Institute of Education Mysore	M.Phil in Education • M.Sc.Ed (Life Science, Mathematics, Chemistry, Physics) • One Year DGC (Diploma in Guidance & Counseling)- certification is done by NCERT •M.A. Education •M.S. in Education • Pre-Ph.D course in Education- one semester •PhD in Education www.universityofcalicut.info www.keralauniversity.ac.in www.kannuruniversity.ac.in www.riemysore.ac.in jmi.ac.in www.du.ac.in www.nuepa.org


<i>Course</i>	<i>Eligibility</i>	Institutes	Higher Opportunties and websites
		<ul style="list-style-type: none"> •National Council For Educational Research and Training New Delhi •Regional Institute of Education Ajmer •Barkathullah Viswa Vidyalaya, Regional Institute of Education, Bhopal •Alagappa University, Alagappa Nagar, Karaikudy, (T.N) •Annamalai University, Annamalai Nagar, Chidambaram (T.N) •Madras University, Chepauk, Chennai 	
<p>PPTTC</p> 	<p>Plus two with 45% is the educational qualification needed to enter into the course and it should be within two consecutive chances . SC/ST candidates</p>	<p><u>Govt. PPTTIs:</u></p> <ul style="list-style-type: none"> • Govt, Pre primary teachers training institute, Cotton Hill, Thiruvananthapuram • Govt PPTTI, Alappuzha 	<p>Opportunities at public and private schools, pre-schools, kindergartens and day care centers.</p> <p>www.education.kerala.gov.in</p> <p>www.ncte-india.org</p> <p>www.educationkerala.info</p>

Course	Eligibility	Institutes	Higher Opportunities and websites
	<p>are given 2% mark relaxation. No mark relaxation to degree holders, age 18-30. Seats are reserved to ladies. Candidates must ensure that whether the un-aided institutes are recognized by N.C.T.E. Age relaxation allowed to SC/ST is five years and to OBC is two years.</p>	<ul style="list-style-type: none"> • Govt PPTTI, Nadakkava, Calicut N.C.T.E Recognized Aided PPTTIs: • Tunchan Mmorial PPTTI Airanimuttam, Manakkad P.O., Trivandrum • PPTTI Attingal • PPTTI Poonthura, Tvm • Kasthurba Gandhi Memorial PPTTI, Thevally, Kollam • Kasthurba Gandhi Memorial PPTTI, Thevally, Kollam • Immaculate PPTTI. Mulluvila, Kollam • M.N. PPTTI, Thiruvalla • S.N.PPTTI Alappuzha • S.H. PPTTI, Kottayam • PPTTI Aluva, Ekm • Bapuji PPTTI, Ekm • Sophia PPTTI, Ekm • Nethaji PPTTI, Cheruthuruthi, Trissur • C.H.M,K,M.PPTTI, Ekm • Nethaji PPTTI, Trissur • PPTTI Nenmara, Palakkad • Jamia Salafrya, PPTTI, Pulikkal, Malappuram • Rahmaniya PPTTI, Kozhikode 	
<p>TTC / D.Ed</p> 	<p>The minimum qualification for selection for TTC should be a pass in Pre-degree examination or Higher</p>	<p><u>In Kerala:</u> DIET (Government T.T.I.), Kozhikode DIET (Government T.T.I.), Kannur DIET (Government T.T.I.),</p>	<p>Opportunities at public and private schools, preschools, kindergartens and day care centres. www.egrantz.kerala.gov.in</p>

<i>Course</i>	<i>Eligibility</i>	Institutes	Higher Opportunities and websites
	<p>Secondary examination with 50% of marks. The restriction regarding percentage of marks shall not apply to SC and ST candidates. In the case of OBC, a concession in the minimum marks required for admission shall be allowed by 2 per cent in the aggregate.</p>	<p>Thrissur DIET(Government T.T.I.), Palakkad DIET (Government T.T.I.), Wayanad Government T.T.I. For Women, Kozhikode Government T.T.I., Muvattupuzha Government T.T.I., Kothamangalam Government T.T.I., Kothamangalam Government T.T.I., Malappuram Government T.T.I., Thiruvananthapuram Government T.T.I. For Men, Kannur Government T.T.I. For Women, Kannur Government T.T.I. H.P.O., Kollam Special/Research Institutes in India: •Adarsh College of Education (Haryana) •District Institute of Education and Training (Goa) •Government Junior College of Education (Maharashtra) •J.R. College of Education (Maharashtra) •Basic Training Institute (Madhya Pradesh)</p>	


<i>Course</i>	<i>Eligibility</i>	Institutes	Higher Opportunties and websites
		<ul style="list-style-type: none"> •Adarsha College of Elementary Teacher Edcation (Andhra Pradesh) •The Assembly of God Church Teachers' Training Junior College (West Bengal) •Deccan Teacher Training Institute (Karnataka) •IES College of Education (Madhya Pradesh) •Government Basic Training Institute Chattisgarh) 	

Language Teachers Training Course in a language is the qualification required to teach that particular language in the primary level.


<i>Course</i>	<i>Eligibility</i>	Institutes	Higher Opportunties and websites
LTTC (Malayalam, Tamil, Sanskrit, Arabic, Kannada and Urdu) 	Title in oriental learning certificate of any universities in Kerala. Age: 17-33 years	Institutes (In Kerala): <ul style="list-style-type: none"> • GHS, Muvattupuzha (Malayalam) • RILT, Thiruvanathapuram (Tamil) ⇐ • GTTI, Manipadi (Kannada) • GITI Malappuram (Sanskrit) • GITTI, Malappuram (Urdu) • GITI, for Women, Kozhikkode (Urdu) • GITI, Kollam (Arabic) • GITI, Malappuram (Arabic) 	www.efluniversity.ac.in

<i>Course</i>	<i>Eligibility</i>	Institutes	Higher Opportunities and websites
		<ul style="list-style-type: none"> • GITI, for Women, Kozhikkode (Arabic) Special/Research Institutes: * <i>Language Universities</i>: India has six Language Universities, out of which three are Deemed Universities and three are Central Universities. The Deemed-to-be Universities are for promotion of Sanskrit Language and the three Central Universities are, one each, for promotion of English and Foreign Language, Hindi Language and Urdu Language. The University Grants Commission (UGC) is funding these Language • Shri Lal Bahadur Shastri Rashtriya Sanskrit Vidyapeetha, New Delhi • Rashtriya Sanskrit Vidyapeetha, Tirupati • English and Foreign Languages University, Hyderabad • Mahatama Gandhi Antarashtriya Hindi Vishwavidyalaya, Wardha • Maulana Azad National Urdu University, Hyderabad • Rashtriya Sanskrit Sansthan, New Delhi. Efluniversity, Hyderabad 	

Eligibility : Hindi Teacher Training Courses (Minimum qualification to these courses is a pass in Plus Two/SSLC)


Course 	Duration	Eligibility	Institutes
Hindi Pravesh	6 months	SSLC	Institutes (In Kerala): ♦ Kerala Hindi Prachara Sabha, Thiruvananthapuram ♦ Kerala Hindi Prachara Sabha Branch Office, Tali, Kozhikode ♦ Dakshina Bharatha Hindi Prachara sabha, Kerala Branch, Chittoor Road, Cochin www.efluniversity.ac.in keralahindipracharsabha.org
Hindi Bhooshan	1 year	Plus two	
Hindi Sahithyachary	1 year	Hindi Bhooshan /visarat , BA/BSc	
Hindi Stenography	6 Months	SSLC	
Hindi Praveshika	6 months	SSLC	
Rashtra Bhasha Visarat. (Eligibility to teach Hindi in primary school level)	1 year	Praveshika/ Plus two with Hindi	
Rashtra Bhasha Praveen (Eligibility to teach Hindi in High school level)	1 year	Rashtra Bhasha Viarat/Bhooshan BA/BSc with Hindi	

Arabic/Oriental Title Courses


Course 	Duration	Eligibility	Institutes	Higher Opportunities and websites
Afzal ul ulama preliminary	2 years	SSLC	Institutes (In Kerala): Rouzathul Uloom Arabic College, Farook College P.O., Kozhikode. Rashmaniya Arabic College, Kattameri P.O. Kozhikode. Jalaliya Women's ArabicCollege, Kuttikkattoor, Kozhikode. Madeenathul Uloom Arabic College, Pulikkal P.O.	M.Phil, Phd, Diploma in Spoken Arabic Course Certificate Course in Spoken Arabic Diploma in Commercial Arabic Course PG Diploma in Translation and Secretarial Practice (Arabic) Course www.efluniversity.ac.in www.universityofcalicut.info
B.A Afzal ul ulama	3 years	Afzal ul ulama preliminary		
M.A (Post Afzal ul ulama)	2 years	B.A Afzal ul ulama		

<i>Course</i>	<i>Duration</i>	<i>Eligibility</i>	<i>Institutes</i>	Higher Opportunities and websites
			<p>Malappuram. Darul Uloom Arabic College, Vazhakkad P.O. Malappuram. Anwarul Islam Arabic College, Kuniyil P.O.,Areakode, Malappuram. Sullamussalam Arbic College, Areakode, Malappuram. Anwarul Islam Women's Arabic College,Mongam, Malappuram. Darunnajath Arabic College, Karuvarakundu, Malappuram. Ansar Arabic College, Valavannur P.O.,Malappuram. Orphan's Educational Trust Arabic College, Edayur, Malappuram. Anwarul Islam Arabic College, Thirurkad. Salafiya Arabic College, Karinganad,Palakkad. Special/Research Institutes: EFLU Hyderabad, University of Delhi, Calicut University, JNU Delhi, JMI Delhi</p>	

Physical Education

Course 	Duration	Eligibility	Institutes
Diploma in coaching		Graduation with evidence of sports proficiency	Institutes (In Kerala): SAI Lakshmi Bhai National College of Physical education, Kariavattom, TVM.
Certificate in Physical Education	6 weeks	Graduation with evidence of sports proficiency	Centre for physical education, University of Calicut, Thenhippalam, MLP.
Diploma in Coaching		Graduation and sports proficiency or SSLC and participation in national or international level	School of sports, science and physical education, MG University, Kottayam. Christ College, Irinjalakuda.
B.Ph.Ed	3 years	Age: 16-19 yrs. and Admission test	Center for physical education, Kannur University.
B.Sc Health and physical education and sports	3 years	+2 with certificate in physical education and sports certificate 17-20 years	School of Physical education, East Hill, Calicut. <u>Special/Research Institutes in India:</u> SAI, Netaji
M.P.Ed	1 year	B.P.Ed	Subash National Institute for sports, Motibagh, Patiala.
B.P.Ed	1 year	Any degree	SAI National sports SouthCentete, University Campus, Bangalore.
D.P.Ed	1 year	Any degree	University of Madras, Centenary buildings, Chepauk, Triplicane P.O. Madras.
			Punjab University, Sector 14, Chandigarh. University of Bombay, MG Road, Fort, Mumbai Dr. Bhimrao Ambedkar University, Agra Alagappa University, Karaikudi Indira Gandhi Institute of Physical Education & Sports Sciences (IGIPSS) University of Delhi, New Delhi Jiwaji University, Vidya Vihar, Gwalior Lakshmi Bai National College of Physical Education, Gwalior;

Special Education

<p><i>Course</i></p> 	<p><i>Eligibility</i></p>	<p><i>Institutes</i></p>	<p>Higher Opportunities and websites</p>
<p>Diploma in Special Education (Mental Retardation)</p>	<p>Plus Two</p>	<p>(In Kerala): AWH Institute for the Mentally Handicapped, Pavamani Road, Calicut Medical Trust Hospital, M.G. Road, Cochin Nirmala Sadan Teachers</p>	<p>JRF in Mental retardation B.Ed special Education M.Sc., Ph.d (Speech & Hearing) BSc. Speech Pathology or Audiology MSc. Speech Pathology or Audiology M.Ed (HI)</p>
<p>Diploma in Special Education (Hearing Impairment Primary Level)</p>	<p>Plus Two</p>	<p>Training Centre, Muvattupuzha Central Institute of</p>	
<p>Diploma in Special Education (Visually Impairment) Primary Level Diploma in Special</p>	<p>Plus Two</p>	<p>Mental Retardation, Murinjapalam, Thiruvananthapuram C.S.I. Training Centre for Teachers of the Hearing Impaired</p>	<p>www.nimhans.kar.nic.in www.nish.ac.in</p>
<p>Education Diploma in Teaching Young (Hearing Impairment)</p>	<p>Plus Two</p>	<p>P.O. Valakom, Kollam Kerala Federation of the Blind Training Centre for the Teachers of V.H.,</p>	
<p>Diploma in Special Education (Cerebral Palsy)</p>	<p>Plus Two</p>	<p>Palakkad Bala Vikas Teachers Training Centre, , Peroorkada</p>	
<p>Diploma in Special Education (Autism Spectrum Disorder)</p>	<p>Plus Two</p>	<p>P.O. Thiruvananthapuram National Institute of Speech & Hearing, Palace</p>	
<p>Diploma in Vocational Training Employment</p>	<p>Plus Two</p>	<p>Road, Poojappura, Thiruvananthapuram Faith India, Faith India</p>	
<p>(Mental Retardation)</p>	<p>Plus Two</p>	<p>Bhawan, Puthencruz P.O., Dist. Ernakulam Mecy Home, Chethipuzha ,</p>	
<p>Diploma in Special Education (Visually Impairment) Secondary Level</p>	<p>Plus Two</p>	<p>Changanassery K.V.M College Special Education, Post Box No.30, Cherthala, Alappuzha</p>	

<i>Course</i>	<i>Eligibility</i>	<i>Institutes</i>	Higher Opportunities and websites
		<p>State Institute for the Mentally Handicapped, Pangappara, Thiruvananthapuram</p> <p>Sneha Sadan College of Special Education, Ankamaly, Ernakulam</p> <p>Pope Paul Mercy Home (Residential Training Centre For the Mentally Handicapped), Thrissur</p> <p>MANOVIKAS Special School for Mentally Handicapped, Sasthamcotta, Kollam</p> <p>Raksha Society for the Care of Children with Multiple Handicaps, , Kochangadi, Cochin</p> <p>Janey Centre for Special Education Pishari Temple Road, Eloor, Kochi</p> <p>Special/Research Institutes in India:</p> <ul style="list-style-type: none"> ◆ The National Institute for the Mentally Handicapped, Manovikas Nagar, econderrabad ◆ NIMH, Kasturba Niketan, Laipat Nagar, New Delhi ◆ NIOH, B.T.Road, Bon Hooghly, Calcutta ◆ Training Center for Teachers of Deaf, SIRD Campus, Unit – 8, Bhuhaneswhar ◆ Pune University, Faculty of Education, Pune ◆ Thakur Han Prasad Institute of Research & Rehabilitation for the Mentally Handicapped, Vivekananda Nagar, Dilsukhnagar, Hyderabad ◆ Thakur Hari Prasad Institute of Research & Rehabilitation for the Mentally Handicapped, Rural 	

<i>Course</i>	<i>Eligibility</i>	<i>Institutes</i>	Higher Opportunities and websites
		<p>Project, Lala – Cheruvu, Rajahmundry, E Godavari</p> <ul style="list-style-type: none">◆ Sweekar Rehabilitation for the Handicapped, UpkarCircle, Picket, Secundrabad◆ J.M.Institute of peech & Hearing, Road No.5, Indirapuri P.O. Kesrinagar, Patna <p>Ali Yavar National Institute for the HearingHansicapped (AYJNIHH), K.C.Marg, Bandra, Reclamation (W), Mumbai</p> <ul style="list-style-type: none">◆ All India Institute of Speech & Hearing, Manasagangotri, Mysore◆ Kasthurbha Gandhi Medical College, Manipal◆ University of Mysore, Crawford Hall, Mysore◆ Osmania University, Hyderabad◆ Avinashilingal Institute for Home Science and Higher Education for women Coimbatore◆ Sree Rama Krishna Mission Vidyalaya College of Education Coimbatore◆ Avinashlingam Deemed university Institute of HomeScienceandHr.Education Coimbatore	



In today's fast developing world ENGINEERING holds a prominent place as few other professions do. Engineering is and will continue to remain one of the prospective professions. Unlike many other areas, Engineering requires special kind of interest and aptitude to be successful. Engineering is the application of [scientific](#), [economic](#), social, and practical knowledge in order to [design](#), build, maintain, and improve structures, machines, devices, systems, materials and [processes](#). It may encompass using insights to conceive, model and scale an appropriate solution to a problem or objective. The discipline of engineering is extremely broad, and encompasses a range of more specialized [fields of engineering](#), each with a more specific emphasis on particular areas of technology and types of application

Content

Graduate engineering courses generally include common courses like Physics, Mathematics, Chemistry and the topics concerned with each branches.

Eligibility

Academic Qualification

Normally eligibility for engineering courses is a pass in the Higher Secondary/Senior Secondary courses or equivalent with 50% marks in Mathematics and 50 % marks in aggregate in Mathematics, Physics and Chemistry, OBC candidates will have 5% relaxation in the marks for eligibility, and SC/ST candidates need only pass marks

Candidates who have passed 3 year Diploma in Engineering or an equivalent exam approved by AICTE, with a minimum of 50% marks are eligible to get admission in second year B.Tech through lateral entry exam, OBC candidates will have 5% relaxation in the marks for eligibility, and SC/ST candidates need only pass marks

Eligibility for premier and National level institutes varies from one institute to another [details given with the each and every institutes]

Personal Traits

Engineers are responsible for some of the greatest inventions and technology the world depends on. Everything from space shuttles to air conditioning systems to bridges require the work of an engineer. To be successful in the field of engineering, one must have certain qualities. Some of those top qualities include:

- 1. Strong Analytical Aptitude :** A great engineer has excellent analytical skills and is continually examining things and thinking of ways to help things work better. They are naturally inquisitive.

2. **Creativity** : A great engineer is creative and can think of new and innovative ways to develop new systems and make as the world changes rapidly.
3. **Logical thinking** : A great engineer has top-notch logical skills. They are able to make sense of complex systems and understand how things work and how problems arise.
4. **Good Problem Solving Skills** : A great engineer must have sharp problem solving skills.
5. **Team Player** : A great engineer understands that he is part of a larger team working together to make one project come together successfully, and therefore, must work well as part of that team.
6. **Excellent Technical Knowledge** : A great engineer has a vast amount of technical knowledge. They understand a variety of computer programs and other systems that are commonly used during an engineering project.

Nature of work

Nature of work depends on each branch. As an engineer one will be working with structures, tools, machines, metals, chemicals and a variety of different materials etc. ones alert mind shapes new things or process and or modifies existing ones. Engineering profession is related to Research and development, production, management, and maintenance, So the basic purpose of engineering is to design and manufacture technical instruments, machines, equipments and tools and designing of concepts and ideas. Engineer also repair, modify and construct efficient and economic products. Very often the knowledge in one branch of engineering can be applied to many other fields. Moreover, in any organization or project, engineers from one field work with engineers and specialists of many other fields as well

Job prospects

Engineers are in high demand in the corporate world and most of them are highly paid. Engineers also have a wider choice of the environment in which to work, and the type of job than any other profession. Today engineering is not confined to the traditional spheres of mechanical, civil, electrical and chemical but has vast scope in advanced areas such as Electronics & Telecommunication, Computers and Information Technology, Automobile & Aeronautical Engineering and many more

Trends

India is one of the fastest growing economies of the world today and will be the leader in the global economic stage by 2020. Economic progress of a country depends on the growth of a few specific industries, which develop at a faster pace than others. By 2020 it is sure that India will lead world economy, and many of the following industries such as Information Technology, Agriculture, Textiles, infrastructure etc are large even today, and it is sure that the characteristics of these industries will undergo a sea change over in this decade, and open up several new career prospects and job opportunities.

The future industries, which are going to have tremendous, career options by 2020 are:

1. Information Technology And IT Enabled Services – Cloud Computing And Network Security
2. Infrastructure – Civil Engineering with Specialization In Geo Technical, Structural, Ocean Engineering, Remote Sensing, Water Resource Management and Intelligent Structure For Transport Systems
3. Energy And Environmental Sector – Nuclear Engineering, Energy Engineering, Solar and Windmill Energy, High Voltage Engineering, Green Engineering

The quantum of jobs or careers that will show up in these industries will be tremendous. Students should not choose a career by looking at the phase, which most of them do but they should choose a career looking at the future.

Branches

There are many different branches of engineering. The main branches of engineering (Chemical, Civil, Electrical and Mechanical) are briefly described below along with some of the areas in which engineers from each discipline may be employed. It should be noted that engineers from all disciplines are employed in both research and teaching.

Read through the following information and highlight any areas that you may find interesting and then ask your career counselors for more information on each specific area of interest.

Aerospace/Aeronautical Engineering

Aerospace/ Aeronautical Engineering is concerned with the design, construction and operation of aircraft, aerospace vehicles and propulsion systems. It requires the

- application of aerodynamics to determine vehicle shapes
- structural analysis for strength
- metallurgy for selection of airframe and engine materials
- knowledge of electrical, electronic and computer systems for control automatic control
- communication systems for operation

All of these activities have to be integrated into the final design. Aerospace engineers work for commercial airline companies, aerospace manufacturers, government defence departments and defence forces, civil aviation and in government research laboratories.

Agricultural engineering

Agricultural engineering is concerned with problems associated with agriculture and the rural environment. These problems may be associated with variations in the climate, soils and land shape. Agricultural engineers also deal with farm machinery and farm buildings. Many are employed by Government Departments, while others work in private industry or on overseas agricultural aid programs.

Automobile Engineering

Students of this branch of engineering study about developing various technologies related to automobiles and other vehicles as well as their design and production. With the growing automobile industry, this branch of engineering provides lucrative job opportunities and excellent compensation for fresh engineering graduates as well as experienced professionals.

Biomedical Engineering

A Biomedical Engineer working in a hospital, for example, is responsible for the safe and effective operation of monitoring, diagnostic and therapeutic medical equipment ranging from catheters to CAT scanners, pacemakers and kidney machines. Biomedical Engineers design and assist the surgical team in fitting artificial joints and limbs. They design and deliver technology to improve the independence and quality of life of people with disabilities, for example, those who have difficulty walking, communicating or carrying out simple daily living tasks.

Chemical Engineering:

Chemical Engineering is primarily concerned with the production of high-value materials from low-value natural resources, which may be solids, liquids or gases. Chemical Engineers develop, design and supervise the large-scale plants for the extraction, production and recovery of useful products. The diverse materials required by modern society are produced by a great variety of processes and industries. The chemical engineer's work may involve the conversion of oil to petrol, chemicals and polymers or the processing of minerals to produce metals, cement and other materials. Chemical Engineers also refine and convert forest and farm products to paper, board and food, and utilise materials such as air, water, salt and limestone to produce industrial, agricultural and fine chemicals. Chemical Engineers may work in research laboratories, chemical plants and petroleum refineries, as well as in companies involved in the production of such things as food, plastics, ceramics, pharmaceutical's, metals and glass. Many chemical ngineers also finding employment in environment protection and clean-up.

Civil engineering

Civil Engineers are responsible for public works that result in water supply systems, sewerage, drainage and irrigation project works, harbours, airports, roads and railways. They are also heavily involved in the environmental impact assessment of large-scale projects. Public Health Engineering is concerned with the collection and treatment of sewage and industrial wastes, pollution control, environmental protection and resource management. Civil, structural and public health engineers may work in either the private sector as consulting engineers, project managers or construction contractors or in a wide range of Government Departments.

Computer Systems Engineering

It is concerned with the analysis, design and development of computer systems, inclusive of computer hardware and software. Industries such as telecommunications and process control interface computers with communications channels, sensors, actuators and other devices. Electronic design makes broad use of computer aided simulation and design for modules and complex electronic systems. Computer systems engineers may work in the private sector with computer

manufacturing and service companies, business consulting firms, the information systems division of companies and a wide range of government activities.

Electrical engineering

Sometimes “electrical engineering” is used to mean just electric power engineering. Electrical power engineers are concerned with the systems and machines that generate, transmit measure, control and use electrical energy which is so essential to our modern way of life. They are normally involved with heavy current commercial and industrial applications such as the provision of building services including adequate lighting systems for large sports arenas, office buildings, theatrical productions and roads. Electrical power engineers work for companies and government departments that are involved with providing and using electrical power.

Electronic Engineering/ Electronic & Telecommunication

Electronic Engineering/ Electronic & Telecommunication deals with devices that use small amounts of electrical energy for various purposes and with systems capable of capturing, storing, analysing and transmitting information. Transmission of information forms the basis of communication, ‘information technology’ and computers, and includes the fascinating field of microelectronics, encompassing silicon chip technology. Electronic engineers work for Companies and Government Departments that design, construct and test electronic devices (including computers) or that are involved with their installation.

Environmental Engineering

Environmental Engineering is a rapidly evolving field of engineering that is concerned with assessing and minimizing the adverse environmental effects of engineering projects and services. Environmental Engineers carry out environmental impact studies, plan and design equipment and processes for the treatment and safe disposal of waste substances, monitor and investigate the quality of air, water and soil, and direct the conservation and wise use of natural resources. They may work with government departments or in the private sector with resource processing companies as consulting engineers.

Instrumentation engineering

Instrumentation Engineering is concerned with measurement and control of processes in industry. For example, an Instrumentation Engineer may be involved with production or design or maintenance of flow measuring equipment.

Mechanical Engineering

A Mechanical Engineer studies about production transmission and the use of mechanical power and designing, operating and testing of various types of machines. Mechanical Engineering finds applications in all fields of technology. These engineers are required in various industries, such as automobile, chemical, electronics, steel plants, oil exploration and refining, technical wings of Armed Forces, and Space Research Organization.

Metallurgical or Mineral Engineering

Metallurgical or Mineral Engineering involves the extraction of metals from ores and their subsequent processing to marketable products. ‘This might involve physical or chemical

separation and hydro- or pyro- metallurgical processes. Such engineers work at mining sites, in downstream processing plants and in research and development facilities. Obtaining the maximum value from our mineral resources in an environmentally acceptable way is a task of the Metallurgical or Mineral Engineer. Metallurgical Engineering also deals with the structure and properties of metals and the production and application of metals to manufactured products such as casting, steelmaking and corrosion prevention.

Telecommunications Engineering (or Communications Engineering)

Telecommunications Engineering (or Communications Engineering) focuses on communications networks, such as those used by automatic teller machines. Telecommunication engineers design systems using telephones, satellites, computers and optical fibres for communication with people and equipment across the room or across the world.

Some rare specializations in Engineering

Acoustic Engineering

Acoustic or Sound Engineering teaches students how to design sound-proof buildings and rooms, and develop techniques, and sound-absorbing materials to reduce noise. Correspondingly, it plays a key role in enhancing the sound quality for public platforms, such as auditoriums and halls. Acoustic Engineers work with construction companies involved in building large halls, buildings and public address systems; theatres and producers of large music systems or speakers.

Nuclear Engineering

Nuclear Engineering, as a field of study revolves around the technological application of nuclear energy for the production of energy and related equipment.

Polymer Engineering

This branch of Engineering is concerned with production of Polymers, their processes and applications.

Petroleum Engineering

This branch of Engineering deals with the production, storage and transportation of petroleum and natural gas.

Marine Engineering/ Naval Architecture: Marine Engineering is related to the production and maintenance of marine machinery and equipment which are used in commercial ships and naval bases. Naval Architecture deals with the design and construction of ships as well as other vehicles.

Ocean Engineering: Ocean Engineering deals with the design and installation of all kinds of equipment used in large water bodies.

Textile Engineering

Textile Engineering is concerned with machinery and processes used to produce both natural and synthetic fibers and textiles.

Competitive exams

Joint Entrance Examination (JEE)

Joint Entrance Examination (JEE), replaced the 2 major engineering entrance examinations in India, JEE (Joint Entrance Examination) held by the IITs and AIEEE (All India Engineering Entrance Examination) conducted by the CBSE (Central Board of Secondary Education). Joint Entrance Examination (Main) is conducted by the JEE Apex Board for admission to Undergraduate Engineering Programmes in NITs, IITs and other Centrally Funded Technical Institutions etc. Now, AIEEE is known as JEE (Main) and IIT - JEE as JEE (Advanced).

JEE will be adopted by 15 Indian Institutes of Technology (IITs), 30 National Institutes of Technology (NITs), 4 Indian Institutes of Information Technology (IIITs), 5 Indian Institutes of Science Education and Research (IISERs) and central technical universities.

JEE which has been designed to give more weightage to Std XII exam results, will be conducted in two parts, JEE-Main and JEE-Advanced. JEE (Main) will have two papers, Paper-1 and Paper-2. Candidates may take Paper-1, or Paper-2, or both as per the course(s) they are seeking admission to. The Paper-1 of JEE (Main) will also be an eligibility test for the JEE (Advanced), which the candidate has to take if he/she is aspiring for admission to the undergraduate programmes offered by the IITs.

JEE Main - An expanded Joint Admission Board (JAB) will be set up for the conduct of JEE Main examination. The reconstituted board will include, in an appropriate manner, NITs, other CFTIs and State Government representatives. CBSE will provide the administrative and logistic support.

JEE Advanced - For the JEE Advanced examination, the JAB of the IIT system would have complete control on matters such as paper setting, evaluation and preparation of the merit list, etc. CBSE would provide the administrative support for the conduct of the examination.

JEE Main exam will be multiple choice objective type paper which will test comprehension, critical thinking and logical reasoning. JEE Advance will test problem-solving ability in basic science subjects. The two tests together will indicate a candidate's scholastic level and aptitude for Science and Engineering.

Overall, two rank lists will be prepared, one for all the IITs and one for all other Engineering Institutes. IIT ranked students can apply to other engineering institutions based on their ranks.

Admission process for IITs

IITs will screen top 25% candidates who scored above the cut-off and have the highest percentile as per Std XII marks and JEE-Main, for a special JEE-Advanced. For initial screening, a composite score is calculated with 50% weightage to class XII Board/ equivalent marks and the remaining 50% weightage to JEE Mains performance. Based on this composite score, a fixed number of candidates (it is five times the number of seats available in the IITs or a pre-fixed cut off) are considered eligible for admission. These short-listed candidates would then be ranked in the order of merit based entirely on their performance in the JEE Advanced examination.

Admission process for all other CFTIs like NITs, IIITs etc :

For admission to NITs, Centrally Funded Technical Institutions (CFTIs) like IIITs etc. and other participating Institutions, the merit/rank list shall be prepared based on 40% weightage to school Boards marks in class 12 th or equivalent examination and 60% weightage to JEE(Main). The weightage to school Board/Equivalent examination marks shall be considered only after normalization. A rank list will be prepared after considering all these technical things and the allotment is made based on the rank list prepared.

KEAM – Kerala Engineering Agricultural and Medical Entrance Examination

KEAM is the entrance test conducted by the Controller of Entrance Examination of Kerala state for admission to Professional Degree Courses which has been approved by the Govt. of Kerala. The entrance examination is conducted for admission to Medical /Agriculture/ Veterinary/ Fisheries/ Engineering/ Architecture Degree courses and for allotment

KEAM scores are valid for admission to the following degree courses in various professional colleges in Kerala.

MEDICAL COURSES

- (i) MBBS
- (ii) BDS
- (iii) Bachelor of Ayurvedic Medicine and Surgery (BAMS)
- (iv) Bachelor of Homoeopathic Medicine and Surgery (BHMS)
- (v) Bachelor of Siddha Medicine and Surgery (BSMS)

AGRICULTURE COURSES

- (i) Bachelor of Science-Agriculture [BSc. Hons.(Ag.)]
- (ii) Bachelor of Science-Forestry [BSc. Hons.(Forestry)]

VETERINARY COURSES

- (i) Bachelor of Veterinary Science & Animal Husbandry (B.V. Sc. & AH).

FISHERIES COURSES

- (i) Bachelor of Fisheries Science (BFSc.)

ENGINEERING COURSES

Bachelor of Technology (B.Tech.)

B.Tech. (Agricultural Engineering) [B.Tech. (Agri. Engg.)]

B.Tech. (Dairy Science & Technology) [B.Tech.(D.Sc. & Tech.)]

B.Tech. (Food Engineering) [B.Tech.(Food Engg.)]

ARCHITECTURE

Bachelor of Architecture (B.Arch.) (Allotment & Admission only)

Candidates satisfying the eligibility conditions and who seek admission to all the above mentioned courses have to apply ONLINE on the website of the Commissioner for Entrance Examinations www.cee.kerala.gov.in. The CEE will conduct separate Entrance Examinations for admission to Engineering and Medical Courses.

Allotment/Admission to Architecture Course

The CEE will not conduct any Entrance Examination for admission to B.Arch. course. However, candidates seeking admission to B.Arch. course should compulsorily appear and qualify the National Aptitude Test in Architecture (NATA) conducted by the National Institute of Advanced Studies in Architecture (NIASA). Such candidates should also apply online through the website of the Commissioner for Entrance Examinations, www.cee.kerala.gov.in within the specified date.

Eligibility for Engineering courses:

[Including B.Tech (Ag.Engg.)and B.Tech (Food Engg.) courses under the Kerala Agricultural University and B. Tech (Dairy Sc. &Technology) under Kerala Veterinary & Animal Sciences University].

- (i) Candidates who have passed Higher Secondary Examination, Kerala, or Examinations recognized as equivalent thereto, with 50% marks in Mathematics separately, and 50 % marks in Mathematics, Physics and Chemistry put together are eligible for admission
- (ii) Candidates who have Diploma in Engineering awarded by the Board of Technical Examinations, or an examination recognised equivalent thereto, by the State Board of Technical Education after undergoing an institutional course of at least 3 years from an Institution approved by AICTE, securing a minimum of 50% marks in the final year Diploma Examination are eligible for admission to the special reservation quota (DE)
- (iii) Candidates who have passed Higher Secondary Examination, Kerala, or examinations recognised as equivalent thereto, with 50 % marks in Mathematics/ Biology separately, and 50 % marks in Physics, Chemistry and Mathematics/ Biology put together are eligible for admission to the seats reserved for Dairy Farm Instructors of Dairy Development Department for B.Tech. (D.Sc. & Tech). However, the candidates admitted to the course have to take a make-up course in Basic Mathematics (2+0) credits or Applied Biology (1+1) credit as the case may be.

Note: -

1. Diploma in Engineering is not recognised as the academic eligibility for admission to the Engineering Colleges affiliated to Kerala Agricultural University and Kerala Veterinary & Animal Sciences University.
2. The Vocational Higher Secondary Examination, Kerala, has been recognised as equivalent to the Higher Secondary Examination, Kerala.

Eligibility for Architecture course :

Minimum academic eligibility for admission to B. Arch. Course :

- (i) 10+2 or equivalent examination from a recognised Board with Mathematics as a subject of study by securing 50% marks in aggregate. OR 10+3 Diploma (any stream) recognised by Central/State Governments with 50% aggregate marks. OR International Baccalaureate Diploma, after 10 years of schooling, with not less than 50% marks in aggregate and with Mathematics as compulsory subject of examination.
- (ii) In addition to the academic eligibility prescribed above, only those candidates who score 40 % or 80 marks out of 200 (for all categories of candidates) in the National Aptitude Test in Architecture (NATA) will be considered for admission to B. Arch. course. There is no relaxation in the minimum passing score of NATA to any category of candidate.
- (iii) There is no provision for lateral admission to the second year or at any stage during the 5 year course in Architecture.
- (iv) Candidates who have a Diploma in Engineering awarded by the Board of Technical Examinations, or an examination recognized equivalent thereto, by the State Board of Technical Education after undergoing an institutional course of at least 3 years from an Institution approved by AICTE securing a minimum of 50% marks in the final year Diploma Examination are eligible for admission to B.Arch. Course.

Candidates seeking admission to B.Arch. course should also submit the Application form to the Commissioner for Entrance Examinations. There is no State level Entrance Examination for this purpose. However such candidates should write the National Aptitude Test for Architecture and should forward the NATA score and mark list of the qualifying examination to the CEE on or before the specified date.

Age Limit

The candidate should have completed 17 years of age as on 31st December, in the year of admission.

As per the Guidelines issued by the Council of Architecture, there will be a centralised mechanism of conducting a “National Aptitude Test in Architecture” (NATA), which is mandatory for admission to the 5-year B. Arch. Course in all Architecture institutions in the country, which includes NITs and IITs, Government institutions, Government Aided institutions, Universities, Deemed Universities and Private Universities formed by a Central or State Legislature and other Private Self-financing institutions. The CEE will not conduct ‘Aptitude Test’ for B. Arch. Course in view of the guidelines issued by the Council of Architecture.

Papers for the Engineering Entrance Examination :

Paper I - Physics & Chemistry

Paper II – Mathematics

Each Paper will be of two and a half hours duration.

Candidates desirous of obtaining admission to the Agricultural courses and Veterinary courses except B.Tech. (Ag.Engg.)and B.Tech (Food Engg.) and B.Tech. (DSc. & Tech.), will have to write Paper I - Chemistry & Physics and Paper II - Biology of Medical Entrance Examination. For being considered for B. Tech. (Ag. Engg.), B.Tech. (Food Engg.)and B. Tech. (DSc. & Tech.) candidates will have to appear for Paper I - Physics & Chemistry and Paper II - Mathematics of Engineering Entrance Examination.

Candidates who wish to be considered ONLY for Engineering Courses [including B.Tech. (Ag. Engg.), B.Tech. (Food Engg.)under the Kerala Agricultural University] and B. Tech. (DSc. & Tech.) under Kerala Veterinary and Animal Sciences University, will have to write Paper I - Physics & Chemistry and Paper - II Mathematics of the Engineering Entrance Examination.

Candidates desirous of being considered for Medical & Allied courses and Engineering Courses will have to write both the Entrance Examinations in full.

Candidates desirous of being considered for admission to the Architecture Course will have to appear for the “National Aptitude Test in Architecture” (NATA) and become eligible for inclusion in the rank list for admission to Architecture course. Candidates included in the Engineering rank list will not be considered for admission to B. Arch. course based on their Engineering rank.

Scheme of the Examinations :

The Entrance Examination Engineering streams will be of objective type with Multiple Choice Questions and based on single response. For each question, five suggested answers would be given, of which only one will be the MOST APPROPRIATE RESPONSE. The candidate will have to select and mark the alphabet (A,B,C,D or E) corresponding to the most appropriate response in the OMR Answer Sheet.

The question paper for objective type examinations will be given in the form of Question Booklets. Candidates will be permitted to take the question booklet with them at the end of examination.

For Engineering Entrance Examinations, each Paper will have 120 questions to be answered in 150 minutes.

The standard of the Entrance Examinations will be that of Higher Secondary or equivalent examinations.

Scoring, negative marks

For each correct response in the Engineering Entrance Examinations, the candidates will be awarded FOUR marks, and for each incorrect response, ONE mark will be deducted from the total score. For all these papers, in the event of failure to answer a question, (that is, no response is indicated against a question in the answer-sheet) no deduction from the total score will be made. More than one answer indicated against a question will be deemed as incorrect response, and will be awarded negative marks. Therefore the candidates are advised not to attempt an answer, if they are not sure of the response, because mere guessing may lead to choice of wrong answers, with the consequent penalty of negative marks. However, the candidates who fail to answer at least one question will be disqualified.

Preparation of Rank Lists :

There will be separate rank lists for

- i. Engineering Courses
- ii. Architecture Course

The Rank List(s) published by the CEE shall not be utilized by any person/ institution/ authority other than CEE for the purpose of admission to any Professional Course(s), without prior written permission of the Government of Kerala.

- (a) Online submission of application is required to apply for the Entrance Examinations/ Allotments for admission to all the courses (Medical, Engineering and Architecture) Candidates should send only one application for all courses under KEAM
- (b) All candidates are required to apply online through the website www.cee.kerala.gov.in for the Entrance Examinations/ Allotments for admission to Medical, Agriculture, Veterinary, Fisheries, Engineering and Architecture Courses.

Birla Institute of Technology and Science Admission Test (BITSAT):

The Birla Institute of Technology & Science (BITS), Pilani is an all-India Institute for higher education located in Pilani. BITS Pilani consists of 15 academic departments with a focus on education in engineering and the sciences. The primary motive of BITS is to 'train young men and women able and eager to create and put into action such ideas, methods, techniques and information'. This university was christened as the Birla Institute of Technology and Science, Pilani, known to many as BITS, Pilani. Now it has campuses in Goa, Hyderabad and Dubai.

Birla Institute of Technology and Science admission test (BITSAT) is a computer related Online Test conducted by BITS. The test carried out for the admission to every Integrated First Degree courses of BITS Pilani, BITS Hyderabad and BITS Goa campus of the deemed university. It is a 3 hour test for candidates on computers at designated centers in various cities and Dubai campus.

For admission to any of the Integrated First Degree Programmes of BITS the candidate should have passed the 12th class examination of 10+2 system from a recognized Central or State board or its equivalent with Physics, Chemistry and Mathematics. Further, the candidate should have obtained a minimum of 80% aggregate marks in Physics, Chemistry and Mathematics subjects in 12th class examination, at least 60% marks in each of the Physics, Chemistry, and Mathematics subjects and adequate proficiency in English. However, admissions will be made only on his/her merit position based on the score obtained in BITSAT. Only Students who are appearing for 12th class examination in the respective year or who have passed the 12th class examination in the previous year are eligible to appear for BITSAT.

If a candidate has taken more than one attempt in 12th class or its equivalent, only his latest performance is considered, provided this attempt has been for the full component of subjects/ courses prescribed.

‘Computer Based Online test’ means the candidate sits in front of a computer and the questions are presented on the computer monitor and the candidate answers the questions on the computer through the use of keyboard or mouse. Each computer is connected to a server, which prepares the question set and delivers it to the candidate on the computer. This is unlike the traditional paper-pencil based test, which is generally offered on a single day to all candidates. Candidate can choose the Center, the Day and Time of his/her convenience to take the test.

BITSAT Test Format

BITSAT will be of total 3-hour duration (without break). The test consists of four parts:

Part I: Physics

Part II : Chemistry

Part III :(a) English Proficiency and (b) Logical Reasoning

Part IV : Mathematics

All questions are of objective type (multiple choice questions); each question with choice of four answers, only one being correct choice. Each correct answer fetches 3 marks, while each incorrect answer has a penalty of 1 mark (-1 mark). No marks are awarded attempted or a questions not attempted. While the candidate can skip a question, the computer will not allow the candidate to choose more than one option as correct answer. There will be 150 questions in all. The number of questions in each part is as follows:

Part I Physics - 40

Part II Chemistry - 40

Part III (a) English Proficiency - 15

(b) Logical Reasoning - 10

Part IV Mathematics - 45

There is no time limit for individual parts of the test. The candidate can go back and change any of his/her answers among the 150 questions. If a candidate answers all the 150 questions (without skipping any question), the candidate will have an option of attempting 12 (twelve) extra questions, if there is still time left. These extra questions will be from Physics, Chemistry, and Mathematics only; four questions from each part. Further, once the candidate has opted for extra questions, he cannot go back for correction of any of the earlier answered 150 questions.

The questions are so designed that a good student will be able to answer 150 questions in 180 minutes. The extra questions (a maximum of 12) will give a chance to highly meritorious candidates to score higher. However, candidates should keep in mind the fact that there is negative marking for wrong answers and any attempt to answer the questions by pure guessing of the answers is not likely to have any advantage, but may result in a reduction in the total score.

The questions will be selected at random from a large question bank. Different candidates will get different question sets. An expert committee will ensure that the question sets are of comparable difficulty level, content, question type etc. In this matter, the decision of the expert committee will be final and binding on the candidate.

All the questions and instructions of the test will be in English only. Candidates should bring a pen for the purpose of rough work, signing etc. Blank sheets for rough work will be provided, if required. Calculators and logarithmic tables are not allowed in the test centers.

Interested candidates should register their names for BITSAT by applying in the prescribed application form online. Complete the application form Online at <http://www.bitsadmission.com> and take the print out of the filled form. The completed application form along with the prescribed fees should be sent to Admissions Officer, BITS, Pilani – 333 031. Application form can also be obtained by post from the Admissions Office, BITS, Pilani by sending a request on plain paper giving the candidate's name and gender with complete postal address, accompanied by a crossed demand draft for prescribed fees towards postal and handling charges. The form will be sent by Speed Post / Registered Post. Demand drafts should be drawn in favour of 'Birla Institute of Technology & Science' payable at State Bank of India, Pilani Or State Bank of Bikaner & Jaipur, Pilani or UCO Bank, Vidya Vihar, Pilani Or ICICI Bank, Jhunjhunu.

Those who register for the test and reserve test dates have to download the 'Hall ticket', along with instructions, from BITS website as per the schedule given earlier.

In addition to applying for and appearing in BITSAT, candidates have to also apply for admission to BITS giving details of their 12th marks and preferences to different degree programmes offered. The prescribed application form for admission, the detailed application procedure and the final list of Degree programmes offered will be available at the BITS website. The completed form with the required application fee has to be submitted so as to reach on or before the specified date

CUSAT Common Admission Test

CUSAT(Cochin University of Science and Technology) is a premier Science and Technology University of the country. The University rises to the expectations of student community by offering very specialized courses in Naval Architecture, Polymer Technology, Photonics, Safety and Fire Engineering and Marine Engineering apart from a host of traditional science and engineering courses.

CUSAT is academically structured into 9 faculties: Engineering, Environmental Studies, Humanities, Law, Marine Sciences, Medical Sciences & Technology, Science, Social Sciences and Technology.

There are three separate campuses, two in Cochin and one at Pulinkunn, Alleppey.

CUSAT offers Under Graduate, Post Graduate and Doctoral Programmes in various fields like Engineering, Science etc. However the admission process for Under Graduate Programmes is being discussed here.

Under Graduate Programmes

Admission to seats for the various under Graduate programmes offered at the School of Engineering, Kunjali Marakkar School of Marine Engineering, Cochin University College of Engineering Kuttanad (including 10% NRI seats) and under graduate programmes offered in the Department of Instrumentation, School of Legal Studies, Ship Technology, Polymer Science and

Rubber Technology and Centre of Excellence in Lasers & Opto Electronic Sciences (CELOS) will be based on the “common Admission Test” (CAT) of CUSAT, open to all Indian Nationals with test centres in all district headquarters in Kerala, and in selected centres outside Kerala.

Eligibility Criteria

Pass in the Plus Two Examination of the State of Kerala with Mathematics, Physics and Chemistry as optional subjects or any other examination accepted as equivalent thereto securing a minimum of 50% marks in Mathematics and 50% marks in Mathematics, Physics and Chemistry put together. However, detailed information about the eligibility criteria for different engineering programmes can be seen at <http://cusat.nic.in/keyinfo-eligible.htm>

About CUSAT CAT:

Total no.of questions : 250 objective type multiple choice questions.

No.of questions from Mathematics : 125 out of 250

No.of questions from Physics and Chemistry : 125 out of 250

Ratio of Physics to Chemistry questions : 3:2

Duration of the exam : 3 hrs

Marks and Scoring

The CAT score will be calculated as per the formula, $S = 3R - 1W$, where S is the CAT score, R is the number of right answers and W is the number of wrong answers. (3 marks for each correct response and 1 negative mark for each incorrect response)

Admission

The admission to following courses is based on the score in this test.

5-year Integrated M.Sc. in Photonics

B. Tech. course in Civil Engineering, Computer Science & Engineering, Electronics & Communication Engineering, Electrical & Electronics Engineering, Information Technology, Marine Engineering, Mechanical Engineering, Safety & Fire Engineering.

B. Tech. course in Instrumentation Technology

B. Tech. Naval Architecture & Ship Building

B. Tech. Polymer Science & Engineering

Premier Institutes in Engineering

IIT (BHU)	Varanasi	Uttar Pradesh	www.iitbhu.ac.i
IIT Bhubaneswar	Bhubaneswar	Odisha	www.iitbbs.ac.in
IIT Bombay	Mumbai	Maharashtra	www.iitb.ac.in
IIT Dehhi	New Delhi	Delhi	www.iitd.ac.in

IIT Gandhinagar	Gandhinagar	Gujarat	www.iitgn.ac.in
IIT Guwahati	Guwahati	Assam	www.iitg.ac.in
IIT Hederabad	Hederabad	Andhra Pradesh	www.iith.ac.in
IIT Indore	Indore	Madhya Pradesh	www.iiti.ac.in
IIT Jodhpur	Jodhpur	Rajasthan	www.iitj.ac.in
IIT Kanpur	Kanpur	Uttar Pradesh	www.iitk.ac.in
IIT Kharagpur	Kharagpur	West Bengal	www.iitkgp.ac.in
IIT Madras	Chennai	Tamil Nadu	www.iitm.ac.in
IIT Mandi	Mandi	Himachal Pradesh	www.iitmandi.ac.in
IIT Patna	Patna	Bihar	www.iitp.ac.in
IIT Roorkee	Roorkee	Uttarkhand	www.iitr.ac.in
IIT Ropar	Rupnagar	Punjab	www.iitrpr.ac.in

National Institute of Technology (NITs)

1. National Institute of Technology , Agartala (Tripura)
2. Motilal Nehru National Institute of Technology, Allahabad (U.P.)
3. National Institute of Technology, Arunachal Pradesh.
4. Maulana Azad National Institute of Technology, Bhopal (MP)
5. National Institute of Technology, Calicut (Kerela)
6. National Institute of Technology, Delhi
7. National Institute of Technology, Durgapur (West Bengal)
8. National Institute of Technology, Goa
9. National Institute of Technology, Hamirpur (Himachal Pradesh)
10. Malviya National Institute of Technology, Jaipur (Rajasthan)
11. Dr. B R Ambedkar National Institute of Technology, Jalandhar (Punjab)
12. National Institute of Technology, Jamshedpur (Jharkhand)
13. National Institute of Technology, Kurukshetra (Haryana)
14. National Institute of Technology, Manipur
15. National Institute of Technology, Meghalaya

16. National Institute of Technology, Mizoram
17. National Institute of Technology, Nagaland
18. Visvesvaraya National Institute of Technology, Nagpur (Maharashtra)
19. National Institute of Technology, Patna (Bihar)
20. National Institute of Technology, Puducherry
21. National Institute of Technology, Raipur (Chhattisgarh)
22. National Institute of Technology, Rourkela (Odisha)
23. National Institute of Technology, Sikkim
24. National Institute of Technology, Silchar (Assam)
25. National Institute of Technology, Hazartbal, Srinagar (J & K)
26. Sardar Vallabhbhai National Institute of Technology, Surat (Gujarat)
27. National Institute of Technology, Surathkal, Mangalore (Karnataka)
28. National Institute of Technology, Tiruchirapalli (Tamil Nadu)
29. National Institute of Technology, Uttrakhand
30. National Institute of Technology, Warangal (Andhra Pradesh)

B. Tech Colleges in Kerala

The list of Colleges in Kerala offering Bachelor in Technology courses in kerala is given in the appendix

Some Premier Research Institutes

Central Institute of Plastic Engineering and Technology(CIPET)

The Central Institute of Plastic Engineering and Technology(CIPET) is a Premier National Institution devoted to academic ,technology support and research for the Plastics and allied industries in India. First CIPET Campus was established in 1968 at Chennai and subsequently 3 institutes were established at Ahamedbad, bhubnesher, Lucknow and other 12 studies centres.

CIPET conducts a joint Entrance Examination for the admission to various courses.

**Courses such as B.Tech in Plastic Engineering /Technology , and Manufacturing Engineering
Diploma in Plastic Mould Technology (DMPT)**

CLRI Adayar(Chennai)

The World's largest Leather Research Institute was founded on 24 April, 1948. CLRI made an initiative with foresight to link technology system with both academy and industry.

CLRI, today, is a central hub in Indian leather sector with direct roles in education, research, training, testing, designing, forecasting, planning, social empowerment and leading in science and technology relating to leather.

State-of-art facilities in CLRI support innovation in leather processing, creative designing of leather products viz. leather garment, leather goods, footwear and development of novel environmental technologies for leather sector.

Course offered

B.Tech (Leather Technology)

Master courses and Ph.D courses

IICT Bhadohi (Varanasi)

The Indian Institute of Carpet Technology popularly known as IICT, the only of its kind in Asia, has been set up by ministry of Textiles, Govt.of India to provide much needed support to Textile, Carpet and allied Industries. The institute is located in Bhadohi , which is 45 kms from Varanasi.The institute started functioning from2001.

At present IICT is running B.Tech.Course in Carpet& Textile Technology

IISc [Indian Institute of science], Bangalore

One of the premier most research institute in science and technology, located in Bangalore

The Programme

A sound exposure of all students to the fundamentals of classical, scientific, mathematical and engineering principles takes place in the first 3 semesters (1 ½ years). Teaching of these core courses, include strong components of laboratory demonstration and hands-on experimental work.

After the first 3 semesters the students opt for a specialisation. A specialisation is designed to cater to the vocational interest of a student. The specialization on offer are: Physics, Chemistry, Mathematics, Biology, Materials and Environment.

The student strengths of all the streams and specializations are about the same.

All streams are interdisciplinary in character. While the students specialise in a stream, he/she also broadens his/her knowledge and skill by taking about 30% of the courses from other streams. This combination of courses in his /her stream is listed in his/her degree certificate.

The students are free to choose their specialisation and combination of courses.

The students do a research project in the final two semesters of the course. The project can be chosen from any one of the offered specialisations. All the inquiry skills developed in the first 7 semesters will be used to frame questions, creatively explore answers and communicate this to the others coherently - to learned as well as uninitiated audiences.

One full year of participation in a research project identifies the proposed undergraduate programme as a uniquely research based one. Such research based interdisciplinary undergraduate programmes are well suited to meet the present vocational and post graduate requirements of the modern world.

IIST [Indian Institute of Space Technology, Trivandrum]

IIST currently offers B.Tech programmes in **Aerospace Engineering, Avionics and Physical Sciences**.

1. **B.Tech. (AEROSPACE ENGINEERING)** : is a 4-year undergraduate degree programme oriented towards the need of Space Technology, and has significant overlap with Mechanical Engineering, including Mechanical Design and Manufacturing Sciences, and Space Dynamics. This is similar to programmes of the same title available in many reputed Institutions in India and abroad.

People with B.Tech.degree in Aerospace Engineering can further specialize in Flight Mechanics, Aerodynamics, Thermal and Propulsion, Structure and Design, and Manufacturing Science.

2. **B.Tech. (AVIONICS)** : is a 4-year undergraduate degree programme comprising of subjects of study in Electronics and Communications Engineering programmes, in addition to study of Advanced Electronics in Digital Communication, Control Systems and Computer Systems used in Aerospace Systems.

People with B.Tech.degree in Avionics can later specialize in areas like DSP, RF & Communication, Antenna, Power Electronics, Micro Electronics, Control Systems etc.

3. **B.Tech. (PHYSICAL SCIENCES)** : is a 4-year undergraduate degree programme oriented towards application of basic sciences in Space Science and Technology. The programme lays a strong foundation in Physics, Chemistry and Mathematics, and gives exposure to important applications of space technology such as Remote Sensing and GIS, Astronomy and Astrophysics, and Earth System Sciences.

People with B.Tech.degree in Physical Sciences can later specialize in areas like Atmospheric and Ocean Sciences, Solid Earth Science, Astronomy and Astrophysics, Remote Sensing & GIS, and Chemical Systems.

Seats

The total number of seats for the undergraduate programmes in IIST is **156**. The branch-wise distribution of seats is as follows:

B.Tech. in Aerospace Engineering	:	60 seats
B.Tech. in Avionics	:	60 seats
B.Tech. in Physical Sciences	:	36 seats

Reservation of Seats

Candidates belonging to certain categories are admitted to seats reserved based on relaxed criteria, as per applicable rules of the Government of India. Categories included are:

- * Scheduled Castes (SC).
- * Scheduled Tribes (ST).
- * Other Backward Castes (OBC) belonging to Non-Creamy Layer (NCL).

NDRI [National Dairy Research Institute]

National Dairy Research Institute, located in Karnal, Harayana, a Premier Institution of international repute in the field of Dairy Science and has developed considerable expertise over last five decades in different areas of Dairy Production, Processing, Management and Human Resource Development

Course offered

At Karnal and its Southern Regional Campus, Bangalur

B.Tech (Dairy Technology)

Masters degree and PhD programmes.

NFSC [National Fire Service College, Nagpur]

BACHELOR OF ENGINEERING (FIRE)

CAPACITY : 30 Seats

DURATION : 1/2 years (including 6 months practical attachment with leading Fire Services anywhere in India)

The Degree of Bachelor of Engineering , B.E. (Fire) is awarded by Nagpur University, Nagpur. The successful candidates are eligible for appointment in the officer cadre in Fire Service of central, State, Central undertaking ,State undertaking, Major companies from corporate sector, and Government owned research and development organizations.



INTRODUCTION

Modern world faces environmental threats due to the increase in pollution of the atmosphere, water and land and it causes depletion of natural resources. An environmental study takes issues related to the conservation, protection and regeneration of the natural resources.



Content

Species diversity, Population, Community, Habitat, Ecosystem, Energy Flow, Depletion of resources, Pollution etc.

Eligibility

A Pass in Plus Two Science for :

BSc Ecology & Environment:

B.Sc Environmental Science

B.Sc Environmental Management

B.Sc.Environmental and water Management.

A Pass in BSc Physics/Chemistry/ Biology for :

MSc Ecology & Environment

M.Sc Environmental Science and Management

M.Sc Environmental Technology

Personality Traits

To become an environmentalist, you need to have:

- The ability to gather and interpret data
- An impartial approach
- Skills of presentation and report writing
- Project Management skills

Nature of work

- carrying out fieldwork - surveying and recording information on plants, animals and environmental conditions
- researching the impact of human activity (like housing and intensive agriculture) on the environment and on the climate change

- preparing reports and presenting research findings at conferences
- organizing or supporting school, university and community education programmes
- restoring areas such as open-cast mines or quarries at the end of their industrial life
- monitoring pollution incidents, such as chemical spillages in waterways
- advising on and enforcing legal regulations, for example the laws on protected species
- becoming an expert witness during public enquiries
- Managing wildlife conservation areas, woodland and meadows

Job Prospects

Wide variety of job opportunities in public sector such as Pollution Control Board, Eco-Tourism, Environmental Law, Conservation of Earth, Forest, Urban Planning, Industry, Water Management, Agriculture etc, and private, co-operative sector or NGOs

- **Ecological Planning:** Environmental Consultant Analyst and Planner, Landscape Architect
- **Ecological Management:** Ecologist, Natural Resource Manager, Wildlife Specialist, Conservation Biologist
- **Ecological Research:** Research Scientist and Technician, Laboratory Assistant, Research Coordinator, Research Administrator, Research Assistant, Ecosystem Modeler, Biogeographer, GIS specialist, Spatial Statistician
- **Teaching:** In universities, schools, museums, and nature etc.



Trend

The Climate Change, Ozone depletion, the increase of greenhouse gases, the man-made and natural hazards have increased the relevance of Environmental Scientists.

Branches :

- **Systems Ecology** focuses on the influence of human beings on ecosystems.
- **Applied Ecology** applies ecological principles to real-world environmental problems.
- **Conservation Ecology** is dedicated to reducing the risk of extinction.
- **Restoration Ecology** uncovers what's needed to repair damaged ecosystems.
- **Population Ecology** is the study of populations of organisms, including how they increase and go extinct.

Institutions in Kerala

University	Course	Institution	Eligibility
Kerala	B.Sc Environmental Science	St. Johns College, Anchal	10+2 PCB
Kerala	B.Sc Environmental Management	NSS College Cherthala	10+2 PCB
Kerala	M.Sc Environmental Science M.Phil, PhD	Department of Environmental Science, TVM	B.Sc with 55%
Kerala	M.Sc Environmental Science	All Saints college , TVM	B.Sc with 55%
M.G. University	B.Sc.Environmental and water Management	Devamahta College Kuruvilanagad Kesari Arts and Science College, North Paravoor	10+2 Science
M.G. University	M.Sc Environmental Science and Management M.Phil Environment Management ,PhD	School of Environmental Science, Thevara Buildng. Gandhi Nagar, Kottayam	BSc. Chemistry
M.G. University	M.Sc Environmental Science	St. Mary's college Kottayam	B.Sc in any subject with 55%
Calicut	M.Sc. Environmental Science	Christcollege, Irinjalakkuda University of Calicut	B.Sc in any subject with 50 %
Calicut	B.Sc.Environmental and Water Management	SN college, Alathur	10+2 PCB
Cochin	M.Sc Environmental Science	CUSAT, Kochi 682022	B.Sc Chemistry /Bsc Botany/ Bsc Micro Biology 55%
Cochin	M.Sc Environmental(Tec)	CUSAT, Kochi 682022	B.Sc/Engg/Tech with 55% + CAT
Central University of Kerala, Kasargod	M.Sc Environmental Science	University Campus , Kasargod	Bsc Chemistry/ Botany/Micro Biology with 55%

Institutes in other states

Bharathiyar University	B.Sc with Environmental Geography M.Sc Environmental Science	Bharathiyar University Coimbatore	10+2B.Sc in concerned Subject
Madras	M.Sc.Environmental Science Management	University of Madras	B.Sc with Chem. Bot .Zool. as main subject
Madras Mysore	M.Sc Environmental Toxicology M.Sc Environmenatl Science	University of Madras University of Mysore	B.Vsc B.Sc Ag. And B.Sc with Chem. Degree with 1 st Class
Bangalore	M.Sc Environmental Science	University of Bangalore	B.Sc in any subject with 50 %
Madurai Kamaraj University	M.Sc. Environmental management	MK University.Palkalai Nagar Madurai	B.Sc in any subject with 55 %

Premier Institutes :

There are so many institutions which provide BSc, MSc, BE, B.Tech, M.Tech, MPhil, PhD in Ecology & Environment.

- Cochin University Of Science & Technology, Cochin
- Jawahar Lal Nehru University, New Delhi
- Delhi College of Engineering
- Indian Institute Of Environment Management, Mumbai.
- Jamia Milliyya , New Delhi.
- Aligarh Muslim University, Aligarh
- IIT Delhi, Kanpur, Madras
- Viswesharayya Technological University, Chikkamangalaru



INTRODUCTION

Fisheries Science is a field of Science which is involved in managing, catching, processing, marketing and conservation of Fish. It is the study of aquatic life and its relevance in human society. It is an interdisciplinary field, drawing information with other interrelated fields like Oceanography, Ecology, Biology, Economics and Management.

Content

The course curriculum of Fisheries Science course is structured to study habits and breeding of various species of fish. It also involves farming and husbandry of important fishes and aquatic organisms in fresh water, brackish water and any marine environment.

Nature of Work

Aquaculture involves the study of methods of fish cultivation and harvesting, freezing and canning in both coastal as well as inland factories. Physical fitness and technical skill is essential to breed fishes and take care of them. Good communication skill is needed for marketing. One can find employment in fish farms in the areas of design, construction and management as well.

Personal Traits

- Candidates should possess a genuine interest in marine life and should adapt from sea sickness.
- Candidates should have research oriented mentality and mind, dedication to work, devotion, hard working, patients, a curious and inquisitive mind.
- They should have good managerial skills.

Job Prospectus

Graduates in fisheries can find job in Fisheries department and nationalized banks.

Employment Areas

- Fisheries Colleges.
- Research Institutes.
- Fish Farmers Development Agencies.
- Krishi Vigyan Kendras.
- Nationalised Banks.
- International Organisations like FAO, NACA.
- Aquariums.

- Fish Farms.
- Feed Manufacturing Units.
- Feed Sales Department.
- Ornamental Fish Culture and Breeding Centres.
- Hatchery and Seed Production Companies.
- Commercial Pearl Production Industry.
- Fish Processing and Marketing Firms.
- Net Making Units.
- Fish Disease Diagnostic Centre.
- Consultancies.

Job Types

- Farm Manager.
- Fisheries Inspector.
- Hatchery Manager.
- Aqua Culturist.
- Fish Exporters.
- Fish Traders.
- Fish Breeders.
- Fishermen.
- Marine Biologist / Marine Scientist.
- Hatchery/ Farm Operator.
- Fisheries Extension Officer / Technical Officer.
- Feed Mill Manager.
- Processing and Production Manager.
- Fish Export Inspector.
- Export Manager.
- R&D Professional.
- Aquaculture Entrepreneur.
- Consultant.
- Assistant Fisheries Development Officer.
- Fisheries Extension Officer.
- District Fisheries Development Officer.

Trends

Aquaculture is still in its early stages in India and there is a lot of scope for development. Fishes are an important export item for India because India has long coastlines and excellent fish stocks.

Branches

- Fisheries
- Aquaculture
- Fisheries Biology
- Fish processing
- Fisheries hydrography
- Marine Biology
- Industrial Fisheries
- Fisheries resource management
- Inland aqua culture
- Fish pathology and microbiology
- Fish nutrition and biochemistry
- Fish genetics and biotechnology
- Fish business management
- Mari culture
- Fresh water aquaculture
- Post-harvest technology

Rare Specializations

Fish Cytogenetic Pollution Toxicology-Quantitative effects of pollution on fish populations.

Competitive Exams

AIEEA by ICAR

Institutes

BFSc

- Fisheries College Panangad, Ernakulum under KUFOS
- CUSAT
- CIFNET
- College of Fisheries Mangalore, Karnataka

PG Courses

MSc. Fisheries and Aquaculture

- St.Alberts College,Ernakulam

MSc. Aquaculture

- Fisheries College Panangad,Ernakulam

MSc.Fisheries Bology

- Fisheries College Panangad,Ernakulam

MSc.Fish Processing Technology

- Fisheries College Panangad,Ernakulam

MSc.Fisheries Hydrography

- Fisheries College Panangad,Ernakulam

MSc.Marine Bology

- CUSAT

MSc.Industrial Fisheries

- Karntaka University,Dharward

Special /Research Institutes

Central Marine Fisheries Research Institute, Cochin



INTRODUCTION

Food technology is a branch of food science which deals with the actual production processes to make foods. Several companies in the food industry have played a role in the development of food technology. These developments have contributed greatly to the food supply and have changed our world. Food Technology Courses attract a large number of students because of



its novelty as an educational course and also because of the growing demand for food technologists in today's world of packaged and fast foods

CONTENT

Food technologists are mainly required in hotels, food industries, rice mills, distilleries and packaging industries. The Ministry of Food Processing Industries which started functioning since 1988 has given a tremendous boost to this sector in India.

ELIGIBILITY

BSc Food Technology

Plus two 50%

MSc Food Science and Technology

50% aggregate marks in B.Sc Medical/ Non-Medical/ Agriculture/Food Sciences/ Home Science / Microbiology/Bio Chemistry/ Bioinformatics/ Biotechnology) or equivalent

PERSONALITY TRAITS

Having good hospitality and interest in finding new type of dishes

NATURE OF WORK

In food or dairy industry and star hotels

JOB PROSPECT

Food technology is a vast developing subject and those who are trained will get several opportunities in various companies in food and beverages field. They will also be placed in Star hotels in different part of the world

JOB OPTIONS AFTER FOOD TECHNOLOGY

1. Analytical chemist
2. Dietitian
3. Environmental Health Practitioner
4. Microbiologist
5. Product/Process Development Scientist
6. Production Manager
7. Quality Manager
8. Retail buyer
9. Technical brewer
10. Trading Standards Officer

TREND

Very high opportunities in food industry and hospitality field

BRANCHES

Institutes offering BSc Food Technology in Kerala

- DGMMES College, Mampad ,Malappuram
- Safi Institute of Advanced Studies, Raisa Nagar, Vazhayoor East PO Via Ramanattukara,Malappuram
- Silver Arts and Science College, Perambra, Calicut
- University of Calicut

BSc Food Science and Quality Control

- NSS Hindu college, Vazhur
- St George College, Aruvithura
- BCM College ,Kottayam

Institutes offering MSc Food Technology in Kerala

- University of Calicut(Food Science and Technology)
- Mar Athanasious College for Advanced Studies, Thiruvalla
- DGMMES College ,Mampad ,Malappuram
- BCM College Kottayam

Premier Institutes

- IIT Kharakpur MTech Dairy and Food Engineering also Food Safety and quality Management
- Central Food Technological Institute(CFTRI), Mysore
- Food Craft Institute, Hyderabad
- TN Agricultural University,Coimbatore
- University of Agricultural Science,Bangalore
- National Dairy Research Institute, Bangalore
- MahatmaGandhi Mission College of Food Technology, Aurangabad,Maharashtra
- School of Chemical,Food and Biotechnology, Midnapore East West Bengal
- Chaudhary Devlal Memorial Govt Engineering College Sisra Hariyana



A foreign Language is a language indigenous to another country. It is also a language not spoken in the native country of the person referred to, i.e., an English speaker living in Japan can say that Japanese is a foreign language to him or her. These two characterizations do not exhaust the possible definitions, however, and the label is occasionally applied in ways that are variously misleading or factually inaccurate [Wikipedia]

Foreign Language experts with a good understanding of cultures are in great demand in the corporate world. The scope of Foreign Languages for a career is stupendous and candidates willing to explore it have multitude of job opportunities in various multinational companies and multilateral organisations. Moreover, language skills are essential attribute in most professions and help in the advancement of career.

Content

Normally the course language will have the subject contents as fundamentals of each language, linguistics, phonetics etc...

Eligibility

Eligibility for each course varies from one another. Details are given in each topic.

Areas of work

Language Professionals can work in one or more of the following areas:

- Translation (General & Technical)
- Technical Translation
- Research and Documentation
- Interpretation
- Transcription
- Teaching

Job profile

General translation

Excellent writing skills and strong vocabulary in at least two languages are essential to be a Translator. Translation can be a challenging task, as many languages may not share the same syntactical pattern. Some words and phrases may not even have equivalents in the language they are being translated into.

Technical translation

Translation of contracts, reports and other business documents are becoming a necessity with the entry of multinationals in India. Translators can expect to earn between Rs.150 and Rs.300 per page of translation for Indian languages; between Rs.300 and Rs.500 per page for common foreign languages such as French or German and up to Rs.750 per page for Japanese or Arabic.

Research and Documentation

Here, in addition to translation, one must be able to organise and document data.

Interpretation

Unlike translation, an interpreter does not enjoy the advantages of consulting a dictionary when help is most needed. Interpretation is done on the spot; therefore, proficiency in the languages concerned must be very high. The translator must be well informed on current affairs and willing to learn lots of technical jargons.

General interpretation mainly involves working as a tourist guide. Specialisation is imperative for interpreters at international seminars or meetings where a particular subject - say, economics or income tax - will be discussed in depth. Remuneration depends on individual skill and occasion.

Transcription

Transcription - mainly legal and medical - is fast becoming a lucrative career for language graduates. Medical transcription is the process of translating digitalized audio medical records into text form. Medical professionals rely on skilled medical transcriptionists to transform spoken words into accurate text records. Familiarity with medical jargon and adaptability to the American accent are essential pre requisites. Salary at the entry level is around Rs 6000.

Teaching

With the world truly becoming a global village, the language teacher is currently in great demand. Language teachers can work with regular schools, colleges or specialised language schools. Preparation of teaching materials such as books and educational CDs is also an option for experienced teachers. Remuneration for language teachers working in educational institutions depend upon a variety of factors such as educational qualification, individual skill and experience in the field. Freelancers can expect a minimum of Rs.60 per hour for teaching Indian languages and Rs 100 for foreign languages, including English.

Essential attributes

Language Professionals must possess the following personal attributes:

- Excellent communication skills
- Proficiency in a minimum of two languages
- Ability to work under pressure and meet deadlines
- Concentration over long periods of time

Career Prospects:

Language graduates are employed in the following sectors

- Educational Institutions
- Embassies
- Cultural Organizations

- Corporate Houses
- Travel and Tourism
- Export Houses
- Publishing Houses
- Printing Units
- Print and Online Media

Freelance Option

Freelance and Part-Time options are available in this field thus making it possible to combine this with another full-time career. Remuneration is excellent as Language Professionals are paid on an assignment basis. However, work hours are often erratic. Freelancers and Part-Timers are also under constant pressure to meet deadlines.

ARABIC

Arabic is one of the official languages of the UN as well. As a foreign language too most of the Universities in Kerala offer variety courses in Arabic language.

Content

B.A. Afsal-ul-ulama, Afsal-ul-ulama (Preliminary)

Certificate courses

Alligarh Muslim University

Calicut University

University of Madras

B.A. Arabic

B.A. Arabic- Translation- MES College, Aluva

B.A. Arabic –

Maharajas college, Ernakulam

Alligarh Muslim University

University of Calicut

University of Kerala

University of Madras

B.A. Arabic and Islamic History (Double main) - Govt. Brennen College, Thalassery

B.A. Arabic with Thareekul Islam Assiyassi–

Sir Syed College, Taliparamba,

GovindaPai memorial Govt. College, Manjeswaram

B.A. Afsal-ul-ulama, Afsal-ul-ulama (preliminary)

Nusrathul Islam Arabic College, Kannur,

DarulIrshad Arabic College, Thalassery,

Ideal Arabic College, Uliyil,

Al-Maquar Arabic College, Taliparamba,

Rahumaniya Arabic College, Padne,

Orphanage Arabic College, Kanhangad,

Sa-Adiya Arabic College, Kasaragod,

Thanbeehul Islam women's college, Nainarmoola

M.A. Arabic Language & Literature

B.A. with Arabic as optional Main or Subsidiary subject under Part III securing not less than 45% marks for that Part or B.A/ B.Sc with Arabic as additional language under Part II securing not less than 50% marks for that part or B.A./B.Sc with a pass in Afzal-ul-ulama Examination of Kerala or Calicut University or Arabic Munshi Examination (Lower or Higher) can apply for M.A. Arabic.

M.A. Arabic -

University College, Tvpm,

Govinda Paimemorial Govt. College, Manjeswaram,

Sree Sankaracharya University of Sanskrit Regional centre, Tirur

Osmania University

Career Options

Translator

Teacher

Journalist

Indian military service

URDU

Urdu is one of the most popular Indian languages. It grabs the position of the majority using the language in India. In Kerala, the assets of Urdu language are not explored well. Scope and aspirations in learning Urdu is high in our State. There are a few experts who focus this language in Kerala. Limited higher educational options are available here.

Content

The range of Urdu courses varies from certificate courses to Ph.D.

Adeeb-e- fazil

B.A. Urdu and Islamic History (Double main)-

Govt. Brennencollege, Thalassery

Maulana Azad National Urdu University, Hyderabad

M.A. Urdu- SreeSankaracharya University of Sanskrit Refional Centre, Koyilandy

Career Options

Primary Teachers

Chances in Media

Translator

Unani Medical Field

Film Field

Ghazal Art

FRENCH

French shares an official status in most international organizations. A large number of institutions, both universities and private ones, in our country, offer courses in French language at different levels.

Institutions

Certificate & Diploma courses

Alligarh Muslim University

Allahabad University

Andhra University

Annamalai Univesity

Banaras Hindu University

Cochin University of Science and Technology

Kannur University

Karnataka University

University of Madras (Distance Education)

Madras University

Madurai Kamaraj University

Pondicherry University

B.A

Alligarh Muslim University

University of Calicut

Goa University
University of Kerala
Karnataka state open University
University of Madras
Jawaharlal Nehru University
University of Delhi

M.A. French

Goa University
Karnataka University
University of Madras
Madurai Kamraj University
Jawaharlal Nehru University
University of Delhi

Career Options

Teacher
Translator
Tourist Guide
Journalist

RUSSIAN

Russian is one of the working languages of the UNO and its organizations. In India Russian language and literature is one of the subjects for the competitive examinations like IAS and IFS etc.

Institutions

Certificate & Diploma Courses

Central Institute of English and Foreign Languages
Aligarh Muslim University
University of Calicut
Cochin University of Science and Technology
University of Kerala
University of Madras
Osmania University

Post Graduate Certificate in the Teaching of Russian
Central Institute of English and Foreign Languages

B.A

Aligarh Muslim University
Osmania University
Jawaharlal Nehru University

MA

Banaras Hindu University
Cochin University of Science and Technology
University of Kerala
Central Institute of English and Foreign Languages
Jawaharlal Nehru University

Career Options

Teacher
Translator
Tourist Guide
Journalist

GERMAN

German is an official language of the European community. German is the official language of the GDR

Certificate & Diploma Courses

Cochin University of Science and Technology
Karnataka University
University of Kerala
University of Madras
Madurai Kamaraj University

B.A.

Aligarh Muslim University
University of Calicut
Karnataka University
University of Kerala
University of Madras

M.A.

Karnataka University

University of Kerala

ENGLISH

Introduction

English is the official language in 70 countries, and the second largest in the world. It is the language of media, cinema, music, internet, common man and scholars. Undoubtedly it brings the world a lot more closer. English has become part of our life. Even those who don't speak that language are influenced by it. May be because of the contact with that language, we in our day – to-day life make use of many English words while communicating in our mother tongue. English is an easy language to learn, understand and speak. Students all over the world study English from play school to degree level as their first or second language. The communication skill in English decides the performance of a student or professional to upgrade ones status. In Kerala all universities offer different courses in English.

Content

American English, British History, Journalism, Political Science are the subsidiary papers of B.A. English. Functional/Communicative English is offered as B.A optional subject which concentrate on communicative aspects. Foreign universities provide specialization in almost all aspects of English like fiction, drama, film studies, feminism, content writing etc. To study or work aboard one has to qualify TOEFL/IELTS.

Eligibility

Getting admission and just qualifying the examination is quite easy but later the student suffers in his career. Real devotion towards the course with reading habits and communication skill practice with modern IT gadgets/ language lab will post the student in high colors.

Certified courses : 10th / plus 2

Degree courses : Plus 2

PG courses : Any Degree

PG Diploma : Any Degree

Personal Traits

Mass communication needs excellent verbal skills with pleasing personality. Updating frequently with high imagination and deep knowledge of Social Psychology is essential for various type of writing.

Institutions

B.A (English)

Almost all Govt., Aided, Unaided colleges affiliated to Kerala, MG, Kannur, Calicut universities have degree and PG programs in English. IEFU off campus in Malappuram and the

Mother Institute in Hyderabad provides opportunities from Certified courses to PhD. Programs. Various training programs in English is also given to working professionals in the campus.

Branches

B.A.English Literature and Communication Studies

B.A. English with Journalism

B.A. Communicative English

St. Thomas College, Arunapuram

Al-Ameen College, Aluva

Aquinas College, Edacochin

Govt. College, Manimalkakkunnu

MES College, North Vazhakkulam

Nirmala College , Moovattupuzha

St. Tresa's College, Ernakulam

Sir Syed College, Taliparamba

Govt. Brennencollege, Kannur

All Saints' College, Thiruvananthapuram

Future Career Options

Play school to College Professor

Journalist

News Reader

Script writer

Content writer

Translator

Tutor

Front office management

ADDITIONS

The British Council Library and Information Services is your gateway to a world of opportunity. They reach millions of people across India through their presence in nine cities. It is advisable to be a member of the British Council family and gain access to books, workshops, events and activities designed specially to meet one's needs and interests. In addition to the wide range of books at the libraries, members can also access more than 85,000 online academic books and 14,000 e-journals online.



INTRODUCTION

Forestry Science deals with conservation of forest resources and maintaining Ecological balance. Forests are home to the most amazing herbs, medicinal compounds, natural cosmetics, animals, birds, insects etc. Forests form part of the vital natural resources of a country. Forest resources have been a source of human sustenance through ages.

Content

Forestry involves protection of forests and farming of trees to ensure timber supply. There are separate specializations in forestry and wildlife courses. Curriculum involves methods to take care of forest resources by protecting them from fire, pests, disease, encroachment and indiscriminate felling of trees.

Nature of Work

Depending on the nature and field they can work in offices, laboratories or in wild forests. Foresters often use all-terrain vehicles, trucks, helicopters or skidoos which have made it easier to move around the forest. Much of their time is spent on activities such as:

- accumulating and analyzing data
- working with a large team of professionals (for example, biologists, hydrologists) to complete land use plans
- corresponding and meeting with industry, government and environmental group representatives
- facilitating meetings with all land users
- developing provincial and federal forest policy
- writing reports or scientific papers
- Delivering presentations.

Personal Traits

- the ability to complete the required academic and physical training
- the ability to work effectively alone and in a team environment
- good organizational and communication skills
- a keen interest in all aspects of nature and a serious concern for the environment

.Job Prospectus

- This field of action promises a lot of jobs inside the country and also in abroad. The job prospects in the education sector are also very bright. Timber or plywood manufacturers also employ forestry specialists as consultants. Candidates can pursue research work and projects with government and Non-Government Organizations (NGOs). Wildlife consultants are required

for esteemed organizations like World Wide life Fund (WWF). Biotechnology Firms, National Parks and Sanctuaries also provide ample opportunities.

Some Forestry & Wildlife Job Types

- Forester
- Dendrologist
- Entomologist
- Ethologist
- Silviculturist
- Forest Range Officer
- Zoo Curators
- Researcher
- Lecturer
- Geneticist

Trends

The employment is roughly equal between three main sub-sectors: forestry, wood industry and the pulp and paper industry.

Branches

- Forestry
- Plant Science
- Silviculture
- Agro forestry
- Tree Physiology and Breeding
- Wildlife Science
- Wood Science and Technology
- Plantation Technology
- Pulp and Paper Technology
- Forest Management

Rare Specializations

- Bio Diversity Conservation
- Tea Management
- Urban Forestry-Urban forestry is the careful care and management of [treepopulations](#) in [urban](#) settings for the purpose of improving the urban environment

- Forest Health- Program designed to determine the status, changes, and trends in indicators of forest condition

Competitive Exams

- Indian Forest Service Examination

Institutes

- Kerala Agriculture University, Thrissur (<http://www.kau.edu>)

BSc.Forestry, MSc.Forestry Management/ Silviculture and Agro Forestry/Tree Physiology and Breeding/Wild life Science/Forestry

MES Asmabi College, Kodungallur(mesasmabi.com/)

MSc.Plant Science

Premier Institutes

A few institutions like Wildlife Institute of India, Dehra Dun and A.V.C College, Mayiladtaurai offer a two-year master's course in wildlife biology

Forest Research Institute Dehradun:(fri.icfre.gov.in/)

- MSc. Wood Science and Technology,
P.G Diploma 1 year
- Plantation Technology
- Bio diversity Conservation
- Pulp and Paper Technology

Special /Research Institutes

- Indian Council of Forestry Research and Education (ICFRE)
- Kerala Agricultural University,Thrissur (www.icfre.org/)
- Kerala Forest Research Institute(KFRI),Peechi Thrissur (www.kfri.org/)
- University of Agricultural Science,Bengaluru
- Tamil Nadu Agricultural University,Coimbatore
- Aligarh Muslim University, Aligarh
- Indian Institute of Forest Management, Bhopal(www.iifm.ac.in)
- Indian Council of Forestry Research and Education(ICFRE),Bengaluru



Geography is the science that studies the lands, the features, the inhabitants, and the various phenomena of Earth. Learning of Geography is getting much significance due to its wide opportunities both in job as well as in Education. Geographers play a key role in contemporary world, in times of deepening global integration; many companies, governments and non-government organizations need to take key decisions regarding 'location'. In this regard, Geographers with applied skills can find a variety of career opportunities as GIS experts, as social and political analysts, cultural critics and so on and so forth.

CONTENT

Earth, Planets, minerals, natural phenomenon and its prediction, Geomorphology, Physical Geography, Medical Geography, Human Geography, Economic natural and cultural environment, Geomorphology, Climatology, Oceanography, Biogeography, Political Geography, Social Geography, Cultural Geography, Economic Geography etc.

ELIGIBILITY

B.A, B.A(Hons.) B.Sc degree courses: *A pass in Plus Two any discipline*

M.A.,M.Sc:-*BA/BSc in Geography*

M.Phil.,and P.hD:-*MA/MSc Geography*

Diploma/ Certificate Courses in Geography

- Diploma Courses in Geography
- Advanced Diploma in Computer Assisted Cartography
- Advanced Diploma in Remote Sensing and GIS Applications
- Certificate Course in Geography
- Certificate Course in Geographic Information Systems (GIS).The various universities as well as private institutions in India and abroad provide these above said courses .

Those who have completed 10+2 studies in any stream from a recognized board are eligible to apply for Undergraduate /Certificate/Diploma courses in Geography in any University/College in India; but Humanities stream students having Geography as core subject are always getting preference.

PERSONAL TRAITS

Skills needed for a person to become a good geographer includes,

- Observation and inference from data and maps and various sources.
- Quantitative abilities.
- Good analytical/research skills: Consider the World as a laboratory.

- Physical fitness and willingness for field work.
- Written and Communicative skills.
- Quest for knowledge exploration.

NATURE OF WORK

By using Geographic Information Systems (GIS), Remote Sensing, Global Positioning Systems (GPS), online mapping such as Google Earth, and others, the Geographers continuously work for prediction of natural phenomenon/hazards. They decide location after analyzing Geomorphology for various purpose.

JOB PROSPECTS:

The major sectors where a Geographer can prove his talents and efficiency include the following,

Urban Planner/Community Development : City planners work on zoning, land use, and new developments, from a gas station renovation to the development of whole new sections of urban area.

GIS Specialist : Urban governments, county agencies, other government agencies, private agencies are often in need of experienced GIS professionals. Computer programming or engineering skills are very helpful in this arena .

Cartographer : For those with cartography and strong mathematical base may enjoy work as a cartographer. The news media, book publishers, atlas publishers, government agencies and others are looking for cartographers to help produce maps.

Climatologist: Agencies like the National Weather Service, News Media, the Weather Channel, and Meteorological Departments other government entities occasionally need Climatologist. Admittedly, these jobs usually go to those with Meteorology degrees, a Geographer with experience in Meteorology and Climatology would definitely be an asset.

Transportation Management: Shipping, Logistics, and Transportation companies look for someone with Transportation Geography with good computer and analytical skills.

Environmental Management : A Geographer brings excellent skills for project management and the development of reports like environmental impact .

Writer/Researcher: Writer or a Travel Writer for a magazine or newspaper.

Emergency Management: They understand the interactions between humans and the environment, know about hazards, Calamities and earth processes, and can understand maps.

Teaching/Faculty : Geography instructor requires additional education beyond undergraduate degree

Demographer: The Population Geographer who loves demographic data, can work for state or federal agencies to help developing population estimates.

National Park Service Ranger: Physical Geographer may get career in the National Park Service.

Librarian/Information Scientist: Your research skills as a Geographer apply particularly well to work as a librarian. If you want to help people navigate the world of information, this is a potential career for you.

Real Estate Appraisal: Real Estate Appraisers develop an opinion of value for a specific piece of property.

TREND

Use of varieties of equipments and computers, has made the study of Geography has become very interesting. *Medical Geography is gaining significance at international level, especially related to tourism.* Geo archaeology is a recent field of research that uses the Computer Cartography, Geographic Information Systems (GIS) and Digital Elevation Models (DEM). Geo archaeologists study the natural physical processes and phenomena that affect archaeological sites .

BRANCHES

Geographers study various aspects of the world and where humans interact with the Earth and the Environment. The major branches of Geography are as follows:

Human Geography	Economic Geography	Population Geography	Geography of Religions	Medical Geography
Recreation, Tourism, and Sport Geography	Military Geography	Political Geography	Agricultural and Rural Geography	Transportation Geography
Urban Geography	Physical Geography	Biogeography	Hydro Geography	Climatology
Geomorphology	Hazards Geography	Mountain Geography	Cryosphere Geography	Soil Geography
Cartography	Plant Geography	Zoogeography	Environmental Geography	Regional Geography

RARE SPECIALIZATIONS

- Medical Geography
- Tourism Geography

In India, IIT Roorke, IIT Kharagpur, IIT Kanpur etc, provide wide scope for Research in Geography especially *Remote Sensing & GIS, Environmental Management.*

INSTITUTIONS IN KERALA

Name	University	Website
University College, Thiruvananthapuram	University of Kerala	www.universitycollege.ac.in
Govt. College, Kariavattom, Trivandrum.	University of Kerala	www.govtcollegekariavattom.in
Emmanuel College of Arts and Science, Vazhichal, Trivandrum	University of Kerala	www.emmanuelcollege.ac.in
Govt. College, Chittoor, Palakkad.	University of Calicut	www.chitturcollege.ac.in
HM College of Science and Technology, Manjeri, Malappuram.	University of Calicut	www.hmcollegemanjeri.com
Department of Geography	Kannir University	www.kannuruniversity.ac.in
Nalanda College of Arts and Science, Perla, Kasargode.	Kannir University	www.kannuruniversity.ac.in
Sree Sankaracharya University	Sree	www.ssus.ac.in
	Sankaracharya University of Sanskrit, Kalady	

PREMIER INSTITUTIONS IN INDIA

The prominent institutions in India having Geography course with Specialization.

Name	Specialization	Website
1. Jawaharlal Nehru University, New Delhi	Regional Development	www.jnu.ac.in .
2. Delhi University, New Delhi	Urban & Regional Studies,	www.du.ac.in
3. Madras University	GIS, Sustainable Development	www.unom.ac.in
4. Bhanarus Hindu University (BHU) , Varanasi	Population and Settlement Geography	www.bhu.ac.in

Name	Specialization	Website
5.University of Allahabad	Geomorphology, Environment	www.allduniv.ac.in
6.MS University, Baroda	Industrial Geography, Health Geography	www.msbaroda.ac.in
7.University of Mysore	Tourism Geography, Regional Planning	www.uni-mysore.ac.in
8.University of Kerala	Physical Geography	www.keralauniversity.ac.in
9.North-Eastern Hill Univ. Shillong	GIS and Regional Development	www.nehu.ac.in
10.Jamia Millia Islamia University, New Delhi	Urban Geography	www.jmi.ac.in
11.Dr. HS Gaur Sagar University, Sagar	Population Geography, GIS	www.sagaruniversity.nic.in
12.Vidyasagar University	GIS & Coastal Management	www.vidyasagar.ac.in
13.University of Burdwan, Bardhaman – West Bengal	Regional Planning	www.buruniv.ac.in
14.University of Calcutta, Kolkata	Industrial Geography	www.caluniv.ac.in
15.Gujarat University, Ahmedabad	Urban Geography	www.gujaratuniversity.org.in
16.Aligarh Muslim University	Agriculture geography	www.amu.ac.in
17.Jammu University	Geomorphology, Tourism Geography	www.jammuuniversity.in
18.Kurukshetra University, Haryana	Agricultural , Settlement Geography	www.kuk.ac.in

COMPETITIVE EXAMINATIONS

As a student: One can go for BA Honrs,B.Sc,BA degree offered by various universities through entrance examinations and also based on Plus Two scores .There are entrance examinations for Post Graduate courses such as M.Sc.,M.Phil.,PhD courses in Various Universities in India, such as JNU, New Delhi.,BHU,Varanasi.

As a Candidate: UPSC and SSC conduct exams that enable the aspirants to get placed in Telecom, Educational Sector, Military Service, etc. For becoming a Research Assistant or Lecturer one should qualify in the NET exam conducted by UGC. A few central government organizations that look for postgraduates in Geography are Oil & Natural Gas Corporation, Indian Meteorological Department, National Council for Cement and Building Materials, Central Mine Planning & Design Institute Limited, Society of Integrated Coastal Management, River Authority Management, etc. The post graduate students in Geography can get placed in different departments under State Government through various exams organized by the Public Service Commission (PSC's).

FUTURE CAREER OPTIONS

The Geographical Information System (GIS) offer jobs in companies as GIS Specialist . Jobs in Disaster Management are also getting significance due to the frequent occurrence of natural calamities.

ADDITIONS

Nowadays the main areas of geographical opportunities include GIS, Cartography, Teaching, etc. The Medical Geography, Population Geography, Tourism Geography are also getting significance due to Globalization, Liberalization Policies. The latest estimates from the US Bureau of Labor Statistics classify GIS and remote sensing (RS) as new and emerging fields, in part because of their importance to the “green” jobs.



INTRODUCTION

Geology is the scientific study of the Earth. It studies the composition, structure, physical properties, dynamics, and history of Earth and the processes by which they are formed, moved, and changed. Geology is a multi-disciplinary subject, which draws from mineralogy, petrology, paleontology, geomorphology and some more. The field is a major academic discipline and is also one of the best profession in petrochemical industries, mining industry, exploration and extraction.

Content

The course geology includes vast areas of subjects as its contents like Introduction to Earth Systems Science, Mineralogy, Crystallography, Optical Mineralogy, Principles of Petrology, Structural Geology

Optical Mineralogy, Igneous Petrology, Metamorphic Petrology, Sedimentology, Economic Geology

Global Tectonics, Hydrogeology, Engineering Geology, Environmental Geology and many more.

Eligibility

- For BSc – +2 Science Group or Humanities Group with Geology/Geography as one of the Optional Subject (Except in Kerala University). +2 Science group (in Kerala University and Universities outside Kerala State)
- For MSc-BSc Geology candidates on merit base or by entrance exam.
- Admission to 5 years integrated M.Sc. Applied Geology will be based on entrance examination consisting of objective type questions in Physics, Chemistry and Mathematics at +2 levels.
- For M.Sc.in Earth Science and Resource Management course at Mangalore University shall have studied any two science subjects at the under graduate level OR agriculture/ Civil Engineering and Mining Engineering Graduates securing 45% (40% for SC/ST candidates) marks.
- After MSc, one can also opt for MSc (Tech)/MTech for specialization in Geotechnical and Geo-environmental engineering etc., which are parts of Civil Engineering field. In order to be eligible, one must have a GATE score.

Personality Traits

- Ability to visualize
- Good scientific/technical skills
- Audacious as an explorer

- Physical fitness
- Ability to interpret statistical and graphical information
- Attention to detail
- Report-writing skills
- Field trips
- Problem-solving skills
- Lateral thinking

Nature of Work

Since geology is related to environment, field work becomes an integral part of all degree programmes. It may include collection of geologic data, specimens of minerals, rocks and fossils. Constructing a measured section, interpreting geologic structures and mapping. Be prepared to work in remote terrains, working in vulnerable areas (earthquake, flood prone) and travel widely as project requirements dictate. A geologist has to face with dangerous situations during the construction of tunnels, dams and other gigantic projects.

Working in offshore oil fields are considered to be a major challenge. If you are read ready to cope with all these challenging conditions be sure that geology is your career.

Job Prospectus

Whoever completed geology can work as a Geologist, Petroleum Geologist, Meteorologists, Geographers or Oceanographers. The person having degree in Geology can opt a career in Petroleum Geology, Petrology (study of rocks), resource management, environmental protection, mineral and oil exploration Paleontology, Geophysics, Research and Field Study. Post Graduates (MSc/M Tech) in Geology or Applied Geology have openings in Government Departments, Public Sector Undertakings, Universities and Private companies

A geologist can work in engineering and consulting firms, government agencies, mining companies, petroleum companies, museums. Geologists have an important role in preserving and keeping the environment clean as they assess natural disasters and its effects. Their activities include - monitoring waste disposal sites, preserving water supplies and minimizing the threat to communities at risk from geologic hazards like earthquakes, landslides, volcanoes and tsunamis. Geological maps are important inputs for the generation of hazard maps. It helps the mitigation team to engage in disaster management. Geologists play an inevitable role in engineering projects. The meeting point of engineers and geologist is in the irrigation, nuclear power and communication projects like bridges, tunnels, roads etc. Every civil engineer has to get well-equipped with geology.

Few of the Geological companies in India who provide the Jobs in Geology in India are as follows :

- Geological Survey of India, GSI, (Under Ministry of Mines): Recruits Geologists in the grade of Junior Geologist (Group A, Gazetted) and Assistant Geologist (Group B, Gazetted) through Geologist's Exam conducted by UPSC.

- Central Ground Water Board, CGWB, (Under Ministry of Agriculture):Recruits Hydrogeologists in the grade of Junior Hydrogeologist (Group A, Gazetted) and Assistant Hydrogeologist (Group B, Gazetted) through Geologist's Exam conducted by UPSC.
- Atomic Minerals Division, AMD, (Under Department of Atomic Energy):Recruits Geologists in the grade of Geologists (Group A, Gazetted) through their own recruitment examinations.
- Postgraduates in Geo informatics can be absorbed in NRSA (National Remote Sensing Agency), Hyderabad and Remote Sensing Departments of State Governments.
- Students with specialization in Marine Geology (MSc) can opt a career in NIO (National Institute of Oceanography), Goa.
- Department of Mines and Geology and Ground Water departments of State Governments recruit Geologists / Hydro-geologists through State PSC examinations.
- Private Companies engaged in mineral exploration, oil exploration and mining industry recruit geologists. Geologists who are interested in environmental sciences can work as consultants in the field of environmental compliance.
- Various private companies doing excavation works, drilling, piling, etc. need geologists.
- The students interested in teaching and research can join Universities or IITs. A doctorate degree in Geology or Applied Geology is essential for teaching posts in Universities and IITs.

Besides the USA, Australia, Canada, the need for geologists is rising in developing countries. Indonesia, Malaysia, Saudi Arabia, UAE, Kuwait, India, Vietnam, Thailand, Afghanistan, Bangladesh and Pakistan require geologists for civil works such as the construction of highways, airports, dams, pipelines etc. "The Middle East, the goldmine for oil, is a paradise for geologists,"

Trend

Demand for geologists often mirror of the price of geological commodities such as fuels, metals and construction materials. As rise in international oil price directly relates to Geology. The oil companies become more viable for exploration and this creates a major demand for Geologists in the market. The most recent trend spotted in many colleges is the rush towards taking up MSc Petroleum Geology/M Tech Petroleum Exploration.

Branches

- Physical Geology
- Geomorphology
- Mineralogy
- Petrology
- Hydrogeology
- Environmental Geology
- Engineering Geology

- Palaeontology
- Stratigraphy
- Marine Geology
- Economic Geology
- Exploration Geology
- Geo Informatics

Specialization

- Petroleum Geology
- Remote Sensing /Geoinformatics
- Geology and Mining/Mining Geology
- Geology and Water resource Management
- Gemology
- Disaster Management
- Geo technical Engineering

Rare Specialization

- Seismology-the science of earthquake
- Astrogeology- discipline concerned with the geology of the celestial bodies such as the planets and their moons, asteroids, comets, and meteorites.
- Medical Geology- the relationship between natural geological factors and their effects on human and animalhealth.
- Urban Geology- broadly concerned with applying the findings of geologic studies to construction engineering and to problems of land use.
- Volcanology-the study of volcanoes, lava, magma, and related geological, geophysical and geochemical phenomena.

Institutions

Course	Duration &Eligibility	Institution & Address	Website
BSc. Geology	6 Semesters regular +2 Science Group	University College, Thiruvananthapuram	http://www universitycollege.ac.in
		S N College,Varkala	http:// www.sncollege varkala.org
		S N College Chempazhanthy	http:// sncollege chempazhanthy.org

Course	Duration & Eligibility	Institution & Address	Website
	6 Semesters regular Govt.CollegeKottayam +2 Science Group or +2 Humanities Group with Geology/ Geography as one of the Optional Subject	Govt.CollegeKottayam	http://www.govtcollegekottayam.com
		Govt.CollegeKasaragod	http://www.gck.ac.in
		Christ College, Irinjalakkuda	christcollegeijk.edu.in
		M E S College,Ponnani	www.mesponnanicollege.org
		AWH Special College, Kallai, Kozhikode	http://www.awhspecialcollege.info
		GEMS College, Ramapuram Malappuram	http://gemseducation.org
BSc.Geology and Water Resource Management			Bishop Kurrialachery College For Women Amalagiri, Kottayam
MSc. Geology	4 Semesters regularBSc Geology/ BSc. Geology and Water Resource Management/BSc Geology and Mining	University College, Thiruvananthapuram	http://www.universitycollege.ac.in
		Govt.College, Karyavattom Thiruvananthapuram	http://Govt.Collegekariavattom.in
		Govt.CollegeKottayam	http://www.govtcollegekottayam.com
		Govt.College, Kasaragod	http://www.gck.ac.in
		S N College,Varkala*	http://www.sncollegevarkala.org
MSc. Applied Geology			MES College, Ponnani

Course	Duration & Eligibility	Institution & Address	Website
MSc. Marine Geology	4 Semesters regular CUSAT CAT for holders of BSc Geology/ BSc. Geology and Water Resource Management/ BSc. Geology and Mining	Cochin University of Science And Technology, Cochin	http://www.cusat.ac.in

Govt. Colleges

University College, Thiruvananthapuram: BSc. Geology, MSc. Geology

(<http://www.universitycollege.ac.in/>)

- Kerala University
Campus, Karyavattom Thiruvananthapuram: MSc. Geology (<http://www.govtcollegekariavattom.in/>)
- Cochin University of Science And Technology, Cochin: MSc. Marine Geology/ MPhil/ PhD (<http://www.cusat.ac.in/>)
- Govt. College Kottayam: BSc. Geology/ MSc. Geology (<http://www.govtcollegekottayam.com/>)
- Govt. College Kasaragod: BSc. Geology/ MSc. Geology/ MPhil/ PhD (<http://www.gck.ac.in>)

Aided Colleges

- S N College, Varkala: BSc. Geology, MSc. Geology* (<http://www.sncollegevarkala.org>)
- S N College Chempazhanthy: BSc. Geology (<http://sncollegechempazhanthy.org/>)
- Christ College, Irinjalakkuda: BSc. Geology (<http://christcollegeijk.edu.in/>)
- M E S College, Ponnani: BSc. Geology, MSc. Applied Geology MPhil, PhD (<http://www.mesponnanicollege.org/>)

Self-Financing Colleges

- Bishop Kurrialachery College For Women Amalagiri, Kottayam: BSc. Geology and Water Resource Management (<http://www.bkcollege.org/>)
- AWH Special College, Kallai Kozhikode: BSc Geology (<http://www.awhspecialcollege.info>)
- GEMS College, Ramapuram Malappuram: BSc Geology (<http://gemseducation.org>)

INSTITUTES OUTSIDE KERALA

Course	Duration & Eligibility	Institution & Address	Website
MSc Geology	4 Semesters regular BSc. Geology/ BSc Geology and Water. Resource Management/ BSc. Geology and Mining	Mysore University ManasaGangothri, Karnataka	http://www.uni-mysore.ac.in
		Central University, Gulbarga, Karnataka	http://www.cuk.ac.in
		Annamalai University	http://annamalaiuniversity.ac.in
		University of Madras Chennai	http://www.unom.ac.in
		University of Delhi	http://www.du.ac.in
		Fergusson College, Pune	http://www.fergusson.edu
M.Sc. Applied Geology	4 Semesters regular BSc. Geology/ BSc. Geology and Water Resource Management/ BSc. Geology and Mining	Pondichery University, Pondichery	http://www.pondiuni.edu.in
		Mysore University ManasaGangothri, Karnataka	http://www.uni-mysore.ac.in
		Aligarh Muslim University	http://www.amu.ac.in
		Anna University, Chennai	http://www.annauniv.edu
MSc Earth Science & Resource Management	4 Semesters regular Shall have studied any two science subjects at the under graduate level OR agriculture Civil Engineering and Mining Engineering Graduates securing 45% (40% for SC/ ST candidates) marks.	Mangalore University, Mangalore	http://www.mangaloreuniversity.ac.in

Course	Duration & Eligibility	Institution & Address	Website
M. Sc. (Tech.) Geology	4 Semesters regular Postgraduate course entrance exam (MMUS)	Banaras Hindu University	http://www.bhu.ac.in
M.Sc. Techn Petroleum Technology	4 Semesters regular BSc Geology/ BSc.	Nowrosjee Wadia College, Pune	<a href="http://nowrosjee
wadiacollege.edu.in">http://nowrosjee wadiacollege.edu.in
MSc Tech in Hydrogeology	Geology and Water Resource Management/ BSc. Geology and Mining	Sri Vekateswara University Tirupati, Andhra Pradesh	<a href="http://www.
svuniversity.in">http://www. svuniversity.in
M.Sc. Applied Geology	Five year Integrated Entrance examination consisting of objective type questions in Physics, Chemistry and Mathematics at +2 levels.	Pondichery University Pondichery	<a href="http://www.
pondiuni.edu.in">http://www. pondiuni.edu.in
MSc Earth Science		University of Delhi	http://www.du.ac.in
M.Sc. Applied Geology and Environmental System Science Management		Presidency University, Kolkata	<a href="http://www.
presiuniv.ac.in">http://www. presiuniv.ac.in
M.Sc. Coastal Disaster Management		Pondichery University, Pondichery	<a href="http://www.
pondiuni.edu.in">http://www. pondiuni.edu.in

Premier / Special / Research Institutes

- IIT-Mumbai
- IIT-Kharagpur
- IIT-Roorkee
- Cochin University of Science And Technology, Cochin: (<http://www.cusat.ac.in/>)
- Indian School of Mines –Dhanbad: M. Tech. Engineering Geology/M. Tech. Mineral Exploration/M. Tech. Petroleum Exploration (<http://www.ismdhanbad.ac.in>)

- Wadia Institute of Himalayan Geology, Dehradun, Uttarakhand: (<http://www.wihg.res.in/>)
- National Remote Sensing Centre (NRSC), Hyderabad: (<http://www.nrsc.gov.in/>)
- National Institute of Oceanography (NIO), Goa: (<http://www.nio.org/>)
- Centre for Earth Science Studies (CESS), Thiruvananthapuram: (<http://cess.res.in/>)
- Centre for Water Resource Development and Management (CWRDM), Kozhikode: (<http://www.cwrmdm.org/>)
- Indian Institute of Remote Sensing, Dehradun, Uttaranchal: (<http://www.iirs.gov.in/>)

Competitive Exams

Entrance Exams for MSc/ M Tech in Geology- higher studies

- Cochin University of Science and Technology - Common Admission Test
- Pondichery University entrance for M.Sc. Coastal Disaster Management
- Osmania University Postgraduate Common Entrance Test
- Banaras Hindu University Postgraduate course entrance exam (MMUS)
- Andhra University Region Post Graduate Common Entrance Test State level PG Entrance Examination
- All India PG Entrance Examination
- GATE for MSc/MTech in IIT's, Indian School Mines Dhanbad

Service oriented

- Geologist Examination conducted by UPSC every year to recruit Assistant Geologists, Geologists in GSI Assistant Hydro geologists and Hydro geologists in CGWB
- ONGC for graduate level trainees
- Civil Service
- IFS
- GATE

Eminent in the field

Dr.Thamban Meloth from Kasaragod

Now Scientist at the **National Centre for Antarctic and Ocean Research (NCAOR)** team, under the ministry of Earth Sciences, Govt of India. Completed his BSc in Geology from Govt. College Kasaragod, MSc in Marine Geology from Cochin University of Science and Technology (CUSAT), Cochin and PhD from National Institute of Oceanography, Goa

Manoj V T from Thavanur, Malappuram

Now Geologist at the '**Schlumberger**'. (Schlumberger Limited is the world's largest oilfield services company. Schlumberger employs approximately 123,000 people representing more than 140 nationalities working in more than 85 countries. Its principal offices are in Houston, Paris, and Hague. He completed his BSc. in Geology from M E S College Ponnani, MSc. in Applied Geology from Pondichery University and MPhil from U K.





INTRODUCTION

Guidance and counselling services are gaining wide acceptance as a profession in the new world. We live in a complex, busy and changing world. People are exposed to varied experiences which, sometimes, they may find difficult to cope with. Effective guidance and counselling help people to improve in their relationships between health and the environment, enhancing knowledge, attitudes and skills required for their well-being. Counselling is a learning-oriented process, which occurs usually in an interactive relationship, with the aim of helping a person to learn more about the self and to use such understanding to enable the person to become an effective member of society.

Content

The core components are processes and procedures, major theories of human psychology, personality adjustment and career development, and their application in counselling, psychological assessment and appraisal, and use of career information in guidance and counselling practices. The content also includes counselling for special groups of students, crisis situations and other issues arising from multicultural forces, globalization, industrialization etc. The course includes intensive training in practical work integrated with the theory components which is later conducted and supervised in schools. Enrichment lectures, seminars, workshops, demonstrations, self-study and reflective sessions are also important features of the practical training.

Eligibility

Basic Courses

Most counsellors have a background in psychology as this provides an insight into human behaviour which helps them to understand the problems of their clients better.

There is no single or defined route to become a Counsellor. The educational requirement for a career in guidance and counselling depend on the type of guidance and counselling, client group, work setting, and region one wants to work in.

People move into counselling from many different backgrounds. Counselling is often a second or third career, and life experience is highly valued.

- ❑ **Introductory course** – a part-time, 10- or 12-week course on the basic ideas and skills in counselling
- ❑ **Certificate programme** – a one year, part-time course introducing counselling theories and ethics, practical counselling skills and self-awareness (this course is also useful if you do not plan to become a fully trained counsellor but you work in a job where you provide guidance or help people)
- ❑ **Diploma in counselling** – a detailed study of counselling theory and ethics, plus a supervised work placement. The course is normally completed in two to three years. A large number of institutions provides a postgraduate diploma in guidance and counselling.

Eligibility :Candidates who have secured a degree with psychology/sociology/education is eligible for a diploma in counselling. Some institutions have a diploma course for which graduates of any discipline are eligible. The duration of the course varies from a year to two years. Some universities are providing PG courses in Counselling and guidance, for which they requires only degree from any discipline.

Counselling Professions

One can also enter this field as a professional after doing a postgraduate study in Psychology, or Social work. Most employers prefer to hire candidates as professional counsellors with post-degree education. For Accreditation through Professional Associations, a combination of post- degree education at the Master’s level, supervised hours of practice and experience in direct counselling is essential.

Educational Requirement

Psychologist (Clinical/ General) – MA Psychology/ MA Clinical Psychology/ MA Counselling Psychology

Assess, diagnose and treat psychological, emotional and behavioural disorders; research and apply theories related to human behaviour and mental processes

Social Worker – MSW/ MA Social Work

Assist individuals, families, groups, communities and organizations develop the skills and resources they need to enhance their social functioning and social environments; involved in research & development of policies

Personal Traits



The qualities required to become a good counsellor are perseverance, empathy and the ability to inspire confidence. As a counsellor, you would spend time with people and help them talk about their feelings. You need to be non-judgmental and be able to work with people from all backgrounds. Effective counselling practice is highly dependent on the skills and techniques of the counsellor such as:

- the ability to build trust and make people feel relaxed
- strong communication skills, including listening
- the ability to challenge clients in a positive way
- patience, tolerance, and sensitivity
- empathy and a non-judgmental attitude
- the ability to work with people from all backgrounds
- an awareness of confidentiality issues
- self-awareness and the ability to examine your own thoughts and values
- a good sense of personal integrity and ethics

Nature of Work

As counsellors deal with people directly, their work involves matters of sensitive and confidential nature. As a counsellor, you would spend time with people in a safe and confidential environment, where you would help them talk about their feelings.

People want counselling for many reasons like relationship difficulties, personal tragedies, or to improve the way they deal with everyday life. It is not your job to advise people what to do. Your role would be to encourage them to look at the choices they have and find their own ways to make positive changes. In most cases you would counsel clients on their own and face-to-face, but you could also work with couples, families or groups, or counsel people over the phone or on the internet.

Job Prospects



New attitude towards mental health and care has increased the scope of job opportunities for counsellors. The application of counselling is required in various fields like school, hospitals, correctional institutions, sports, special schools etc. If you work on your own - private practice- you could work from your own home or an office. IncomeDescMany counsellors are volunteers, so unpaid work is also common. You can find voluntary, part-time and full-time opportunities in a wide range of places, for example, health, education, youth services and charities.

Opportunities are also growing for counselling services in the workplace. With experience, you may be able to move into management, administration, supervision or training.

Trends

Counselling specializations are emerging with the great demand. With the rapid increase in number of career options, courses and business organizations, and specializations within the same field, students as well as adults are getting confused as to what is the right way to go for them. Thus more and more individuals are consulting such professionals who have a better sense and

experience and research to back their deductions about a client. So the demand and scope of this profession has gone up considerably in the recent past. For those who love challenges and newer experiences every day, this is the apt career. You could also do further training as a psychological wellbeing practitioner. There is initiative to improve access to psychological therapies.

Branches

Educational Counselling

A term first coined by Truman Kelley in 1914, educational counselling is a process of rendering services to pupils who need assistance in making decisions about important aspects of their education, such as the choice of courses and studies, decisions regarding interests and ability, and choices of college and high school. Educational counselling increases a pupil's knowledge of educational opportunities.

Personal/Social Counselling

Personal counselling deals with emotional distress and behavioural difficulties, which arise when individuals struggle to deal with developmental stages and tasks. Any aspect of development can be turned into an adjustment problem, and many people encounter, at some point of time, exceptional difficulty in meeting an ordinary challenge.

Vocational/Career Counselling

Vocational counselling is defined as individual contacts with those counselled, in order to facilitate career development. Clients in need of career planning resources, people looking for work, being in transition from school to work, or between jobs within an organization, dealing with job dissatisfaction or personal problems influencing work performance.

Family and Marriage Counselling

Clients are with interpersonal conflicts within families (marriage dissatisfaction, parenting problems, adjustment to life changes such as divorce, career transition, illness, death etc.) Counsellors help the clients to sort out the problems. They talk to them and make them voice their grievances. They essentially help couples to resolve their differences.

School Counselling

Guidance and counselling is a comparatively new addition to the field of education. In metropolitan cities there is a trend in schools to have a guidance section where students get help from professional counsellors in educational, personal and vocational matters. The counsellor provides support to the child's development at school and acts as a catalyst to help provide a conducive environment for growth and development.

Addictions Counselling

Clients affected by and suffering from addictions such as alcohol and drugs, or gambling

Genetic Counselling

Clients with serious disorders or illness in family history who want to estimate risk for descendants (pre-natal or during pregnancy)

Rehabilitation Counselling

Clients with disabilities or injuries in need of becoming more independent in daily life routines and as participating members of the community

Knowledge of health care system, economics, government regulation; Registered Rehabilitation Professional (RRP) or Canadian Certified Rehabilitation Counsellor (CCRC) designations

Bereavement Counsellors : work with clients who have to cope with grief related to death (either following death of a loved one or terminally ill people who will die in close future); to develop strategies to cope and grieve in a healthy way; they work in hospices, group homes, health care/rehabilitation facilities, hospitals, funeral homes, or private practice

Crisis Counsellors : help people in sudden crisis, distress, with suicidal intentions, victims of crime, tragedy; most interventions are short-term and sometimes performed anonymously by telephone; they work in hospitals, distress lines, rape-crisis centers, police departments

Pastoral Counsellors : provide personal counselling within a religious and spiritual dimension

Residential Counsellors : work with clients within residential facilities, group homes, or supported-living situations to promote a healthy living (some clients with moderate to severe physical or mental handicap, battered women, pregnant teens, homeless people, or patients in alcohol/drug facilities)

Settlement Counsellors : helps immigrants adapt to new environment by providing access to housing, jobs and services, sometimes in linguistic and cultural appropriate manner; they work in community service agencies or government

Institutions

School of Behavioural Sciences of Mahatma Gandhi University offers postgraduate diploma programme in Counselling Psychology. Those who have a Master's degree in psychology, education, or social work with at least 50 per cent marks or a postgraduate degree in other subjects with at least 50 per cent marks and a B.Ed. degree may take the entrance test. The university offers the M.Phil. course in Rehabilitation Psychology for those with a postgraduate degree in Psychology with at least 55 per cent marks.

Department of Psychology of the University of Kerala offers the M.Phil. Course in Counselling Psychology. Guidance and counselling are important practical applications in Psychology.

Kannur University, Kerala

M Sc Clinical and Counselling Psychology - 2 Years , Full Time , Post Graduate Degree

Indian Institute of Counselling, South Ex 1, Delhi

Diploma in Gerontological Counselling - 1 Year , Correspondence , Post Graduate Diploma

Diploma in Psychological Counselling - 1 Year , Correspondence , Post Graduate Diploma

Experiential Counselling Training Workshops - 16 Weeks , Part Time , Certification

Institute for Psychotherapy and Management Sciences, Goregaon West, Mumbai

Post Graduate Diploma in Psychological Counseling - 1 Year , Correspondence , Post Graduate Diploma

Goutham College, Bangalore

Master Degree in Holistic Psychological Counseling - 2 Years , Full Time , Post Graduate Degree
Affiliated to Bangalore University

Christ University, Hosur Road, Bangalore

Master of Science (MSc) in Psychological Counselling - 2 Years , Full Time , Post Graduate Degree

UGC Recognized , Affiliated to Bangalore University, Affiliated to Deemed University

Gujarat University, Navrangpura, Ahmedabad

Diploma in Counseling Psychology - 2 Years , Full Time , Diploma

Affiliated to Deemed University

Indian Academy School of Management Studies, Kalyan Nagar, Bangalore

Post Graduate Diploma in Psychological Counseling - 1 Year , Full Time , Post Graduate Diploma

Affiliated to Bangalore University

Premier Institutions

National Council of Educational Research and Training (NCERT), New Delhi,

offers a postgraduate diploma programme in Guidance and Counselling. Eligibility for admission is a Master's degree in psychology with 55 per cent marks.

Regional Institute of Education in Mysore, Ajmer and Bhopal functioning under the NCERT

Conducts a one-year, two-semester postgraduate diploma course in Guidance and Counselling. Admission is open to those who have completed the MA or M.Sc. programmes in psychology, educational psychology, social work, or child development.

Tata Institute of Social Sciences (TISS), Deonar, Mumbai

Certificate in Rehabilitation Counselling - 6 Months , Full Time , Certification

Affiliated to University Grants Commission (UGC)

The Madras school of Social Work, affiliated to the University of Madras,

offers an M.Sc. course in Counselling and Guidance. Those with a degree in Psychology or in other subjects with at least one paper in Psychology are eligible for admission.

IGNOU, New Delhi

Punjabi University Patiala, Punjab

P. G. Dip. In Counselling Psychology - 1 Year , Full Time , Post Graduate Diploma

Institute for Behavioral and Management Sciences (IBMS) - Andhra Pradesh, Chittoor

Master of Science in Counselling and Psychotherapy (MS)

PG Diploma in Psychological Counselling (PGDPC)

Bangalore University, Mysore Road, Bangalore

Master of Science (Psychological Counseling) - 2 Years , Full Time , Post Graduate Degree

Jamia Millia Islamia, Jamia Nagar, Delhi

Advanced Diploma in Counseling Psychology - 1 Year , Full Time , Post Graduate Diploma

Affiliated to Deemed University

Directorate of Distance Education (Guru Jambheshwar University of Science & Technology) - Hissar Haryana

PG Diploma in Counselling and behaviour modification (PGDCBM) - 1 Year Correspondence, Post Graduate Diploma, Affiliated to ('A' Grade University Accredited by NAAC)

Annamalai University, Tamil Nadu

PG Diploma in guidance and counselling



Future Career Options

You can start your career by assisting or working with an established counsellor for some years. There is immense scope to work as a freelancer, and then your success, fame and remuneration will depend on your skills, recognition and popularity. As a practicing counsellor, you should continue to develop your skills throughout your career. You can do this by taking courses and workshops in different counselling approaches, or on particular issues or client groups. With experience, you could also choose to train as a counselling supervisor or trainer.



INTRODUCTION

History is an interaction between historian and his facts or an unending dialogue between present and the past. It is a valuable subject which guides the citizen to many occupations and career. The study of history develops qualities of perception, judgment, and tolerance and guides them to acquire key skills of life.

CONTENT

History provides distinctive sphere of education by providing a sense of past, an awareness of past and develop an idea of different values, systems and an inculcation of critical tolerant personal attitudes. It encourages conceptual and personal attributes. Working with a variety of primary and secondary sources enables the students to course on statistics and information management technology.

Eligibility

A graduate in history can opt to various branches of study such as archivist, biographers, district attorney, editors or journalist foreign service officers, genealogist, historians, site specialist, historical society directors, history professors, market researchers, research assistant, judges, lawyers, urban planners etc.

Personal Traits

Those who acquire knowledge in history can develop critical reasoning, problem solving efficiency, intellectual rigor, managerial and supervising capacity. It also improves good communication skills.

Nature of Work

A history degree provides opportunities in accordance with nature of departments in which he is joining. Media research group offers chances in national and international visual media. As a museum curator the work include collection management, staff management and business awareness. As part of heritage industry he gets an opportunity to heritage interpretation and demonstrating craft skills. On the whole selection of the job is intended to get either service satisfaction or social status.

Job Prospects

- Archive
- Archaeologist
- Anthropologist

- Biographers
- Civil Service
- Counselling
- Demographer
- Historian
- Historical Society Directors
- Journalism
- Information manager
- Lectures in universities
- Museum
- Medias
- Photography
- Public Relations Officer
- Publications
- Politicians
- Park Ranger
- Researcher
- Reader
- Script Writer
- Social worker
- Tour Guide
- Temple Arts

Some rare Specializations

Numismatics, Epigraphy, curator are some rare specialization in History. Numismatics is study of old coins. The study of inscription is called epigraphy. Curator is a person who works in museum or local bodies. He can also perform as collection manager, exhibition manager, etc.

Competitive examinations and Institutions

The graduates and post graduates of history can apply for several competitive examinations conducted by UPSC, PSC, Public sector banks and enter into the central govt. service, economic service and the Indian Forest service through CDS and NDA tests.

Further Career Options

M.A. History

M.A. Archaeology

M.A. Islamic History

M.A. in Fine Arts

M.A. Conservation and Restoration of work

Master in Library and Information Science (MLISc)
Bachelor in Library and Information Science (BLISc)
P.G. Diploma in Archaeology
P.G. Diploma in Archival study
P.G. Diploma in Conservation
P.G. Diploma in Heritage and Fossil management
P.G. Diploma in Structural Conservation
P.G.D.in Travel and tourism
P.G.D.in Educational Planning and Management

Institutes

Mahatma Gandhi University, Kottayam
Alphonsa College Pala
Assumption College Chnganassery
B.C.M. College Kottayam
Hentry Baker Collegem Elukavumattom
K.E College mannam
N.S.S. Hindu College Changanassery
St .Marys College Mannarcadu, Kottayam
St. Thomas College Pala
Govt. college Tripunithura
Maharajas College Ernakulam
Mar Atheneccious College Kothamangalam
Marthoma College for Women, Perumbavoor
SSS Vcollege Valayanchirangara, Perumbavoor
St. Peters College Kolencherry
St. Therasas College Ernakulam
U.C. College Aluva
Bishop Abraham Memorial College Thuruthicad, Pathanamthitta
Catholicate College, Pathanamthitta
Marthoma College, Kottapuzha, Tiruvalla, Pathanamthitta.
St.Thomas College Kozhancherry
St. Thomas College Ranni, Idukki
M.E.S College Nedumkandam, Idukki
Newman College Thodupuzha
Pavanatma College Murikkassery, Alappuzha
University of Calicut

C.K.G Memorial College, Perambra, Kozhikode
Malabar Christian College, Kozhikode
MAMO College, Mukkam, Kozhikode
Providence Womens College, Kozhikode
Govt. College Madappally, Vatakara, Kozhikode
Govt. Arts and Science College Meenchantha
S.A.R.B.T.M. College Quilandy, Kozhikode
Govt. College Mokeri, Kozhikode
Zamorins GA college, Kozhikode
Kannur University, Kannur
Govt. Brennen College, Thalassery
Payyannur College Payyannur
Co-operative arts and Science College
Sir Syed College Talipparamba
Pazzassiraja NSS College, Mattannur, Kannur
Mary Matha Arts and Science College, Mananthavady, Waynad





INTRODUCTION

Home Science, or the science of a home, includes all the things that concern the person, home, family members and resources. It is the education for “better living” and the core of this education is the family ecosystem. It also deals with reciprocal relations between the family and its natural and man made environments. It aims at getting maximum satisfaction for the person and their family members through the efficient and scientific use of your resources. It gives the person all the knowledge of the scientific procedures involved in making a home beautiful.

CONTENT

The study of Homescience includes Nutrition, Food Science ,Dietetics, Hospitality Management, Resource Management, Interior Designing, Textile Science, Apparel Manufacturing, Fashion Technology, Fashion Designing, Marriage and Family, Extension Education, Entrepreneurship Development, Human development, Communication Technology, Human Physiology, Microbiology, Research Methodology, Pattern Engineering, Product Development , Sustainable Development .

ELIGIBILITY

B Sc Home Science

Plus Two Science

Msc Home Science

BSc Home Science/Botany/Zoology/Chemistry

JOB PROSPECTS

- Production - this covers food preservation, dress-making, specialized cooking
- Sales- sales promotion of food items (baby foods)
- Research- these projects involve educating specific segments of the population such as mothers, farmers, villagers on the food value of certain food items.
- Service- maintenance and supervision of house keeping departments at tourist resorts, hotels, catering facilities, restaurants etc.
- Teaching-
- Technical - manufacturing industries do require Home Science graduates to serve as Research Assistants, Food Analysts, Food Scientists etc

B Sc Home Science

- St Therasas College Ernakulam
- Morning Star Homescience College Ankamaly

M Sc Home Science

- All Saints College Thiruvananthapuram
- Govt College For Women, Thiruvananthapuram
- St Teresas College, Ernakulam
- Morning Star Home Science College, Angamali
- SN College For Women, Kottayam
- Vimala College, Thrissur

Premier Institutes

- Mother Teresa Women's University

FURTHER CAREER OPTIONS

Microbiologist, Biotechnologist, Fashion Designing, Nutritionist etc



INTRODUCTION

The Hospitality Industry is one of the world's most dynamic industries and continues to grow year after year. The World Travel Organization predicts that it will triple in size by the year 2020, becoming one of the largest industries in the world.

Content

- Restaurant Planning – Food and Beverage
- Hospitality Operations – Hotel Management
- Welcoming and Reception Services
- Preparing and Monitoring Budgets
- Receiving and Processing Reservations
- Developing and implementing operational plans and marketing strategies
- Managing financial operations and physical assets
- Recruiting, selecting, training and monitoring staff.
- Corporate hospitality • Hospitality Events Business • Conference and Meetings • International Hospitality.

Optional modules allow you to focus on your specialist interests. These contents are taught through Lectures and practical training programs

Eligibility

The candidate should have passed the Plus Two stage examination of 10 + 2 system or an equivalent examination in any stream with English as a compulsory subject.

- Certificate courses- Duration 3 months to 1 year
- Diploma Courses- 2 years or 2 ½ years
- Degree Courses- 3 years
- Post Degree Courses- 2 years
- Eligible candidates will be called for a written test, which will be Objective Type and will consist of:
 - Reasoning & Logical Deductions
 - Numerical Ability & Scientific Aptitude

- ❑ English Language
- ❑ General Knowledge

Upper age limit is 22 years as on the 1st July of the year of the competitive exams

Age relaxable up to 25 years for candidates belonging to SC/Scheduled Tribes.

Personal Traits

- ◆ Students looking for a career in Hotel Management should have strong communication skills, reasoning skills, numerical aptitude and pleasing personality.
- ◆ Enthusiasm is absolutely vital to work at all hours of the day and well into the night.
- ◆ Resilience to the unpleasant moods of the customers

Nature of work

Despite being known as one of the most glamorous careers there are various flip sides of working in hotel industry.

- ◆ The industry gets affected with the state economy.
- ◆ Additional responsibilities are very frequent with the existing jobs
- ◆ Youths are always preferred. So poor performers will be avoided quickly.
- ◆ Self-motivated and experienced will find them appreciated with frequent promotions.
- ◆ Handling pressuring situation with cool and poise is mandatory for hotel professionals. Long working hours, rude responses from customers, hectic timings, etc are some major drawbacks of career in Hotel Management.
- ◆ Initiative, self-discipline, effective communication skills, and the ability to organize and direct the work of others are essential. Hotel Managers must be born diplomats especially when handling complaints of the guests.

Job Prospects

Career in the hospitality industry includes opportunities in many different areas including Events (sporting, cultural, concerts, exhibitions, etc.) Conferences, Banquets, Theme Parks and attractions, Restaurants, Catering, Resorts (golf, ski, beach, spa, etc.) Airlines, Cruiselines and to an entire industry of hospitality and tourism-related businesses.

- ◆ Restaurant Management
- ◆ Club Management
- ◆ Cruise ship Hotel Management
- ◆ Hospital Administration and Catering
- ◆ Institutional and Industrial Catering
- ◆ Airline Catering and Cabin Service
- ◆ Manufacturers and Suppliers of Hotel and Restaurant Equipment

- ◆ Hotel and Catering Institute
- ◆ Hotel and Tourism Associations
- ◆ Catering Departments in Bank Insurance Houses
- ◆ Govt . owned Catering Departments
[*railway , armed forces, ministerial convention carpenters*]
- ◆ Insurance Servicing
- ◆ Front Office in Service Sector
- ◆ Call Centers
- ◆ House Boat

Trends

- Increase in Travel Expense
- Cost-effective “staycations” and other money-saving getaways through social medias
- Expect More International Visitors
- Photo-Sharing, marketing Videos, websites will attract travelers
- .Guests will crave desi foods, not Celebrity Chefs

Branches

The Management of Sales and Promotions - Considers the theories and practices of sales, promotions, public relations and advertising.

Information Management and Social Media Marketing - Discusses the use and impact of social media platforms such as Facebook, Twitter and blogs, and considers how a social media strategy can be designed and implemented.

Revenue Management - Takes an active, dynamic approach to managing revenue streams to ensure an organization’s long-term viability and financial health.

Front Office Operations — Guides students through the guest cycle clarifying the key operational issues involved in achieving guest satisfaction, emphasizing both technical and service issues.

Property Management System – Exposes students to the basic and advanced functions of a Property Management System (PMS).

Housekeeping Operations — Gives actual experience in the basics of hotel housekeeping, with emphasis on developing the managerial eye for detail necessary to conduct a successful room or public areas inspections.

Meeting and Events – Provides a general understanding of meeting management, which is essential for future hospitality managers.

Lodging Management/Hotel Analytics – Acquaints students with the managerial elements involved in rooms planning, preparation, sales, forecasting and budgeting.

Rare Specialization

- Dual Diploma in Hospitality and Tourism Management
- Travel Geography
- Hospitality Management Information Systems
- Room Division Management
- Hospitality Human Resource Management

INSTITUTES

INSTITUTES	ADDRESS	WEBSITE
State Institute of Hospitality Management (SIHM)	Government Guest House Compound West Hill, Kozhikode Phone : 0495 2385861	www.sihmkerala.com/ E mail : sihmcalicut@gmail.com
Institute of Hotel Management And Catering Technology	G.V.Raja Road Kovalam, Trivandrum Tel: 0471-2480283, 2480774	ihmct.kov@bsnl .in
<i>There are 14 more Institutes like these under NCHMCT in India</i>		
Munnar Catering College	Thachankary Hills,,Munnar, Kerala.Phone: 04868249900	www.munnarcateringcollege.edu.in
Oriental School of Hotel Management	Valley View,Lakkidi P.O., Wayanad – Kerala 04936-255716	E-mail : principal@orientalschool.com Website : www.orientalschool.com
Welcome Group Graduate School of Hotel Administration	Madhav Nagar, Manipal, Karnataka 576104 Phone: 0820 257 1101	www.manipal.edu
Subhas Bose Institute of Hotel Management	<u>Address</u> : AH-274, Saltlake City(Near Tank No 7) Sec II, Kolkata , West Bengal - 700091, BH Block, Sector II, Salt Lake City, Bidhan Nagar, West Bengal 700091 Phone : 033 2359 850	www.sbihm.com/

In India we have more than 900-1000 hospitality institutes producing roughly 20000 students every year for the industry. For the best Hotel Management career in India, here is the top hotel management Colleges in India based on performance and popularity.

Competitive Exams

MAT,NCHMCT ,MCHMCT,JEE or UGAT high scores are essential to get merit seats in various reputed institutions.

Admission Procedure in Private Sector

Self designed admission procedure

(Written test, Group Discussion, Interview) Personality wins over academic merits

Note:- The Institution must be recognized by AICTE, Govt. of India.

Future Career Options

M.Sc. In Hotel Administration

Certified Hospitality Trainers Programme organised by the Institutes of Hotel Management in association with the National Council for Hotel Management and Catering Technology

- ◆ **Retail Sector**
- ◆ **Teaching**
- ◆ **Entrepreneur**
- ◆ Convention Services Managers.

Those who successfully complete the course and training are recruited by various branded hotels in and abroad. A few are given below

- Ambassador Group of Hotels
- Mansingh Group of Hotels
- Oberoi Group of Hotels
- Peerless Group of Hotels
- Sarovar Park Group of Hotels
- Sinclairs Group of Hotels
- Best Western Group of Hotels
- Casino Group of Hotels
- Clarks Group of Hotels
- Fortune Park Group of Hotels
- ITDC Group of Hotels
- Jaypee Group of Hotels
- K Raheja Group of HotelsØ Le Meridien Group of Hotels
- Taj Group of Hotels
- Tulip Star Group of Hotels
- Welcome Heritage Group of Hotels
- Holiday Inn Group of Hotels
- HRH Group of Hotels
- ITC Group of Hotels

**LIST OF GOVT. AFFILIATED INSTITUTES OF HOTEL MANAGEMENT
Offering 3-Year B.Sc. program**

<p>1 Institute of Hotel Management, S.J.Polytechnic Campus, Seshadri Road, Bangalore – 560001 Tel.: 080-22262960 Fax: 080- 22268562 E-mail: ihm@vsnl.Com Website: www.ihmbangalore.kar.nic.in</p>	<p>2 Institute of Hotel Management, 1100 Quarters, Near Academy of Administration, Bhopal – 462016 Tel.: 0755-2464397 ; Fax: 0755- 2468046 ; E-mail: principal@ihmbpl.com; Website: www.ihmbpl.com</p>
<p>3 Institute of Hotel Management, Veer Surendra Sai Nagar, Bhubaneswar – 751004 Tel.: 0674-2581241 Fax: 0674- 2586663 E-mail: hospitality@ihmbbs.org Website: www.ihmbbs.org</p>	<p>4 Dr.Ambedkar Institute of Hotel Management, Sector 42 D, Chandigarh – 160036 Tel.: 0172-2604833 Fax: 0172- 2611956 E-mail: ihm_chd@yahoo.Com Website: www.ihmchandigarh.org</p>
<p>5 Chandigarh Institute of Hotel Management Sector 42- D Chandigarh – 160036 Tel:0172-2676024 ; Fax: 0172- 2610037 E-mail ; cihm42@gmail.com Website: www.cihmct.com</p>	<p>6 Institute of Hotel Management, CIT Campus, TTTI-Tharamani- P.O., Chennai – 600113 Tel.: 044-22542029 ; Fax: 044- 22541615 E-mail: ihmchen@dataone.in Website: www.ihmchennai.org</p>
<p>7 Institute of Hotel Management, Near Tapeakeshwar Temple Garhi Cantt. Dehradun Ph:0135- 2550272 FAX: 2550271 E-mail – ihmdehradun@gmail.com Website: www.ihmddn.com</p>	<p>8 Institute of Hotel Management, Library Avenue, Pusa Complex, New Delhi – 110012 Tel.: 011-25842429 / 25840147 Fax: 011-25843177 E-mail: ihmpusa@rediffmail.com Website: www.ihmpusa.net</p>
<p>9 Delhi Institute of Hotel Manage- ment, Behind Lady Sriram College, Lajpat Nagar IV, New Delhi – 110024 Tel.: 011-26435883 FAX: 26422174 E mail: dihm_lpjng@ yahoo.co.in Website:</p>	<p>10 Institute of Hotel Management, Bhaijipura Patia Kудasan, Gandhinagar –382 421 Tel.: 079-23276656/ 57 ; E- mail: principal@ihmahmedabad.com Website: ihmahmedabad.com</p>

11	Institute of Hotel Management, Dara Gaon, Tadong Gangtok – 737102 Tel.: 03592-270735 Fax: 03592-270557 E-mail: ihmgangtok@rediffmail.com Website: ihmgangtok.com	12	Institute of Hotel Management, Alto Porvorim, Bardez, Goa – 403521 Tel.: 0832-2417252 Fax: 0832-2417209 E-mail: ihmgoa@sancharnet.in Website: www.ihmgoa.nic.in
13	Institute of Hotel Management, Village Bariar, GT Road, Gurdaspur – 143521 Tel.: 01874-222501 Fax: 01874-222502 E-mail: ihmgsp@jla.vsnl.net.in Website: www.ihmgurdaspur.org	14	Institute of Hotel Management, VIP Road, Upper Hengrabari, Barabari, Guwahati – 781036 Tel.: 0361-2337245 FAX: 2337226 E-Mail: ihmctanghy@yahoo.com Website: www.ihmctanghy.org
15	Institute of Hotel Management Badkal Lake Crossing, Faridabad- 121001 Tel:0129-4052466 FAX: 0129-4052488 E-Mail : principal@ihmfaridabad.com Website: www.ihmfaridabad.com	16	Institute of Hotel Management, Airport Road, Maharajpur PO, Gwalior – 474020 Tel.: 0751-2471477, 2471250 Fax: 0751-2471230; E-mail: ihmgwl@bsnl.in Website: www.ihmgwalior.net
17	Institute of Hotel Management, Near Ramashish Chowk; Opp. State Circuit House Hazipur ,Vaishali (Bihar) Ph: 06224- 274937; 275354 Fax: 276486 E mail – ihmpatna1@bsnl.in Website: www.ihmhazipur.net	18	Institute of Hotel Management, F' Row, Durgabai Deshmukh Colony, Vidyanagar, Hyderabad – 500007 Tel.: 040-27427569 ; Fax: 040-27427898 E-mail: ihmhyderabad@rediffmail.com Website: www.ihmhyd.org
19	Institute of Hotel Management, Sikar Road, Jaipur – 302016 Tel.: 0141-2202812, Fax: 0141-2200402 E-mail: ihm_jpr@rediffmail.com Website: www.jaipurihm.com	20	Institute of Hotel Management, Govt. Polytechnic Campus, Jodhpur – 342001 Tel.: 0291-2616929 FAX : 2618929 E-mail: sihmjodhpur@rediffmail.com Website: www.ihmjodhpur.com
21	Institute of Hotel Management, P-16, Taratola Road, Kolkata – 700088 Tel.: 033-24014218 Fax: 033-24014281 E-mail: ihmcal@vsnl.net Website: www.ihmkolkata.com	22	State Institute of Hotel Management Jyotisar, Near Kalpana Chawla Planetarium Kurukshetra. Ph: 01744-238766 FAX : 01744-238768 E-mail : principal@ihmkk.com Website: www.ihmkk.com

23	State Institute of Hotel Management Govt. Guesthouse Compound, West Hills , Kozhikode - 673005 Ph: 0495-2385861 ;Mob:09446455653 FAX : 2385863 E-mail : sihmcalicut@gmail.com Website: www.sihmkerala.com	24	Institute of Hotel Management, Seed Farm, Sector G, Aliganj, Lucknow – 226024 Tel.: 0422-2326772 Fax:2326772 E-mail: ihm@sancharnet.in Website: www.ihmlucknow.com
25	Institute of Hotel Management, Veer Sawarkar Marg, Dadar (W), Mumbai – 400028 Tel.: 022-24457241 / 24457242 Fax: 022-24449779 E-mail: admin@ihmctan.edu Website: www.ihmctan.edu	26	Institute of Hotel Management, “Lumpyngad”, Bishop Cotton Road, Shillong – 793001 Tel.: 0364-2503505 FAX: 2501616 E-mail: ihmshill@yahoo.co.in Website: www.ihmshill.org
27	Institute of Hotel Management, Kufri, Shimla – 171012 Tel.: 0177-2648197 Fax: 0177- 2648208; E-mail: ihmkufri@yahoo.com ; Website: www.ihmshimla.com	28	Institute of Hotel Management, Rajbagh, Srinagar – 190008 Tel.: 0194-2312234 Fax: 2311652 ; E-Mail: ihmsgr2004@yahoo.co.uk Website: www.ihmsrinagar.org
29	Institute of Hotel Management, G.V.Raja Road, Kovalam PO, Thiruvananthapuram – 695527 Tel.: 0471-2480283 FAX: 2480078 E-Mail : ihmctkov@dataone.in Website: www.ihmctkoyalam.org	30	State Institute of Hotel Management Growth Center, Mansa Road, Bhatinda, Punjab
31	State Institute of Hotel Management Hamirpur C/o Director (Tourism), SDA Complex Block No. 28, Kasumpati, Shimla- 09 Ph: 0177- 2625864 email: tourismmin-hp@nic.in		



INTRODUCTION

Animal husbandry is the agricultural practice of breeding and raising livestock.

Content

Diagnosis of diseases of birds and animals, timely vaccination to prevent diseases, scientific breeding etc are the area of activity of veterinarians.

Nature of Work

The job profile of veterinarians is probably much more than that of a general physician or a surgeon. Those handling domestic pets have to keep in mind the owner's attachment to the pet and provide individual attention and care. In farm animal practice, vets are concerned not only with treating animals which are owner's investment, but also with advising on the well-being and productivity of the entire stock.

Personal Traits

- They should have scientific temper, willingness to work hard, commitment, an enquiring mind and cleanliness.
- They must be prepared to live in remote areas, or far away from the comforts and conveniences of the city.

A veterinarian should have a genuine love for animals. Aptitude and interest in the biological sciences are important. Scientific learning and undertaking of animals is required.

Working with large animals requires physical stamina and quick body reflexes to tackle the animal's moody behaviour. Other qualities are:- ability to inspire confidence in animals; power of observation and self-reliance; adaptability; indifference to the occasionally disagreeable conditions of work; the ability for team work.

Job Prospectus

Experts can get employment in central and state departments of animal husbandry, veterinary hospitals, clinics, colleges, diary farms, zoological parks, wild life sanctuaries and also in different job avenues.

After a student graduates as a vet, he/she can opt for a Post Graduation or Ph.D. in specialized areas like surgery, andrology or medicine, or take up the job of a livestock development officer. A veterinarian can also join dairy and poultry farms as a doctor or become a marketing officer for a pharmaceutical company.

Wildlife and zoo veterinarians promote natural ecology and cater to the health problems in wildlife in zoos, national parks and wildlife sanctuaries.

Army veterinarians can work as officers of the Remount Veterinary corps.

- ◆ **Hospitals**
- ◆ **Extension Officers**
- ◆ **Dairy Sector**
- ◆ **Pharmaceutical Companies**
- ◆ **Wildlife and Environment**

B.Sc. Animal Husbandry and Dairying Job Types

- Veterinary Officer
- Technology Consultant
- Assistant Sales Manager & Sales Manager
- Asst. Manager (Export) - Dairy Products
- Area Sales Manager
- Sales Executive - Dairy
- Junior Officer Logistics - Dairy Division
- Sales Executive - Fresh Dairy
- Head - Production & Quality Assurance
- Head Quality Control (QC) - FMCG
- Market Development Manager
- Institutional Sales / Business Development Manager

Trends

Veterinary science and animal husbandry is the growing field in the job market.

Branches

- Poultry Science
- Animal Nutrition
- Pathology
- Parasitology
- Surgery
- Animal Reproduction
- Genetics
- Feed and fodder technology

Competitive Exams

All india pre-veterinary science (AIPVT)

Institutes

B V Sc & A H 5 ½ yrs

College of Veterinary Science in Mannuthy, Thrissur/Pookkode, Wayanad/Hebbal, Bengaluru/Vidar, Karnataka/Tirupati, A P/Acharya N G Ranga Agri. University, Hyderabad/T N Veterinary and Animal Science College, Chennai

M V Sc

- ◆ College of Veterinary Science in Mannuthy, Thrissur/Hyderabad, Andhra Pradesh/Guwahati, Assam/Ranchi, Jharkhand/Patna, Bihar/ Anand, Gujarat/Mumbai, Maharashtra/Ludhiana, Punjab/Bikaner, Rajasthan/Chennai, Tamil Nadu/Mathura, Uttar Pradesh/Pantnagar, Uttar Pradesh/Calcutta

Eligibility for Allied Science Courses

- To pursue a B.Sc. (Agriculture/Fisheries/B.F.Sc./fisheries/diary/veterinary)degree, a candidate needs to be 10+2 pass in science stream with Physics, Chemistry and Biology as subjects.
- The candidate also needs to qualify AIEEA conducted by ICAR (Indian Council of Agricultural Research), New Delhi, or State/ Institution level entrance test to get admission in various Institutes.

Age limit is Minimum 17 Years and relaxation is allowed for OBC/SC/ST in maximum age limit.

For BVSc. 15% seats are appointed by ICAR, remaining by entrance (KEAM etc)

MSc.

- Graduation in concerned subjects

Entrance Exam by KAU (Kerala Agriculture University) and ICAR (Indian Council for Agriculture Research)

