

ഹയർ സെക്കൻഡറി  
ഡയറക്ടറുടെ കാര്യാലയം,  
ഹൗസിംഗ് ബോർഡ്  
ബിൽഡിംഗ്, ശാന്തി നഗർ,  
തിരുവനന്തപുരം.

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തീയതി : 06/11/2017

**സർക്കുലർ**

ഹയർ സെക്കൻഡറി പ്രാക്ടീക്കൽ വിഷയങ്ങളുടെ സിലബസുകളിൽ മാറ്റങ്ങളുള്ളത് DHSE പോർട്ടലിൽ പ്രസിദ്ധീകരിച്ചിട്ടുള്ളതാണ്. മാറിയ സിലബസിനനുസരിച്ച്, മുഴുവൻ പ്രവൃത്തികളും വിദ്യാർത്ഥികൾക്ക് നൽകാതിരിക്കുന്നത് ശ്രദ്ധയിൽപ്പെട്ടിട്ടുണ്ട്. ഈ സാഹചര്യത്തിൽ ചുവടെ ചേർത്തിരിക്കുന്ന 19 പ്രാക്ടീക്കൽ വിഷയങ്ങളുടെ സിലബസുകൾ എല്ലാ അധ്യാപകരുടെയും അറിവിലേയ്ക്കായി പുന:പ്രസിദ്ധപ്പെടുത്തുന്നു.

<u>വിഷയങ്ങൾ</u>		10.	COMMUNICATIVE ENGLISH
1.	PHYSICS	11.	ELECTRONICS
2.	CHEMISTRY	12.	HOME SCIENCE
3.	BOTANY	13.	GEOLOGY
4.	ZOOLOGY	14.	PSYCHOLOGY
5.	GEOGRAPHY	15.	SOCIAL WORK
6.	COMPUTER SCIENCE	16.	STATISTICS
7.	COMPUTER APPLICATION (COMMERCE)	17.	GANDHIAN STUDIES
8.	COMPUTER APPLICATION (HUMANITIES)	18.	JOURNALISM
9.	COMPUTERISED ACCOUNTING	19.	MUSIC

ഒപ്പ്

ജോയിന്റ് ഡയറക്ടർ (അക്കാഡമിക്) &  
ഡയറക്ടർ (ഇൻചാർജ്ജ്)

## **PHYSICS - Syllabus ( Practicals)**

**Total Periods 60 (Section A)**

### **Experiments**

1. To find resistance of a given wire using metre bridge and hence determine the specific resistance of its material.
2. To determine resistance per cm of a given wire by plotting a graph of potential difference versus current.
3. To verify the laws of combination (series/parallel) of resistances using a metre bridge.
4. To compare the emf's of two given primary cells using potentiometer.
5. To determine the internal resistance of given primary cell using potentiometer.
6. To determine resistance of a galvanometer by half-deflection method and to find its figure of merit.
7. To convert the given galvanometer (of known resistance of figure of merit) into an ammeter and voltmeter of desired range and to verify the same.
8. To find the frequency of the ac mains with a sonometer.

### **Activities**

1. To measure the resistance and impedance of an inductor with or without iron core.
2. To measure resistance, voltage (ac/dc), current (ac) and check continuity of a given circuit using multimeter.
3. To assemble a household circuit comprising three bulbs, three (on/off) switches, a fuse and a power source.
4. To assemble the components of a given electrical circuit.
5. To study the variation in potential drop with length of a wire for a steady current.
6. To draw the diagram of a given open circuit comprising at least a battery, resistor/rheostat, key, ammeter and voltmeter. Mark the components that are not connected in proper order and correct the circuit and also the circuit diagram.

### **EXPERIMENTS (Section B)**

1. To find the value of  $v$  for different values of  $u$  in case of a concave mirror and to find the focal length.

2. To find the focal length of a convex mirror, using a convex lens.
3. To find the focal length of a convex lens by plotting graphs between  $u$  and  $v$  or between  $1/u$  and  $1/v$ .
4. To find the focal length of a concave lens, using a convex lens.
5. To determine angle of minimum deviation for a given prism by plotting a graph between the angle of incidence and the angle of deviation.
6. To determine refractive index of a glass slab using a travelling microscope.
7. To find refractive index of a liquid by using (i) concave mirror, (ii) convex lens and plane mirror.
8. To draw the I-V characteristics curves of a p-n junction in forward bias and reverse bias.
9. To draw the characteristics curve of a zener diode and to determine its reverse break down voltage.
10. To study the characteristics of a common-emitter npn or pnp transistor and to find out the values of current and voltage gains.

#### **Activities**

1. To identify a diode, an LED, a transistor, and IC, a resistor and a capacitor from mixed collection of such items.
2. Use of multimeter to (i) identify base of transistor, (ii) distinguish between npn and pnp type transistors, (iii) see the unidirectional flow of current in case of a diode and an LED, (iv) check whether a given electronic component (e.g. diode, transistor or IC) is in working order.
3. To study effect of intensity of light (by varying distance of the source) on an LDR.
4. To observe refraction and lateral deviation of a beam of light incident obliquely on a glass slab.
5. To observe polarization of light using two polaroids.
6. To observe diffraction of light due to a thin slit.
7. To study the nature and size of the image formed by (i) convex lens (ii) concave mirror, on a screen by using a candle and a screen (for different distances of the candle from the lens/mirror).
8. To obtain a lens combination with the specified focal length by using two lenses from the given set of lenses.

## Guidelines for Practical Physics

As Physics is a basic science, Experimental Physics is highly significant in the higher secondary level. A minimum of 10 experiments must be performed by each student with at least one experiment from each of the following section.

<i>Year</i>	<i>Section</i>	<i>Units as per NCERT Theory Text Book</i>	<i>Minimum No. of Expt. to be performed</i>	<i>Minimum Expts. to be performed in the year.</i>
First Year	1	1, 2	1	10
	2	3, 4, 5, 6	1	
	3	7, 8	1	
	4	9, 10	1	
	5	11, 12, 13	1	

Students must be provided ample opportunities to be familiar with maximum number of apparatus and scientific principles through practical physics.

Performing experiments using same apparatus / principle and recording them as different experiments should be avoided. Eg. (i) Find the volume of given sphere using Vernier Calipers and (ii) Determine the density of rectangular block using Vernier Calipers can not be recorded as two separate experiments.

### **Physics Practical Log Book**

The experiments performed by the student must be recorded in the log book. The student should be encouraged to draw the tabular column and write the aim, principle, and procedure of the experiment before performing the experiment in the lab and the certified logbook should be submitted for practical examination. A single logbook should be used for first and second year. A minimum of 22 experiments should be recorded in the practical log book.

### **Higher Secondary Practical Examination**

An internal practical examination should be conducted at the end of HSE first year for a maximum 20 scores. Certified log book should be submitted

for this internal examination also. Duration of the examination is 1½ hrs. This score should be considered for second year CCE.

**Score Distribution**

SI No.	Item	Score
1.	Principle and theory	5
2	Setting up of apparatus	2
3	Performance of the experiment	6
4	Result in SI units/ conclusion	4
5	Ascertaining the awareness of concepts	1
6	Record	2
	Total marks for one Expt.	20

Two experiments should be done at the time of practical board examination (One experiment from Plus One and other from second year). The total marks for practical board examination is 40.

## Scheme of work

Chapter	Month	Chapters	Periods	Weight of Score
1	June	Electric Charges and Fields	14	4
2	June July	Electrostatic Potentials and Capacitors	11	4
3	July	Current Electricity	22	6
4	August	Moving Charges and Magnetism	18	5
5	August	Magnetism and Matter	7	3
6	September	Electromagnetic Induction	8	3
7	October	Alternating Current	12	4
8	October	Electromagnetic Waves	4	2
9	October November	Ray Optics and Optical Instruments	20	7
10	November	Wave Optics	10	4
11	November	Dual Nature of Matter and Radiation	8	3
12	December	Atoms	8	3
13	December	Nuclei	10	4
14	January	Semiconductor Electronics: Materials, Devices and Simple Circuits	18	5
15	January	Communication Systems	10	3
<b>Total</b>			<b>180</b>	<b>60</b>
	February	Revision		

### Physics Practicals

Term	Units	Experiments	Periods	Remarks
1	Current Electricity	Experiments 1 to 8  (From Section A)	30	Any 12 Experiments from both Section A and Section B
	Moving Charges and Magnetism			
	Magnetism and Matter			
Alternating Current	Experiments 1 to 10  (From Section B)	30		
Ray Optics and Optical Instruments				
2	Semiconductor Electronics: Materials, Devices and Simple Circuits			
3	Model Practical Exam			

Note:

1. A minimum of 10 experiments should be done from Plus1 Practicals and an internal Practical Examination should be conducted at the end of First year course.
2. A minimum of 22(10+12) Experiments should be done from both Plus1 and Plus2 Practicals.

## Guidelines for Higher Secondary Practical Evaluation 2016-17

### Chemistry (Class XII)

Laboratory work plays a crucial role in the proper assimilation of concepts in science. As we follow outcome focussed assessment approach in the evaluation process in the Kerala School Curriculum 2013, term end evaluation becomes an important aspect of assessment. Along with term end evaluation at the end of the academic year, practical evaluation (PE) is also to be conducted. The skill in performing qualitative and quantitative analysis is to be assessed through PE. The following are the guidelines to be followed while conducting PE:

- Sufficient number of apparatus is to be provided to the students.
- The apparatus should be of good quality brands.
- Sufficient number (at least 30) of standardised and calibrated apparatus should be kept aside for conducting PE.
- A minimum of 8 salts (those soluble in water) for systematic analysis of anion & cation should be given to the students.
- A minimum of 6 single titrations (Acidimetry -2, Alkalimetry – 2, Permanganometry - 2) should be given for volumetric analysis.
- The Practical Log book should contain all the necessary recording related to the first year and second year practical syllabi collectively.

[Minimum requirements in the Practical Log book: Basic laboratory techniques, reactions of anions and cations, salt analysis of 8 salts (anion & cation), 6 single titrations, physical chemistry experiments (minimum 2), reactions of organic compounds (Aldehydes, Ketones, Phenol, Aniline, Carboxylic Acids), identification of functional groups (minimum 5)].

- Required facilities should be arranged in the laboratory for students demanding special attention because of deformities.
- The score distribution (detailed split up appended) should be as follows:

○ Qualitative Analysis (Anion & Cation Analysis)	– 13 scores	} 40 scores
○ Organic Analysis (Detection of functional group)	– 6 scores	
○ Quantitative Analysis (Single Titration Only)	– 12 scores	
○ For writing principle & procedure for Quantitative Analysis	– 3 scores	
○ Practical Log book	– 4 scores	
○ Viva voce	– 2 scores	
- The viva voce should be done for ascertaining the awareness of concepts related to the practical. It should not create tension to the students. It should be a casual interaction with the students through simple questions related to practicals only to check whether he/she has conceptual clarity in the given work.

# Scheme of Work for Practical Evaluation

## Class – XII

## CHEMISTRY

### Detailed Split up of Scores:

#### 1. Practical Log book

##### Scores

a. Basic laboratory techniques	-	½
b. Physical Chemistry Experiments (two)	-	½
c. Reactions of anions and cations	-	½
d. Salt analysis (8 salts)	-	½
e. Reactions of Organic compounds	-	½
f. Identification of Functional group of organic compounds (5 functional groups – Carboxylic acid, Phenol, Aniline, Aldehyde and Ketone)	-	½
g. Volumetric Analysis (Acidimetry -2, Alkalimetry – 2, Permanganometry - 2)	-	1
2. Viva Voce (Ascertaining the awareness of concepts related to the practical through simple questions informally)	-	2
3. Qualitative Analysis		
a. Anion		
i. Identification test (One test)	-	3
ii. Confirmatory test (One test)	-	3
b. Cation		
i. Identification of group (One test)	-	2
ii. Identification of cation (One test)	-	2
iii. Confirmatory test (One test)	-	3
4. Functional group analysis of organic compound		
a. Identification of functional group (One test)	-	3
b. Confirmation of functional group (One test)	-	3
5. Quantitative Analysis (Single Titration)		
a. Tabulation and recording	-	2
b. Calculation		
i. Normality of standard solution	-	1
ii. Normality of solution to be estimated	-	1
iii. Correct equivalent masses	-	1
iv. Correct calculation of the result with unit	-	2
c. Correct reading of result		

- i. Error within 1% (Full score) - 5
- ii. Error up to 1% - 4
- iii. Error up to 2% - 3
- iv. Error above 2% - 2

6. For writing the principle and procedure for quantitative analysis

- a. For writing the balanced chemical equation - 1
- b. Procedure

Solution in pipette	½
Solution in burette	½
Indicator used	½
Colour change	½

**Note:**

- i. *The procedure for qualitative analysis should be obtained in detail.*
- ii. *The student need not weigh the substance. The standard solution for estimation should be provided by the examiner.*
- iii. *The student has to make up the solution for estimation.*
- iv. *Systematic analysis should be followed in inorganic and organic analysis.*
- v. *Normality may be used as the concentration for volumetric analysis.*

# Sample Question Paper for Practical Evaluation

HIGHER SECONDARY PRACTICAL EXAMINATION (2016 – 17 ONWARDS)

Subject: **CHEMISTRY**

**Maximum Score: 40 Time: 3 Hours**

1. Estimate the mass of Oxalic acid in the whole of the given solution. You are provided with a standard solution of  $\text{KMnO}_4$  containing 3.16g/L. **(Score: 12)**
  2. Briefly write the principle and procedure for the above estimation within first 5 minutes. **(Score: 3)**
  3. Analyse the given salt and identify and confirm systematically the anion and cation present in it. **(Score: 13)**
  4. Analyse the given organic compound and identify and confirm the functional group present in it. **(Score: 6)**
  5. Viva voce  
(Informal simple Questions to know awareness on practical). **(Score: 2)**
  6. Practical Record **(Score: 4)**
-

## Practical (Total Periods - 30)

### SCHEME OF PRACTICAL EXAMINATION

#### 1. A. Dicot stem, Monocot stem, Dicot root, Monocot root

Preparations-2, Diagram -1, Labelling-  $\frac{1}{2}$  (at least two main parts), Identification-  $\frac{1}{2}$ , Reason-1 (two features for stem/root and other two for dicot/monocot).

#### 2. B. Vegetative propagules

Bulb, Offset, Rhizome, Runner, Sucker, Tuber (any five propagules should be provided) Name of propagule -  $\frac{1}{2}$ , which part modified -  $\frac{1}{2}$ , Labelling- 1 (at least two parts).

3. C. Microscopic slides (Oscillatoria, Rhizopus, Spirogyra, Moss-protonema, Fern-prothallus) Macroscopic specimens (Agaricus, Sargassum, Funaria-gametophyte with sporophyte, Nephrolepis-sporophyte, Pinus male cone and Female cone), Any three microscopic and macroscopic specimen should be provided. Name of specimen and its specified part -  $\frac{1}{2}$  any one reason for its identification-  $\frac{1}{2}$ .

D. Photograph of Bioreactor, Bt cotton, Cloning vector (identification-  $\frac{1}{2}$ , any one reason for its identification-  $\frac{1}{2}$ ).

4. E. Identification of any one stage of mitosis from the permanent slide mounting (use pointer eye piece) (Identification of given stage  $\frac{1}{2}$  any one reason for its identification-  $\frac{1}{2}$ ).

5. F. Physiological experiments (as per syllabus) (at least five experiments should be provided) Aim of experiment-  $\frac{1}{2}$ , diagram-  $\frac{1}{2}$ , labelling-  $\frac{1}{2}$ .

6. G. Single flower and LS of flower (should be mounted on dissection microscope) belongs to fabaceae, solanaceae and liliaceae should be provided for each batch to construct the floral formula-  $1\frac{1}{2}$ .

7. **H.** Lichen ,Cuscuta/Loranthus,Epiphyte( identification of interaction-1 description-1).

8. **I.** Anther should be provided to take C.S.

Section-  $\frac{1}{2}$ , diagram-1( diagrammatic sketch of four lobed anther CS/ cellular diagram of a single lobe) labelling- $\frac{1}{2}$ ( any two parts).

9. Ask simple questions informally related to the physiological experiments done-1.

**10. Practical diary-2.**

\* Issue individual materials for Q.no.1A and 8.I

\* Give separate answer sheet for answering spot at sight ,the material C, D, E (mitosis )and collect the answer sheet immediately after answering.

**HIGHER SECONDARY PRACTICAL EXAMINATION  
BOTANY**

**HSE-II**

**Time: 1½ Hrs**

**Total score: 20**

1. Prepare a T.S of the given specimen A and identify giving reasons. Draw the ground plan and label the parts. Leave the preparation for valuation. Score 5
- |                  |      |
|------------------|------|
| Preparation      | - 2  |
| Labelled diagram | - 1½ |
| Identification   | - 1½ |
| Reason           | - 1  |
2. Observe the given specimen B. Score 2
- |                                   |     |
|-----------------------------------|-----|
| (a) Name the vegetative propagule | - ½ |
| (b) Which plant part is modified  | - ½ |
| (c) Draw a neat labelled diagram  | - 1 |
3. Identify the material C and D at sight by giving reasons. Score 2
- |                |             |
|----------------|-------------|
| Identification | - ½ x 2 = 1 |
| Reason         | - ½ x 2 = 1 |
4. Identify the given stage E of mitosis and give reasons. Score 1
- |                |     |
|----------------|-----|
| Identification | - ½ |
| Reason         | - ½ |
5. Write the aim of the experiment F. Draw and label the parts. Score 1½
- |                  |     |
|------------------|-----|
| Aim              | - ½ |
| Labelled diagram | - 1 |

6. Construct the floral formula of the given flower **G**  
Score 1½
7. Write down the ecological interaction of the specimen **H**  
Score 2
8. Prepare a C.S. of the given specimen **I** . Draw diagram and label any two parts. Leave the preparation for valuation.  
Score 2
- Section - ½  
Labelled diagram - 1½
9. Ascertaining the awareness of concepts related to the experiment  
Score 1
10. **Practical diary** Score 2

## PRACTICAL EVALUATION(PE)

### HIGHER SECONDARY EDUCATION FOR THE SUBJECT ZOOLOGY

Outcome focused assessment approach is followed at Higher Secondary level. Here we give importance to continuous evaluation (CE), term evaluation (TE) and practical evaluation (PE). For the subject Zoology, practical internal evaluation is compulsory. Following are the general guidelines to be followed while conducting the practical evaluation.

#### GENERAL GUIDELINES

- The practical and theory classes should be conducted simultaneously as a part of teaching learning process.
- Only internal practical evaluation will be conducted in class XI.
- A proper record of the experiment done and practical work carried out should be maintained at "*practical log*" (The book which is used by the learner from first year onwards in the lab for entering observations and calculations regularly)
- The "*practical log*" should be submitted at the time of internal practical evaluation.
- The "*practical log*" should be signed by the concerned teacher in a regular manner.
- There should be a clear cut separation of the entries for the XI and XII class of the practical records in a single "*practical log*".
- Rough "*practical log*" not needed. Only one fair "*practical log*" is enough for recording class XI and XII.
- Diagrams are to be drawn to substantiate the lab work.
- At the end of the first year, the internal evaluation of the practical work of Zoology will be conducted.
- The internal evaluation scores given by the teacher will be entered as practical evaluation of CCE (Continuous & Comprehensive Evaluation).
- An internal examination should be conducted during December of the current academic year.
- External evaluation of the practical work will be done at the end of second year.

- External evaluation of the practical work at the end of second year will include the practical works of first year also.
- No dissection of live animals. The student has to draw the diagram of the system that is displayed or projected.
- The time allotment of practical work for one batch is 1 hour for class XI and 1<sup>1</sup>/<sub>2</sub> hours for class XII.
- The teacher may check the content knowledge of the learner through oral question (viva-voce) limited to the particular PE examination.
- The internal score for PE of class XI Zoology is limited to 10.
- For Class XI, the 10 scores are distributed to the practical work and "*practical log*" only.
- For Class XII, practical as per question paper = 17 Scores. Viva - 1 Score, Practical Log - 2 Score. Total - 20 Score.
- The distribution of the score of internal evaluation is given in the scheme of practical evaluation.
- The internal evaluation scores given by the teacher will be entered as practical evaluation (PE) score of the learner.
- PE should be conducted in batches as in the external practical evaluation for the second year students. The maximum no of students in each batch is limited to 15.
- Students must attend the PE with "*practical log*". It should contain all the necessary recording related to the first year practical syllabus.
- Splitted score should be entered in main answer.
- Scheme of examination and mode of evaluation shall be prescribed along with the practical syllabus which shall be strictly followed.

## SCHEME OF ZOOLOGY PRACTICAL EVALUATION- CLASS XI & XII

### Instruction

- All the items are compulsory.
- Total period - 60
- Time duration -1 hour for class XI & 1½ hours for class XII (PE Examination)
- Class XI - Score 10
- Class XII - Score 20
- The materials needed will be provided in the Centre

### LIST OF PRACTICALS FOR CLASS XI

#### 1. Invertebrate Animals

- Identification of an invertebrate animal through chart/model

[Hydra, Liver Fluke, Ascaris, Leech, Earthworm, Prawn, Silkworm, Honeybee, Snail, Starfish]

#### 2. Vertebrate Animals

- Identification of a vertebrate animal through chart/model.

[Rohu, Frog, Lizard, Pigeon, Rabbit]

#### 3. Morphology & Anatomy

Draw the diagram of the system as displayed or projected

- Mouth parts of cockroach
- Digestive System of cockroach

#### 4. Physiology

- Identification of models

[Heart,Lung, Kidney, Brain, Eye, Ear]

### 5. Histology

- Identification of different types of muscles through permanent slides

[Striated muscle,Non-striated muscle,Cardiac muscle]

### 6. Osteology

- Identification of joints

[Types and Peculiarities]

- Ball & Socket Joint, HingeJoint, PivotJoint, Gliding Joint

### 7. Biochemical Experiment

- Demonstration of digestion of starch by salivary amylase.

[At room temperature, On heating]

- Identification of presence of starch,glucose,protein,fat.[Detect them in suitable plant and animal material]
- Identification of presence of sugar,albumin,bilesalts,urea in urine sample.

### 8. Slide Preparation

- Preparation of temporary stained slides

[Human Cheek Epithelium,Human Blood Smear]

## LIST OF PRACTICALS FOR CLASS XII

### 9. Embryology

- Identification of embryological slides

[T.S of ovary, T.S of testes & T.S of blastula through permanent slides]

### 10. Genetics

- Study of Mendelian inheritance using seeds of different colors.
- Study prepared pedigree charts of any one of the genetic traits such as rolling of tongue, blood groups, ear lobes, widow's peak and color blindness.

### 11. Evolution

- Study analogous and homologous organs in various animals

[Using Charts]

## 12. Common Human Diseases

- To identify common human disease causing organisms like Ascaris, Entamoeba, Plasmodium & Ringworm.

[Using slide or diagram]

# HIGHER SECONDARY PRACTICAL EXAMINATION

HSE I

ZOOLOGY

TIME: 1 HOUR

TOTAL SCORE: 10

## Instruction

- All the items are compulsory.
- The materials needed will be provided in the Centre.

1. Identify the given invertebrate animal. [SCORE-1]

Write one identifying character/one economic importance/one adaptation.

Identification - 1/2 Score

One Value Point- 1/2 Score

2. Identify the given vertebrate animal, [SCORE-1]

Write one identifying character/one economic importance/one adaptation

Identification - 1/2 Score

One Value Point- 1/2 Score

3. Identify the slide of given tissue. Sketch and label two parts. [SCORE-1]

Identification - 1/2 Score

Sketch and Labelling- 1/2 Score

4. Identify the given model. Name the marked part. Write one physiological function.

[SCORE-1]

Identification- 1/2 Score

Function - 1/2 Score

5. Identify the type of joint. Write one peculiarity. [SCORE-1]

Identification - 1/2 Score

One Value Point- 1/2 Score

6. Draw the digestive system of cockroach. Label four parts. [SCORE- 1<sup>1</sup>/<sub>2</sub>]

OR

Draw the mouth parts of cockroach. Label four parts

Diagram-1 Score

Label -1/2 Score

7. Two samples A & B are given. Identify the samples with glucose /protein /starch / albumin/bile salts/urea.

OR

Two urine samples A & B are given. Identify the sample using the reagent provided.

OR

Two urine samples A & B are given. Identify the urine of diabetic patient from the samples. [SCORE - 1<sup>1</sup>/<sub>2</sub>]

Experiment - 1/2 Score

Procedure - 1/2 Score

Result -1/2 Score

8. Prepare a stained slide of your cheek epithelium. Draw and label one part of a single cell.

OR

9. Prepare a thin film of your blood smear on a slide. Identify one cell. Draw and label. [SCORE -2]

Slide Preparation - 1 Score

Diagram- - 1/2 Score

Labelling - 1/2 Score

# HIGHER SECONDARY PRACTICAL EXAMINATION

HSE II

ZOOLOGY

TIME: 1½ HOURS

TOTAL SCORE: 20

## Instruction

- All the items are compulsory.
- The materials needed will be provided in the Centre.
- Preparation time - 10 minutes.

1. Identify the given invertebrate animal. [SCORE-1]

Write one identifying character/one economic importance/one adaptation.

Identification - ½ Score

One Value Point- ½ Score

Time - 4 minutes.

2. Identify the given vertebrate animal. [SCORE-1]

Write one identifying character/one economic importance/one adaptation

Identification - ½ Score

One Value Point- ½ Score

Time - 4 minutes.

3. Identify the slide of given tissue. Sketch and label two parts. [SCORE-2]

Identification -1Score

Sketch and Labelling - ½ + ½= 1 Score

Time -7 minutes

4. Identify the given model or Name the marked part. Write one physiological function.

[SCORE-1]

Identification - ½ Score

Function - ½ Score

Time - 4 minutes.

5. Identify the type of joint. Write one peculiarity. [SCORE-1]

Identification -  $\frac{1}{2}$  Score

One Value Point -  $\frac{1}{2}$  Score

Time - 4 minutes

6. Draw the digestive system of cockroach. Label four parts. [SCORE-3]

OR

Draw the mouth parts of cockroach. Label four parts

Diagram-1 Score

Label four parts -  $\frac{1}{2} \times 4 = 2$  Score

Time - 15 minutes.

OR

Identify one analogous and one homologous organ from the given chart and write one peculiarity. (Vertebrate heart and vertebrate brain/fore limbs of whale and fore limbs of cheetah and wings of butter fly and wings of birds)

Identification - 2 score

Peculiarity - 1 score

7. Two samples A & B are given. Identify the samples with glucose / protein / starch / bile salts / urea.

OR

Two urine samples A & B are given. Identify the presents of albumin in the sample using the reagent provided.

OR

Two urine samples A & B are given. Identify the urine of diabetic patient from the samples. [SCORE-2]

Experiment - 1Score

Procedure -  $\frac{1}{2}$  Score

Result -  $\frac{1}{2}$  Score

Time - 15 minutes

8. Prepare a stained slide of your cheek epithelium. Draw and label one part of a single cell.

OR

Prepare a thin film of your blood smear on a slide. Identify one cell. Draw and label.

[SCORE-2]

Slide Preparation - 1 Score  
Diagram (RBC & one WBC) - 1 Score  
Time - 15 minutes

9. Identify the pathogen, name the disease caused by it and write one symptom

[SCORE-2]

Identification -  $\frac{1}{2}$  Score  
Disease -  $\frac{1}{2}$  Score  
Symptom - 1 Score  
Time - 4 minutes

10. Identify the given embryology slide. Sketch and label one part.  
(T.S of Testis/Ovary/Blastula of human)

[SCORE-2]

Identification -  $\frac{1}{2}$ Score  
Sketch and Labelling -  $1 + \frac{1}{2} = 1\frac{1}{2}$  Score  
Time - 7 minutes

11. Viva-Voce

[SCORE-1]

Time - 1 minute

12. Practical Log

[SCORE-2]

# HIGHER SECONDARY PRACTICAL EXAMINATION 2016-17

HSE-II

ZOOLOGY

TIME: 1 ½ HOURS

SCORE:20

## Instructions

- All the questions are compulsory
  - The materials needed will provided in the Centre
  - Preparation time 10 minutes
1. Identify the given picture/photograph of the invertebrate animal Score: 1  
Write one identifying character/one economic importance/one adaptation  
Identification: ½      One value point : ½      **Time: 4 minutes**
  2. Identify the given picture/photograph of the vertebrate animal Score: 1  
Write one identifying character/one economic importance/one adaptation  
Identification: ½      One value point : ½      **Time: 4 minutes**
  3. Identify the slide of given tissue. Sketch and label two parts Score:2  
Identification : 1      Sketch and labeling : ½ + ½ = 1      **Time: 7 Minutes**
  4. Identify the given model or Name the marked part. Write one physiological function. Score:1  
Identification : ½      Function : ½      **Time: 4 Minutes**
  5. Identify the type of joint. Write one peculiarity. Score:1  
Identification : ½      One value point : ½      **Time: 4 Minute**
  6. Draw the digestive system of cockroach. Label four mentioned parts Score:3  
**OR**  
Draw the mouth parts of cockroach. Label four parts  
Diagram :1      Label four parts: ½ x 4= 2      **Time: 15 minutes**
  7. Two samples A and B are given. Identify the sample with glucose/protein/starch/bile salts/urea Score:2  
**OR**  
Two urine samples A and B are given. Identify the presence of albumin in the sample using the reagents provided  
**OR**  
Two urine samples A and B are given. Identify the urine of diabetic patient from the samples using the reagents provided  
Experiment: 1 Procedure: ½ Result : ½      **Time: 15 minutes**
  8. Prepare a stained slide of your cheek epithelium. Draw and label one part of a cell. Score:2  
**OR**  
Prepare a thin film of your blood smear on a slide. Identify any one cell. Draw and Label.  
Slide Preparation : 1      Diagram: ½      Labeling : ½      **Time: 15 minute**
  9. Identify the pathogen, name the disease caused by it and write one symptom Score: 2  
Identification: ½      Disease : ½      Symptom : 1      **Time: 4 minute**  
**OR**  
Identify one analogous and one homologous organ from the given picture/chart and write one peculiarity ( Vertebrate heart and vertebrate brain/forelimbs of whale and cheetah/wings of butterfly and bird)  
Identification : 1      Peculiarity : 1
  10. Identify the given embryology slide. Sketch and label one part. Score: 2  
Identification : ½      Sketch and labeling : 1 + ½ = 1 ½      **Time: 7 minute**
  11. Certified Practical Diary Score:2
  12. Viva voce/awareness about experiments in zoology Time: 1 minute Score:1

# GEOGRAPHY PRACTICAL EVALUATION GENERAL GUIDE LINES

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Outcome focused assessment approach is followed at higher secondary level. The curriculum and assessment procedure for Higher Secondary level has been revised by giving importance to learner centered, process oriented activity based and value oriented. Both comprehensive and continuous assessment has been implemented to assess the proficiency of the learners at cognitive and socio emotional areas. As part of this geography practical is also revised by giving importance to learning outcomes. In the area of practical evaluation in geography, the scheme of evaluation, mode of evaluation and the weightage is revised without altering the syllabus. The general guidance given below are to be followed while conducting the evaluation of geography practical work.

1. The practical and theory classes should be conducted simultaneously as the part of teaching learning process with maximum integration.
2. Geography practical evaluation is restructured. The scheme of evaluation mode of evaluation and the weight of scores in geography practical is restructured but the syllabus must be followed without any change.
3. Geography scheme of practical evaluation is restructured in four different methods such as: - on the spot, drawing, calculation and computer aided
4. A proper record of all the practical work carried out in class XI and XII should be maintained and it will be assessed only in the calss XII practical examination.
5. A field work should be conducted based on the cases given in the chapter 5 of part II Geography practical textbook.
6. The total score for the PE is distributed as -

practical examination	-	32 scores
field survey report	-	2 scores

record	-	4 scores
viva	-	2 scores
Total	-	40 scores

7. External evaluation of practical work will be done at the end of second year.
8. The practical assessment should be conducted in batches, which should not exceed 15 students.
9. Students must attend the practical evaluation with 'Practical Record' and Field Survey Report'. Practical record should contain all necessary recordings related to first and second year syllabus.
10. The practical record should be duly signed by the after the completion of each practical work.
11. Practical work of class XII should commence only after completing Part I and should be recorded accordingly in the record book.
12. At the end of class XI, an internal evaluation of practical work in geography will be conducted.
13. The score for internal practical evaluation for class XI is limited to 20. The time allotment of practical work for one batch is 1 ½ hour. This score will not be considered for final PE, it is only a part of internal evaluation.
14. The total score for external practical evaluation for class XII is 40 and the time allotted for one batch is 3 hours.
15. Scheme of evaluation, mode of evaluation and weightage of scores is given along with the syllabus which should be strictly followed.
16. Each school must have a Geography Laboratory with ample room for exhibiting the equipments for conducting practicals and to accommodate the students for practical sessions. The size specification of geography laboratory and the equipments required therein is appended.

# ANNUAL PLAN (PRACTICAL)

Class XI

Term	Month	Chapters	Name of Chapters
I	July	1	Introduction to Maps
		2	Map Scale
	August	3	Latitude, Longitude and Time
		4	Map Projections
II	September	4	Map Projections (continued ...)
	October	4	Map Projections (continued ...)
	November	5	Topographical Maps
	December	6	Introduction to Aerial Photographs
	January	6	Introduction to Aerial Photographs (continued ....)
III	February	7	Introduction to Remote Sensing
		8	Weather Instruments, Maps and Charts

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## ANNUAL PLAN (PRACTICAL)

Class XII

Term	Month	Chapters	Name of Chapters
I	June	1	Data - Its Source and Compilation
		2	Data Processing
	July	5	Field Surveys
II	Aug - Sep	3	Graphical Representation of Data
	Oct - Dec	4	Use of Computer in Data Processing and Mapping
III	Jan	6	Spatial Information Technology

# DETAILS OF PRACTICAL EVALUATION

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**Class XI & XII**

## **Modes of geography practical evaluation**

- On the spot.
- Drawing.
- Calculations.
- Computer aided.

**Note** : The modes of evaluation is identified according to the nature of unit of each class.

# LIST OF PRACTICAL FOR CLASS XI

---

## Unit I - Introduction to Maps

### On the spot.

- Classifies types of maps - Physical Maps, Cultural Maps, Large Scale Maps, small scale maps, etc.
- Use of Magnetic compass to orient the map.

### Drawing.

- Cardinal points or important directions.

### Calculations.

- Measurement of distance.
- Measurement of area.

## Unit II - Map Scale

### On the spot.

- Measuring the length of curved features such as rivers, roads, etc. by using thread and rotameter.
- Methods of representing scale.

### Drawing.

- Graphical scale using RF/statement of scale.

### Calculations.

- Scale conversions. (Statement of scale into RF and RF into statement of scale.)

## Unit III - Latitude, Longitude and Time.

### On the spot.

- Identifying the latitude and longitude of given place with the help of atlas, wall maps or globe.

### Drawing.

- Important latitudes and longitudes.
- Drawing specific latitude with given angular measurements.

**Calculations.**

- Time calculations.

**Unit IV - Map Projections.**

**On the spot.**

- Identifying the projections based on developable surface.

**Drawing.**

- Conical map projections, cylindrical map projections and Mercator's Projection.

**Calculations.**

- Calculation of reduced earth radius.
- Calculation of length of equator.

**Unit V - Topographical Maps.**

**On the spot.**

- Identifying the conventional signs and symbols.
- Write the marginal information from the toposheet.
- Interpretation of toposheet.

**Drawing.**

- Conventional signs and symbols.
- Contour cross section.
- Layout plan.

**Calculations.**

- Toposheet - 6 point grid reference.

**Unit VI - Introduction to Aerial Photographs.**

**On the spot.**

- Aerial photo interpretation with the help of stereo pair and stereoscope.
- Identifying the types of aerial photograph based on scale.
- Write the marginal information given in vertical aerial photograph.

**Drawing.**

- Types of Aerial Photographs based on the position of the camera axis.

**Calculations.**

- Scale of aerial photograph.

**Unit VII - Introduction to Remote Sensing.**

**On the spot.**

- Identify and use the instrument - GPS (Global Positioning System)
- Identify the geostationary satellites and sun synchronous satellites from the pictures.
- Identifying satellite imageries.
- Identifying various features from the imageries.
- GPS Survey

**Drawing.**

- Position of geostationary satellites and sun synchronous satellites.

**Unit VIII - Weather Instruments, Maps and Charts.**

**On the spot.**

- Identifying weather instruments.
- Weather data collection using weather instruments.
- Interpretation of weather charts.

**Drawing.**

- Weather symbols.
- Weather instruments.
- Construction of weather charts.

# LIST OF PRACTICAL FOR CLASS XII

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## UNIT - I - DATA-ITS SOURCE AND COMPILATION

### Drawing

- Frequency polygon
- Ogives.

### Calculator

- Preparation of frequency distribution table

### Computer aided

- Frequency polygon
- Ogives.(Less than & More than Ogives)

## UNIT - II - DATA PROCESSEING

### Drawing

- Correlation graph

### Calculator

- Mean, median, mode
- Range, Quartile Deviation, Mean Deviation Standard Deviation and Co-efficient of Variation.

### Computer aided

- Correlation Graphs
- Calculation of Mean using statistical function

## UNIT - III - GRAPHICAL REPRESENTATION OF DATA

### Drawing

- Construction of Wind rose & Star diagrams.
- Flow Chart(Traffic)
- Thematic maps
  1. Dot Map
  2. Choropleth map
  3. Isopleth map

### **Computer aided**

- Excel / Ubandu based line, bar, polygraph, multiple Bar, pie diagram.

## **UNIT - IV - USE OF COMPUTER IN DATA PROCESSING AND MAPPING.**

### **On the spot**

- Identifying Parts of computers(Hardware -input & Output devices)

### **Computer aided**

- Excel / Ubandu based line, bar, polygraph, multiple Bar, Pie diagram

## **UNIT - V - FIELD SURVEYS**

This unit can be solely assigned for doing project work. These are seven cases suggested in the practical text book for project work. They are :

1. Ground water change
2. Environmental pollution
3. Soil degradation
4. Poverty
5. Droughts & Floods
6. Energy issues
7. Land use survey and change detection.

Note : Similar topics that are relevant in geography or of local importance may also be assigned to the students for doing project work.

## **UNIT - VI - SPATIAL INFORMATION TECNOLOGY**

### **On the spot**

- Identify the Raster entities, Vector entities & Real world entities

### **Computer aided**

- Layering
- Overlay operations
- Buffer Operations



# LABORATORY EQUIPMENTS

## CLASS XI - GEOGRAPHY

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### **Unit I - Introduction to Maps**

1. Globe
2. Physical Maps
  - (a) Relief Maps
  - (b) Geological Maps
  - (c) Climatic Maps
  - (d) Soil Maps
3. Cultural Maps
  - (a) Political Maps
  - (b) Population Maps
  - (c) Economic Map
  - (d) Transportation Maps
4. Large-scale Maps
  - (a) Cadastral maps
  - (b) Topographical maps
5. Small-scale Maps
  - (a) Wall Maps
  - (b) Atlas Maps
6. Magnetic Compass

### **Unit II - Map Scale**

1. Meter Tape
2. Instrument Boxes

### **Unit III - Latitude, Longitude and Time**

1. Charts
  - a) Latitudes & Longitudes
  - b) Major Time Zones of the World

### **Unit IV - Map Projections**

1. Transparent Globe
2. Chart - Map Projections
3. Instrument Boxes

### **Unit V - Topographical Maps**

1. Reference Map of Topographical Sheets
2. Charts -
  - a) Conventional Signs and Symbols.
  - b) Contours and their cross sections
3. Relief Models -
  - a) Gentle Slope
  - b) Steep Slope
  - c) Concave Slope
  - d) Convex Slope
  - e) Conical Hill
  - f) Plateau
  - g) 'V'-shaped Valley
  - h) 'U' - shaped Valley
  - i) Gorge
  - j) Spur
  - k) CLIFF
  - l) Waterfall and Rapids
4. Toposheets

## **Unit VI - Introduction to Aerial Photographs**

1. Aerial Photographs (Stereopaire)
2. Stereoscope (Pocket /Mirror)

## **Unit VII - Introduction to Remote Sensing**

1. Charts -
  - a) Stages in remote sensing
  - b) Electromagnetic spectrum
  - c) Orbit of sun synchronous satellites
  - d) Geostationary satellites
2. Satellite Imageries

## **Unit. VIII - Weather Instruments, Maps and Charts**

1. Weather Instruments
  - a. Thermometer
  - b. Maximum & Minimum Thermometer
  - c. Wet Bulb & Dry Bulb Thermometer
  - d. Barometer (Mercury Barometer & Aneroid )
  - e. Wind Vane
  - f. Cup Anemometer
  - g. Rain Gauge
  - h. Hygrometer
  - i. Sun Shine Recorder
2. Weather Maps
3. Weather Charts
4. Charts - Weather Symbols

# LABORATORY EQUIPMENTS

## CLASS XII - GEOGRAPHY

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### **Unit I - Data - Its Source and Compilation**

1. Graph Paper
2. Instrument Boxes

### **Unit II - Data Processing**

1. Calculator
2. Graph Paper
3. Instrument Boxes

### **Unit III - Graphical Representation of Data**

1. Graph Paper
2. Calculator
3. Instrument Boxes

### **Unit VI - Use of Computer in Data Processing and Mapping**

1. Computer
2. Chart - parts of computer

### **Unit V - Field Surveys**

1. Camera
2. Measuring tape
3. Instruments as required for the topic

## **Unit VI - Spatial Information Technology**

1. G.I.S Software
2. Computer
3. Tracing Table

### **Geography Lab**

Geography laboratory room should have ample space to display weather instruments, working and still models in geography, place for tracing tables and computers, map stand, should easily accommodate 60 students to do geography practical work without much congestion.

## GEOGRAPHY PRACTICAL SCORE WEIGHTAGE

Type of questions	No. of questions	Score per questions	Total score
On the spot	4	2	8
Drawing	4	3	12
Calculation	4	2	8
Computer aided	1	4	4
Field survey report			2
Viva			2
Practical record			4
<b>Total</b>			<b>40</b>

## SAMPLE QUESTION PAPER

Total Score : 40

Time : 3 hours

### On the spot

Answer Any Four

(4x2 = 8)

1. Identify the types of map displayed.
2. Mention the direction of the given object with reference to your position using magnetic compass.
3. Orient the stereopair in order to get the 3D vision through stereoscope.
4. Find out the precise location of the given object using GPS.
5. Categorise the computer hardware parts as input, output and storage device.
6. Read the temperature/ pressure/ rainfall/ wind direction/ wind speed/ humidity using suitable instruments.
7. Write the marginal information of the given toposheet.

### Drawing

Answer Any Four

(4x3 = 12)

1. Draw a graphical scale for the RF 1: 50000.
2. Construct the graticules of conical map projection with one standard parallel for a map scale 1: 20,000,000 with the projection interval 150 extending from 90° W to 90° E of the northern hemisphere.
3. Draw the contour cross section and profile for the photograph of the landforms.
  - a. Waterfall
  - b. 'V' shaped valley.

4. Prepare a layout plan using the given data by choosing an appropriate scale.
  - a. An area with 1500m length and 1000m width.
  - b. A perennial river flowing from north to south direction.
  - c. A paddy fields spread over the SW corner.
  - d. A metalled road running W to E, crossing the river at the centre of the region.
  - e. Broad gauge railway line running parallel to the metalled road.
  - f. A perennial pond located close to the bridge and to the south of metalled road.
5. Prepare a weather chart by using the following data. (outline map of India will be provided)
  - a. Overcast sky prevails along the west coast near Kerala.
  - b. Clear sky prevails over the western Rajasthan.
  - c. A low pressure centre with 998mb over the Punjab plain.
  - d. High pressure system with barometric value of 1025mb south of Lakshadweep.
6. Draw a windrose diagram with the given data.
7. Draw a choropleth /Isopleth /Dot map with the given data. (Outline map will be provided)

### **Calculation**

Answer Any Four

(4x2 = 8)

1. Convert the given scale as directed.
  - a. RF to Statement.
    - i. RF 1: 100000.
    - ii. RF 1: 126720.
  - b. Statement to RF.
    - i. 4cm represents 1 km.
    - ii. 1 inch represents 1 mile.

2. Calculate the local time for the following places when IST is 10am on 20th June 2015.
  - a. London (00)
  - b. New Orleans (900W)
3. Calculate the mean, median and mode for the following data.
4. Calculate the actual road distance between the given places from the toposheet provided.

**Computer aided.**

Answer Any One

(1x4 = 4)

1. Prepare a suitable statistical diagram for the given data using computer.
2. Frequency polygon/ Ogives for the given data using computers.

<b>Viva</b>	<b>2</b>
<b>Field survey report</b>	<b>2</b>
<b>Practical record</b>	<b>4</b>

## TEACHER PLANNER

**Unit: India-Land Resource and Agriculture**

**Class: XII**

**Time: 45 min**

**Subject: Geography**

**Learning Outcome:** The Learner can analyse the effects of various problems on Indian Agriculture

Process /activities		Evaluation
<p>The teacher introduce this topic by providing some reading materials like news cutting related with drought and agriculture loss, farmers suicide ,excessive use of pesticide etc...</p> <p>Ask the learners to list the problems faced by farmers of their locality.</p> <p>Teacher can consolidate the listed problems as follows.</p>		
Geographical	Non Geographical	
<p>Dependency on Erratic monsoon</p> <p>Land fragmentation</p> <p>Degradation of cultivable land</p> <p>Low productivity</p>	<p>Constraints of financial resources</p> <p>Lack of land reforms</p> <p>Lack of commercialization</p> <p>Vast under employment.</p>	
<p>Group the class into 4 (two of the listed problems to each group) and provide them with relevant reading materials. Let them discuss in -group and allow one from each group to present the concepts discussed. Teacher should interfere after each presentation .Teacher should ensure that all the students have discussion notes on all the concepts which could be submitted for evaluation.</p>		

**Directorate of Higher Secondary Education**  
**Guidelines for Lab Work and Practical Evaluation of Computer Science**  
**2014 – 15 Admission onwards**

We follow outcome focussed assessment approach in the evaluation process in the Kerala School Curriculum 2013. Term-end evaluation is an important aspect of assessment. Along with term-end evaluation at the end of an academic year, practical evaluation (PE) is to be conducted. PE is the term-end assessment of the lab work done in the academic year. Lab work is an integral part of the Continuous and Comprehensive Evaluation (CCE). Hence, it should be considered for the process assessment and portfolio assessment which are the components of Continuous Evaluation (CE) score.

### **A. Syllabus for Practical**

Lab work is a part of the transaction of certain contents in the syllabus. Students can attain the learning outcomes associated with some of the concepts/content only through the lab work. Hence the practical should begin in Class XI itself and it should go on with the respective theoretical aspects. Areas to be covered for the lab work and the minimum number of problems in the three subjects are given below:

#### **Computer Science (25 problems)**

- |   |                      |
|---|----------------------|
| <b>1. Programming in C++</b>                                    | <b>(10 problems)</b> |
| • if – else statements  | (1 problem)          |
| • switch statement  | (1 problem)          |
| • Looping statements  | (2 problems)         |
| • Array manipulation  | (2 problems)         |
| • Functions   | (2 problems)         |
| • Structures  | (1 problem)          |
| • Pointers  | (1 problem)          |
| <b>2. Developing HTML documents</b>                             | <b>(5 problems)</b>  |
| • Basic tags, <IMG> tag   | (1 problem)          |
| • Lists   | (1 problem)          |
| • Hyper-linking   | (1 problem)          |
| • Table / Frame   | (1 problem)          |
| • Form  | (1 problem)          |
| <b>3. Client side programming with JavaScript in HTML codes</b> | <b>(2 problems)</b>  |
| • Control structure   | (1 problem)          |
| • Data validation   | (1 problem)          |

#### 4. Server side scripting with PHP

(3 problems)

- PHP script using Forms (2 problems)
- Database connectivity (1 problem)

#### 5. Database queries using MySQL

(5 problems)

- Five tables should be identified and queries should be designed in such a way that all clauses, operators and aggregate functions are to be covered.

### B. Lab Work

This is an activity by which, the concepts acquired and observations noted are practically implemented in the lab, and thereby, more clarity about the concepts and operational skills are achieved. The students should also be convinced about the use of computer for problem solving with the help of user developed programs. This activity makes the students utilise the computer to develop applications in various fields. The active participation and involvement of the students are to be ensured.

A minimum of 25 problems, as specified above, are to be solved through the lab work. Sample questions from each area are given as Appendix-1 of this document. The questions are grouped into three for each area, based on the difficulty level. While selecting the minimum required questions, we should ensure that, questions are chosen from all the three groups. The number of questions from each group should be in the ratio 5:3:2 for each area of the syllabus. A sample list of 25 problems as per the foresaid criteria is given as Appendix-2.

#### Practical Log Book

Practical Log Book (PLB) is a standard record book in which all the activities related to lab work are recorded. A PLB is opened in Class XI for the lab work and the same is used in Class XII. Lab work is a continuous process. The PLB should contain a minimum of 25 works as specified in the practical syllabus. The format of recording in Practical Log Book may be as follows:

##### *Programming in C++*

LHS page	RHS page
<ul style="list-style-type: none"><li>• Algorithm / Flowchart</li><li>• Sample Input and Output</li></ul>	<ul style="list-style-type: none"><li>• Problem number and Date of practical work</li><li>• Problem statement</li><li>• Source Code</li></ul>

##### *Web Applications (HTML documents, JavaScript, PHP)*

LHS page	RHS page
<ul style="list-style-type: none"><li>• Tags and attributes required</li><li>• Printout of resultant web page</li></ul>	<ul style="list-style-type: none"><li>• Problem number and Date of practical work</li><li>• Problem statement</li><li>• HTML Code</li></ul>

### **Database queries using MySQL**

LHS page	RHS page
<ul style="list-style-type: none"><li>• Table with sample records</li><li>• Output of queries</li></ul>	<ul style="list-style-type: none"><li>• Problem number and Date of practical work</li><li>• Table structure and queries</li><li>• SQL statements</li></ul>

The teacher should verify the correctness of each work and affix his/her signature along with date and remarks, if any.

### **Procedure**

The lab work consists of threefold procedure – preparatory work, tryout and reporting. Teachers should ensure that the students pass through all these three stages sequentially throughout the academic year.

**Preparatory work:** The student who comes to the computer lab to do practical work should be clear about the work he/she intends to do. He/She should also know the steps for doing the job using a computer, the software to be used, how it has to be operated, what the product should be, what should be its specifications and program code. All students should have their Practical Log Book while attending the lab period with the following details:

- Program number and date
- Problem statement
- Algorithm / Flowchart / Tags and attributes
- C++ source code/ HTML code / SQL statements

**Tryout:** In the case of C++ programming and web applications, the source code is typed, compiled and executed in the lab. During the debugging process, the corrections, if any, are noted down in the PLB also. When the output is obtained, it should be intimated to the teacher. Teacher performs process assessment and makes necessary recordings in both the PLB and Teacher's manual. Students record sample output in the PLB or take the printout of the output.

**Reporting:** The PLB with the final code and sample output (pasted printout in the case of web applications and office packages) is submitted and get it signed by the teacher before the next lab period.

The programs discussed in the class room are to be tried out in the lab. More problems are also available in the text book. Teacher is expected to ensure a minimum number of problems in the Practical Log Book covering all the areas suggested for practical evaluation. The prescribed proportion among the three groups should be strictly followed in the selection of questions.

## C. Practical Evaluation (PE)

The problem solving skills and the competency in using various software packages are to be assessed through PE. The following are the guidelines to be followed while conducting PE:

- The questions should strictly be from the prescribed syllabus.
- Examination will be of 3 hours duration and maximum score will be 40.
- Practical evaluation will be conducted in batches. The maximum number of students in each batch is limited to 15.
- Students must attend the PE with Practical Log Book. It should contain a minimum of 25 programs covering the practical syllabus as described earlier. Only one notebook is enough for the Practical Log Book (*no rough – fair separation*). Practical Log Book should be certified by the teacher-in-charge. The same should be verified and signed by the external examiner.
- The questions are to be finalised from the pool issued by the DHSE referring to the PLB.
- There will be three parts in the question paper. Part A contains questions from C++ programming area for Computer Science and Computer Applications (Commerce), and from Office packages in the case of Computer Applications (Humanities). Part B contains questions for web applications from the respective syllabus and Part C includes questions for database queries. A candidate has to attend two questions – one from Part A and the other from either Part B or C whichever is assigned.
- There should be a minimum of 16 question papers for each batch of 15 students. Each Question paper should contain a question from Part A and another Question from Part B or C. While framing questions for each question paper, it should be noted that if the question from Part A requires more time due to its higher level, the second question from Part B or C should be of lower level and vice versa.
- One question paper will be selected by the student at random from a set of 16 Question papers. Appropriate strategy may be adopted by the examiner to ensure the fair conduct of examination.
- Once the learner is assigned the questions, he/she should write the source code/ procedure/statements for any one of the questions and submit it to the examiner. The examiner checks the correctness of the logic or procedure and allows doing it on the computer if found correct. If the logic or procedure is approximately 70% correct, some clues or hints may be given and the student is allowed to try on the computer. If the logic (or procedure) is wrong, the examiner can give another problem from the same area with the same level. The student may be allowed to change the question within half an hour, if the question is found unanswerable. In such cases, score should be deducted appropriately.
- The debugging skills are to be assessed and credit should be given.

- The accuracy in the output is to be tested with proper sample data.
  - Teacher should ensure that the programs developed as part of lab work and by the previous candidates are deleted before the commencement of the examination.
  - The students are not allowed to use the help files of the software.
  - The score distribution for each question in C++ should be as follows:
    - Logic of the solution (Program coding) – 8 score
    - Debugging skills (Error correction and execution) – 6 score
    - Dynamic problem solving skills – 2 score
 } 16 score
  - The score distribution for each question in web application should be as follows:
    - Proper tags and attributes (Script if required) – 8 score
    - Debugging skills (Error correction and execution) – 6 score
    - Dynamic problem solving skills – 2 score
 } 16 score
  - The score distribution for each question in SQL should be as follows:
    - Proper commands, clauses, operators, etc. – 8 score
    - Debugging skills (Error correction and execution) – 6 score
    - Dynamic problem solving skills – 2 score
 } 16 score
  - The score distribution for each question in Office packages should be as follows:
    - Procedure/Formula/Menus & Commands/Tools – 10 score
    - Creativity and formatting ability – 4 score
    - Dynamic skill in using the software – 2 score
 } 16 score
  - Total score for 2 questions – 32 score
  - Practical Log Book – 4 scores
  - Viva voce – 4 scores
- } **40 score**
- Viva voce should not create sense of fear among the students. It should not be formal in the form of an interview. It should be a casual interaction with the students during the evaluation **to check whether he/she has conceptual/process clarity in the given two questions only**. The examiner may ask 4 to 6 questions to award the scores for viva voce.
  - The mark-list of the students should be prepared, reflecting the split scores along with the total score.
  - The scores of the students are to be recorded in the mark sheet issued by the DHSE and send it to the DHSE as per the instructions given by the directorate.

Dynamic problem solving skills may be tested as follows:

- After completing the program, a slight modification in the problem can be made and let the learner modify the code to effect the change.
- The ability of the learner can be credited by awarding the 2 scores suitably.
- E.g.: If the original question is to find the largest among three numbers, ask to modify the code to find the smallest.

**D. Format of Score Sheet for Practical Evaluation**

Sl. No.	Register Number	Qn. No.	Score Distribution						Total Score (40)
			Logic/ Procedure (8 or 10)	Execution/ Output (6 or 4)	Dynamic Skills (2)	Total for 2 Qns. (32)	Practical Log Book (4)	Viva Voce (4)	
1									
2									
3									
:									
:									
:									
:									
:									
:									
:									
:									
:									
15									

Name and Designation of Examiner

.....  
 .....  
 .....

Date of Exam: .....

Signature: .....

## APPENDIX – 1

### Pool of Questions - Computer Science

#### Programming in C++ (10 x 3 = 30 questions)

##### Level 1

1. Input the three coefficients of a quadratic equation and find the roots.
2. Input a group code and display the corresponding group name based on the following:  
5, 7 – Science (Computer Science)  
33, 34 – Humanities (Computer Applications)  
39 – Commerce (Computer Applications)  
Other codes – Non Computer groups
3. Find the sum of the digits of an integer number.
4. Find the sum of the squares of the first N natural numbers.
5. Find the length of a string without using `strlen()` function.
6. Read admission number of N students in a class and search for a given admission number in the list. Use linear search method of searching.
7. Find the factorial of a number with the help of a user-defined function.
8. Define a function to swap the contents of the two variables. Using this function, interchange the values of three variables. E.g.  $A \rightarrow B \rightarrow C \rightarrow A$ .
9. Find the net salary of an employee by defining a structure with the details Employee Code, Name, Basic Pay, DA, HRA and PF.
10. Create two pointers, initialise with two numbers and find the sum and average of these numbers.

##### Level 2

1. Input three numbers and find the difference between the smallest and the largest numbers.
2. Assume that January 1 is Monday. Write a program using switch to display the name of the day in that month when we input day number.
3. Input a number and check whether it is palindrome or not.
4. Find all prime numbers below 100.
5. Display Pascal's triangle having N rows.
6. Read N numbers into an array and display the numbers larger than the average value.
7. Define a function to find the factorial of a number. Using this function find the value of  $nCr$ .
8. Input an integer number and display its binary equivalent with the help of a user-defined function.

9. With the help of a structure, develop a C++ program to read register number, name, and Scores obtained (out of 200) in English, second language, chemistry, physics, computer science and mathematics by 5 students. Calculate total score, average score and grade obtained by them. Grade is calculated based on the average as given in the table. Display register number, name, average score and grade of these students.
10. Input string into a character pointer and count the vowels in the string.

Average Score	Grade
>=180	A+
>=160	A
>=140	B+
>=120	B
>=100	C+
>=80	C
>=60	D+
<60	No Grade

### Level 3

1. Find the amount to be paid for the consumption of electricity when the previous and current meter-readings are given as input based on the conditions given in the table.

Units consumed	Amount per Unit
Up to 100	Rs. 0.50/-
101 – 150	Rs. 0.75/-
151 – 200	Rs. 1.00/-
201 – 250	Rs. 1.50/-
Above 250	Rs. 2.00/-

2. Find area of a rectangle, a circle and a triangle. Use **switch** statement for selecting an option from a menu.
3. Display the first N terms of Fibonacci series.
4. Input two years (e.g. 1000, 2000) and display all leap years between them.
5. Create an array to store the heights of some students and sort the values.
6. Create a square matrix and display the same in matrix form. Find the sum of leading diagonal elements (from top left to bottom right) and off diagonal elements (top right to bottom left) separately.
7. Find the sum of the first N natural numbers using recursive function.
8. Define a function to accept an integer number and return its reverse (e.g. if the argument is 123 the return-value should be 321). Using this function display all palindrome numbers between a given range.
9. Define a structure to store the details of books such as Book Code, Book Title, Date of Purchase, Author, Publisher and Price. Write a program with this structure to store the details of 10 books and display the details.
10. Create a dynamic array to store the names of a group of students and prepare a roll list according to the alphabetical order of the names.

## Web Applications (10 x 3 = 30 Questions)

(HTML – 5, JavaScript – 2, PHP – 3)

### Level 1

1. Design a simple and attractive webpage for Kerala Tourism. It should contain features like background colour/image, headings, text formatting and font tags, images, etc.
2. Design a webpage as shown below using appropriate list tags.

#### List of Nobel Laureates from India

Rabindra Nath Tagore

He was the first to get Nobel Prize from India. He received prize in literature in 1913. He got Nobel Prize for his collection of poems "Gitanjali".

C V Raman

He got Nobel for Physics in 1930. He received Nobel Prize for his contribution called Raman Effect.

Mother Teresa

Mother Teresa who founded Missionaries of Charity which is active in more than 100 countries received Nobel Prize in 1979.

Amartya Sen

Amartya Sen was awarded Nobel Prize in 1998 in Economics. He has made contributions to welfare economics, social choice theory etc.

Kailash Satyarthi

He is a child right activist who founded "Bachpan Bachao Andolan" in 1980. He shared Nobel prize for peace in 2014.

3. Design a personal webpage for your friend. It should have a link to his e-mail address.
4. Design a web page containing a table as shown below.

**Terrestrial Planets** (Source: NASA)

Planet	Day Length (In Earth hours)	Year Length (In Earth days)
Mercury	1408	88
Venus	5832	224.7
Earth	24	365.26
Mars	25	687

- Design a simple webpage as shown below.

**Client Login**

Enter User Name

Enter your Password

- Develop a webpage with two text boxes and a button labelled "Show". The user can enter a number in the first text box. On clicking the button, the second text box should display the sum of all numbers up to the given number. Write the required JavaScript.
- A webpage should contain one text box for entering a text. There should be two buttons labelled "To Upper Case" and "To Lower Case". On clicking each button, the content in the text box should be converted to upper case or lower case accordingly. Write the required JavaScript for these operations.
- Write a PHP program to accept the total sales of a particular salesman and display commission. If the monthly sales amount is greater than 1 lakh - commission is 10%, if it is between 1 lakh and 1.5 lakh - commission is 12% and if it is greater than 1.5 lakh - commission is 15%.
- Write a PHP program to accept a number and display it in the following format. If 5 is the given, then the output will be as follows:
 

```

1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
      
```
- Write a data entry program in PHP which accepts the details of students like register number, name, age, sex and group (Commerce, Science, and Humanities) and stores it in a database.

## Level 2

- Design a webpage for promoting vegetable cultivation at homes as shown in the figure. It should contain features like background colour/ image, headings and stylish fonts, images, marquee, etc.



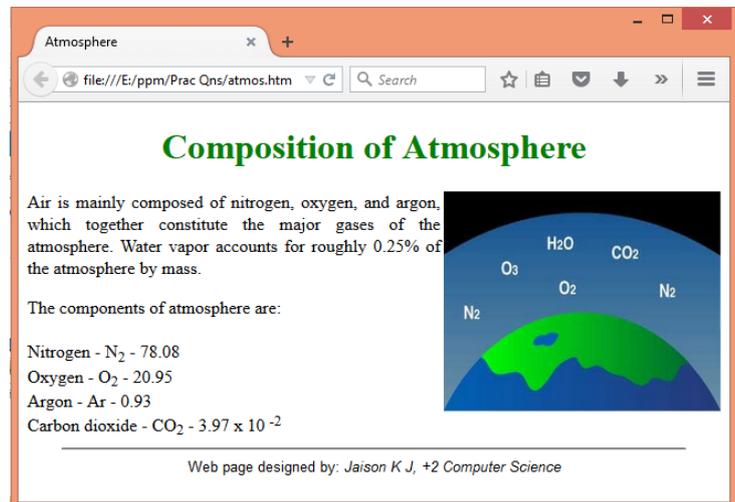
2. Design an attractive webpage showing the following list.

#### **Graduate Level Courses in Leading Institutions in Kerala**

- Indian Institute of Technology, Palakkad
    - B.Tech.
  - National Institute of Technology, Calicut
    - B.Tech.
    - B.Arch.
  - Indian Institute of Science Education and Research, Thiruvananthapuram
    - BS-MS Dual Degree
  - National University of Advanced Legal Studies, Kochi
    - B.A. LL.B. (Hons.)
  - Indian Institute of Space Science and Technology
    - B.Tech. (Aerospace Engineering, Avionics)
    - Dual Degree (B.Tech. + M.S./M.Tech.)
3. Design a simple webpage about your school. Create another webpage named address.htm containing the school address. Give links from school page to address.htm.
  4. Design a webpage containing frames that divide the screen vertically in the ratio 50:50. Design two web pages – one containing the list of Indian cricket team members and the second page containing a list of Indian football team members.
  5. Consider that your school is hosting an inter-school IT fair. Design a form webpage that contains a form for accepting registrations. The form page should contain facility to enter school name, user name, password and a mobile phone number. It should also contain buttons for saving and clearing the data entered.
  6. Develop a webpage with two text boxes and a button labelled “Show”. The user can enter a number in the first text box. On clicking the button, the second text box should display the day corresponding to the given number using switch statement in JavaScript. (1 – Sunday, 2 – Monday, ....., 7 – Saturday)
  7. Develop a webpage for the inter-school IT fair conducted by your school. The webpage should contain facility to enter school name, user name, password and a mobile phone number. It should also contain buttons for saving and clearing the data entered. Ensure that the data is entered in all the text boxes and the text box for mobile phone number contains only numbers. Write JavaScript for this validation.
  8. Write a PHP program to accept a string and display in a table format the (a) Total number of characters (b) Count of each vowel.
  9. Write a PHP program to find the factorial of a given number after accepting the number through a form. The factorial should be calculated using a function named fact().
  10. Write a PHP program to accept a product category and display the details of all products under that category in a table format. (The details of products are to be stored in a table in a database and accessed from the PHP program).

### Level 3

1. Design a webpage about atmosphere as shown in the figure. It should contain features like background colour/image, headings and stylish fonts, images, etc.
2. Design a webpage showing tourist destinations in Kerala as shown below.



## Department of Tourism Government of Kerala

### *Tourist Destinations in Kerala*

1. Beaches
    - a. Kovalam
    - b. Muzhuppilangad
    - c. Kappad
  2. Hill Stations
    - i. Munnar
    - ii. Wayanad
    - iii. Gavi
  3. Wildlife
    - a. Iravikulam
    - b. Muthanga
    - c. Kadalundi
3. Design an attractive webpage about India. Provide details about the Indian freedom movement at the lower part of the webpage. Also create another webpage containing the list of states in India, named 'states.htm'. Create two links in the main webpage – one to link to the bottom of the webpage where details about freedom movement is given and another to the webpage 'states.htm'.
  4. Design the following catalogue of products for an IT shop using HTML.

Laser Printer	
	Model: Canon LBP 2900 Price: Rs. 6500
Scanner	

	Model: HP Scanjet G2410 Price: Rs. 3800
<b>Monitor</b>	
	Model: LG 22MP67VQ Price: Rs. 10500
<b>Keyboard &amp; Mouse Combo</b>	
	Model: Logitech MK200 USB Price: Rs. 950

5. Design an HTML form to accept the Curriculum Vita of a job applicant. The form should provide facility to accept name, address in multiple lines, gender using option button, nationality using a list box and hobbies using check boxes. The form should provide buttons to save and clear the contents of text boxes.
6. Develop a webpage with two text boxes and a button labelled "Show". The user can enter a number in the first text box. One clicking the button, the second text box should display whether the number is prime or not. Write the required JavaScript.
7. Develop a webpage containing a two text boxes for entering User name and Password. There should be a login button also. On clicking the login button, it should check the followings.
  - a) The user name should contain at least 10 characters and all the letters should be in lower cases.
  - b) The password should contain at least 7 characters and should contain at least one lower case letter, one upper case letter and a digit.
8. Write a PHP program to accept a number and display its multiplication table up to 12 in a neat table format.
9. Write a PHP program to select a country from combo box and display its capital. (Country and capital may be stored in an associative array.)
10. Write a PHP program to accept User Id and password and check whether it is valid or not. If it is correct then display the message "Successfully Logged In" else display the message "Invalid User Id or Password". (The User Id and password are to be stored in a table in a database and accessed from the PHP program.)

## SQL (5 x 3 = 15 Questions)

### Level 1

1. Create a table *Student* with the following fields and insert at least 5 records into the table except for the column Total.

Roll_Number	Integer	Primary key
Name	Varchar (25)	
Batch	Varchar (15)	
Mark1	Integer	
Mark2	Integer	
Mark3	Integer	
Total	Integer	

- a. Update the column Total with the sum of Mark1, Mark2 and Mark3.
- b. List the details of students in Commerce batch.
- c. Display the name and total marks of students who are failed (Total < 90).
- d. Display the name and batch of those students who scored 90 or more in Mark1 and Mark2.
- e. Delete the student who scored below 30 in Mark3.

2. Create a table *Employee* with the following fields and insert at least 5 records into the table except the column Gross\_pay and DA.

Emp_code	Integer	Primary key
Emp_name	Varchar (20)	
Designation	Varchar (25)	
Department	Varchar (25)	
Basic	Decimal (10,2)	
DA	Decimal (10,2)	
Gross_pay	Decimal (10,2)	

- a) Update DA with 75% of Basic.
  - b) Display the details of employees in Purchase, Sales and HR departments.
  - c) Update the Gross\_pay with the sum of Basic and DA.
  - d) Display the details of employee with gross pay below 10000.
  - e) Delete all the clerks from the table.
3. Create a table *Stock*, which stores daily sales of items in a shop, with the following fields and insert at least 10 records into the table.

Item_code	Integer	Primary key
Item_name	Varchar (20)	
Manufacturer_Code	Varchar (5)	
Qty	Integer	
Unit_Price	Decimal (10,2)	
Exp_Date	Date	

- a. Display the details of items which expire on 31/3/2016.
  - b. Display the item names with stock zero.
  - c. Remove the items which expire on 31/12/2015.
  - d. Increase the unit price of all items by 10%.
  - e. List the items manufactured by "ABC & Co" with quantity above 100.
4. Create a table *Book* with the following fields and insert at least 5 records into the table.
- |             |                |             |
|-------------|----------------|-------------|
| Book_ID     | Integer        | Primary key |
| Book_Name   | Varchar (20)   |             |
| Author_Name | Varchar (25)   |             |
| Pub_Name    | Varchar (25)   |             |
| Price       | Decimal (10,2) |             |
- a. Display the details of books with price 100 or more.
  - b. Display the Name of all the books published by SCERT.
  - c. Increase the price of the books by 10% which are published by SCERT.
  - d. List the details of books with the title containing the word "Programming" at the end.
  - e. Remove all the books written by "Balaguruswamy".
5. Create a table *Bank* with the following fields and insert at least 5 records into the table.
- |             |                |             |
|-------------|----------------|-------------|
| Acc_No      | Integer        | Primary key |
| Acc_Name    | Varchar (20)   |             |
| Branch_Name | Varchar (25)   |             |
| Acc_Type    | Varchar (10)   |             |
| Amount      | Decimal (10,2) |             |
- a. Display the account details of "Savings Account" in Kodungallur branch.
  - b. Change the branch name "Trivandrum" to "Thiruvananthapuram".
  - c. Display the details of customers in Thiruvananthapuram, Ernakulam and Kozhikode.
  - d. List the details of customers in Thrissur branch having a minimum balance of Rs. 5000.
  - e. Delete all the current accounts in Mahe branch.

## Level 2

1. Use *Student* table and write SQL statements for the following:
  - a. Update the column Total with the sum of Mark1, Mark2 and Mark3.
  - b. List the details of students in Science batch in the ascending order of their names.
  - c. Display the highest Total in Humanities batch.

- d. List the details of students who passed (Subject minimum is 30 and aggregate minimum is 90) the course.
  - e. Delete the students of Commerce batch who failed in any one subject.
2. Use *Employee* table and write SQL statements for the following:
- a. Update DA with 75% of Basic for Managers and 80% Basic for all other employees.
  - b. Update the Gross\_pay with the sum of Basic and DA
  - c. Display the details of employees in Purchase, Sales and HR departments in descending order of Gross pay.
  - d. Find the number of employees in Accounts department.
  - e. Delete the details of clerks whose Gross pay is below 5000.
3. Use *Stock* table and write SQL statements for the following:
- a. Display the details of items which expire after 31/3/2016 in the order of expiry date.
  - b. Find the number of items manufactured by the company "SATA".
  - c. Remove the items which expire between 31/12/2015 and 01/06/2016.
  - d. Add a new column named Reorder in the table to store the reorder level of items.
  - e. Update the column Reorder with value obtained by deducting 10% of the current stock.
4. Use *Book* table and write SQL statements for the following:
- a. Insert a column named Number\_of\_pages into the table.
  - b. Display the details of books of the same author together in the descending order of the price published by NCERT.
  - c. Display the average price of books published by "BPB" and written by "Robert Lafore".
  - d. List the details of books published by "PHI" that contains the word "Programming" in the title.
  - e. Remove all the books written by "Balaguruswamy", "Kanetkar" or "Robert Lafore".
5. Use *Bank* table and write SQL statements for the following:
- a. Display the branch-wise details of account holders in the ascending order of the amount.
  - b. Insert a new column named Minimum\_Amount into the table with default value 1000.

- c. Update the `Minimum_Amount` column with the value 1000 for the customers in branches other than Alappuzha and Malappuram.
- d. Find the number of customers who do not have the minimum amount 1000.
- e. Remove the details of SB accounts from Thiruvananthapuram branch who have zero (0) balance in their account.

### Level 3

1. Use *Student* table and write SQL statements for the following:
  - a. Update the column `Total` with the sum of `Mark1`, `Mark2` and `Mark3`.
  - b. Add a new column `Average` to the table *Student*.
  - c. Update the column `Average` with average marks.
  - d. List the details of student who has the highest `Total`.
  - e. Delete the students of Commerce batch who failed in any two subjects.
2. Use *Employee* table and write SQL statements for the following:
  - a. Update `DA` with 75% of `Basic` for Managers and 80% of `Basic` for all other employees.
  - b. Update the `Gross_pay` with the sum of `Basic` and `DA`.
  - c. Display name, department and gross pay of employees in Purchase, Sales and HR departments. The employees in the same department should appear together in the ascending order of `Gross pay`.
  - d. Find the number of employees in each department where there is minimum of 5 employees.
  - e. Show the details of employee with `Gross pay` greater than the average gross pay.
3. Use *Stock* table and write SQL statements for the following:
  - a. Display the number of items manufactured by each company which expire after 31/3/2016.
  - b. Add a new column `Reorder` in the table to store the reorder level of items.
  - c. Update the column `Reorder` with value obtained by deducting 10% of the current stock.
  - d. Display the details of items which expire at last.
  - e. Remove the items which expire before 01/03/2015 or that are manufactured by "ABC & Co".

4. Use *Book* table and write SQL statements for the following:
  - a. Create a view containing the details of books published by SCERT.
  - b. Display the average price of books published by each publisher.
  - c. Display the details of book with the highest price.
  - d. Display the publisher and number of books of each publisher in the descending order of the count.
  - e. Display the title, current price and the price after a discount of 10% in the alphabetical order of book title.
  
5. Use *Bank* table and write SQL statements for the following:
  - a. Display the number and total amount of all the account holders in each branch.
  - b. Display the number of Savings Bank account holders in each branch.
  - c. Display the details of customers with the lowest balance amount.
  - d. Display the branch and number of Current accounts in the descending order of the count.
  - e. Display the details of customers in Kozhikode branch whose amount is greater the average amount.

**APPENDIX – 2**  
**Sample List of Questions for Lab Work**

**Computer Science**

**Programming in C++ – 10 Qns. (L1 – 5, L2 – 3, L3 – 2)**

1. Input the three coefficients of a quadratic equation and find the roots. (L1)
2. Find area of a rectangle, a circle and a triangle. Use switch statement for selecting an option from a menu. (L3)
3. Find the sum of the digits of an integer number. (L1)
4. Find the sum of the squares of the first N natural numbers. (L1)
5. Find the length of a string without using strlen() function. (L1)
6. Read admission number of N students in a class and search for a given admission number in the list. Use linear search method of searching. (L1)
7. Define a function to find the factorial of a number. Using this function find the value of nCr. (L2)
8. Input an integer number and display its binary equivalent with the help of a user-defined function. (L2)
9. Define a structure to store the details of books such as Book Code, Book Title, Date of Purchase, Author, Publisher and Price. Write a program with this structure to store the details of 10 books and display the details. (L3)
10. Input string into a character pointer and count the vowels in the string. (L2)

**Web Applications – 10 Qns. (L1 – 5, L2 – 3, L3 – 2)**

1. Design a simple and attractive webpage for Kerala Tourism. It should contain features like background colour/image, headings, text formatting and font tags, images, etc. (L1)
2. Design a webpage as shown below using appropriate list tags. (L1)

**List of Nobel Laureates from India**

Rabindra Nath Tagore

He was the first to get Nobel Prize from India. He received prize in literature in 1913. He got Nobel Prize for his collection of poems "Gitanjali".

C V Raman

He got Nobel for Physics in 1930. He received Nobel Prize for his contribution called Raman Effect.

Mother Teresa

Mother Teresa who founded Missionaries of Charity which is active in more than 100 countries received Nobel Prize in 1979.

## Amartya Sen

Amartya Sen was awarded Nobel Prize in 1998 in Economics. He has made contributions to welfare economics, social choice theory etc.

## Kailash Satyarthi

He is a child right activist who founded “Bachpan Bachao Andolan” in 1980. He shared Nobel prize for peace in 2014.

3. Design a simple webpage about your school. Create another webpage named address.htm containing the school address. Give links from school page to address.htm. (L2)
4. Design a webpage containing frames that divide the screen vertically in the ratio 50:50. Design two web pages – one containing the list of Indian cricket team members and the second page containing a list of Indian football team members. (L2)
5. Design an HTML form to accept the Curriculum Vita of a job applicant. The form should provide facility to accept name, address in multiple lines, gender using option button, nationality using a list box and hobbies using check boxes. The form should provide buttons to save and clear the contents of text boxes. (L3)
6. Develop a webpage with two text boxes and a button labelled “Show”. The user can enter a number in the first text box. On clicking the button, the second text box should display the day corresponding to the given number using switch statement in JavaScript. (1 – Sunday, 2 – Monday, ....., 7 – Saturday) (L2)
7. A webpage should contain one text box for entering a text. There should be two buttons labelled “To Upper Case” and “To Lower Case”. On clicking each button, the content in the text box should be converted to upper case or lower case accordingly. Write the required JavaScript for these operations. (L1)
8. Write a PHP program to accept the total sales of a particular salesman and display commission. If the monthly sales amount is greater than 1 lakh - commission is 10%, if it is between 1 lakh and 1.5 lakh - commission is 12% and if it is greater than 1.5 lakh - commission is 15%. (L1)
9. Write a PHP program to accept a number and display it in the following format. If 5 is given, then output will be as follows:  
1  
2    2  
1    2    3  
1    2    3    4  
1    2    3    4    5 (L1)
10. Write a PHP program to accept User Id and password and check whether it is valid or not. If it is correct then display the message “Successfully Logged In” else display the message “Invalid User Id or Password”. (The User Id and password are to be stored in a table in a database and accessed from the PHP program) (L3)

### SQL – 5 Qns. (L1 – 2, L2 – 2, L3 – 1)

1. Create a table *Student* with the following fields and insert at least 5 records into the table except for the column Total. (L1)

Roll_Number	Integer	Primary key
Name	Varchar (25)	
Batch	Varchar (15)	
Mark1	Integer	
Mark2	Integer	
Mark3	Integer	
Total	Integer	

- Update the column Total with the sum of Mark1, Mark2 and Mark3.
  - List the details of students in Commerce batch.
  - Display the name and total marks of students who are failed (Total < 90).
  - Display the name and batch of those students who scored 90 or more in Mark1 and Mark2.
  - Delete the student who scored below 30 in Mark3.
2. Create a table *Employee* with the following fields and insert at least 5 records into the table except the column Gross\_pay and DA. (L1)

Emp_code	Integer	Primary key
Emp_name	Varchar (20)	
Designation	Varchar (25)	
Department	Varchar (25)	
Basic	Decimal (10,2)	
DA	Decimal (10,2)	
Gross_pay	Decimal (10,2)	

- Update DA with 75% of Basic.
  - Display the details of employees in Purchase, Sales and HR departments.
  - Update the Gross\_pay with the sum of Basic and DA.
  - Display the details of employee with gross pay below 10000.
  - Delete all the clerks from the table.
3. Create a table *Stock*, which stores daily sales of items in a shop, with the following fields and insert at least 10 records into the table. (L2)

Item_code	Integer	Primary key
Item_name	Varchar (20)	
Manufacturer_Code	Varchar (5)	
Qty	Integer	
Unit_Price	Decimal (10,2)	
Exp_Date	Date	

- a. Display the details of items which expire after 31/3/2016 in the order of expiry date.
- b. Find the number of items manufactured by the company "SATA".
- c. Remove the items which expire between 31/12/2015 and 01/06/2016.
- d. Add a new column named Reorder in the table to store the reorder level of items.
- e. Update the column Reorder with value obtained by deducting 10% of the current stock.

4. Create a table *Book* with the following fields and insert at least 5 records into the table. (L3)

Book_ID	Integer	Primary key
Book_Name	Varchar (20)	
Author_Name	Varchar (25)	
Pub_Name	Varchar (25)	
Price	Decimal (10,2)	

- a. Create a view containing the details of books published by SCERT.
- b. Display the average price of books published by each publisher.
- c. Display the details of book with the highest price.
- d. Display the publisher and number of books of each publisher in the descending order of the count.
- e. Display the title, current price and the price after a discount of 10% in the alphabetical order of book title.

5. Create a table *Bank* with the following fields and insert at least 5 records into the table. (L2)

Acc_No	Integer	Primary key
Acc_Name	Varchar (20)	
Branch_Name	Varchar (25)	
Acc_Type	Varchar (10)	
Amount	Decimal (10,2)	

- a. Display the branch-wise details of account holders in the ascending order of the amount.
- b. Insert a new column named Minimum\_Amount into the table with default value 1000.
- c. Update the Minimum\_Amount column with the value 1000 for the customers in branches other than Alappuzha and Malappuram.
- d. Find the number of customers who do not have the minimum amount 1000.
- e. Remove the details of SB accounts from Thiruvananthapuram branch who have zero (0) balance in their account.

**Directorate of Higher Secondary Education**  
**Guidelines for Lab Work and Practical Evaluation of**  
**Computer Applications (Commerce)**  
**2014 – 15 Admission onwards**

We follow outcome focussed assessment approach in the evaluation process in the Kerala School Curriculum 2013. Term-end evaluation is an important aspect of assessment. Along with term-end evaluation at the end of an academic year, practical evaluation (PE) is to be conducted. PE is the term-end assessment of the lab work done in the academic year. Lab work is an integral part of the Continuous and Comprehensive Evaluation (CCE). Hence, it should be considered for the process assessment and portfolio assessment which are the components of Continuous Evaluation (CE) score.

### **A. Syllabus for Practical**

Lab work is a part of the transaction of certain contents in the syllabus. Students can attain the learning outcomes associated with some of the concepts/content only through the lab work. Hence the practical should begin in Class XI itself and it should go on with the respective theoretical aspects. Areas to be covered for the lab work and the minimum number of problems in the three subjects are given below:

#### **Computer Applications – Commerce (25 problems)**

- |  |                      |
|--|----------------------|
| <b>1. Programming in C++</b>   | <b>(10 problems)</b> |
| • if – else statements   | (2 problems)         |
| • switch statement   | (1 problem)          |
| • Looping statements   | (3 problems)         |
| • Array manipulation   | (2 problems)         |
| • Functions  | (2 problem)          |
| <b>2. Developing HTML documents</b>  | <b>(7 problems)</b>  |
| • Basic tags, <IMG> tag  | (1 problem)          |
| • Lists (nesting)  | (1 problems)         |
| • Hyper linking  | (1 problem)          |
| • Table  | (2problems)          |
| • Frame  | (1 problem)          |
| • Form   | (1 problem)          |
| <b>3. Client side programming with JavaScript</b>  | <b>(3 problems)</b>  |
| • Control structure  | (2 problems)         |
| • Data validation  | (1 problem)          |
| <b>4. Database queries using MySQL</b>   | <b>(5 problems)</b>  |
| • Five tables should be identified and queries should be designed in such a way that all clauses, operators and aggregate functions are to be covered. |                      |

## B. Lab Work

This is an activity by which, the concepts acquired and observations noted are practically implemented in the lab, and thereby, more clarity about the concepts and operational skills are achieved. The students should also be convinced about the use of computer for problem solving with the help of user developed programs. This activity makes the students utilise the computer to develop applications in various fields. The active participation and involvement of the students are to be ensured.

A minimum of 25 problems, as specified above, are to be solved through the lab work. Sample questions from each area are given as Appendix-1 of this document. The questions are grouped into three for each area, based on the difficulty level. While selecting the minimum required questions, we should ensure that, questions are chosen from all the three groups. The number of questions from each group should be in the ratio 5:3:2 for each area of the syllabus. A sample list of 25 problems as per the foresaid criteria is given as Appendix-2.

### Practical Log Book

Practical Log Book (PLB) is a standard record book in which all the activities related to lab work are recorded. A PLB is opened in Class XI for the lab work and the same is used in Class XII. Lab work is a continuous process. The PLB should contain a minimum of 25 works as specified in the practical syllabus. The format of recording in Practical Log Book may be as follows:

#### ***Programming in C++***

LHS page	RHS page
<ul style="list-style-type: none"><li>• Algorithm / Flowchart</li><li>• Sample Input and Output</li></ul>	<ul style="list-style-type: none"><li>• Problem number and Date of practical work</li><li>• Problem statement</li><li>• Source Code</li></ul>

#### ***Web Applications (HTML documents, JavaScript)***

LHS page	RHS page
<ul style="list-style-type: none"><li>• Tags and attributes required</li><li>• Printout of resultant web page</li></ul>	<ul style="list-style-type: none"><li>• Problem number and Date of practical work</li><li>• Problem statement</li><li>• HTML Code</li></ul>

#### ***Database queries using MySQL***

LHS page	RHS page
<ul style="list-style-type: none"><li>• Table with sample records</li><li>• Output of queries</li></ul>	<ul style="list-style-type: none"><li>• Problem number and Date of practical work</li><li>• Table structure and queries</li><li>• SQL statements</li></ul>

The teacher should verify the correctness of each work and affix his/her signature along with date and remarks, if any.

## **Procedure**

The lab work consists of threefold procedure – preparatory work, tryout and reporting. Teachers should ensure that the students pass through all these three stages sequentially throughout the academic year.

**Preparatory work:** The student who comes to the computer lab to do practical work should be clear about the work he/she intends to do. He/She should also know the steps for doing the job using a computer, the software to be used, how it has to be operated, what the product should be, what should be its specifications and program code. All students should have their Practical Log Book while attending the lab period with the following details:

- Program number and date
- Problem statement
- Algorithm / Flowchart / Tags and attributes
- C++ source code/ HTML code / SQL statements

**Tryout:** In the case of C++ programming and web applications, the source code is typed, compiled and executed in the lab. During the debugging process, the corrections, if any, are noted down in the PLB also. When the output is obtained, it should be intimated to the teacher. Teacher performs process assessment and makes necessary recordings in both the PLB and Teacher's manual. Students record sample output in the PLB or take the printout of the output.

**Reporting:** The PLB with the final code and sample output (pasted printout in the case of web applications and office packages) is submitted and get it signed by the teacher before the next lab period.

The programs discussed in the class room are to be tried out in the lab. More problems are also available in the text book. Teacher is expected to ensure a minimum number of problems in the Practical Log Book covering all the areas suggested for practical evaluation. The prescribed proportion among the three groups should be strictly followed in the selection of questions.

## **C. Practical Evaluation (PE)**

The problem solving skills and the competency in using various software packages are to be assessed through PE. The following are the guidelines to be followed while conducting PE:

- The questions should strictly be from the prescribed syllabus.
- Examination will be of 3 hours duration and maximum score will be 40.

- Practical evaluation will be conducted in batches. The maximum number of students in each batch is limited to 15.
- Students must attend the PE with Practical Log Book. It should contain a minimum of 25 programs covering the practical syllabus as described earlier. Only one notebook is enough for the Practical Log Book (*no rough – fair separation*). Practical Log Book should be certified by the teacher-in-charge. The same should be verified and signed by the external examiner.
- The questions are to be finalised from the pool issued by the DHSE referring to the PLB.
- There will be three parts in the question paper. Part A contains questions from C++ programming area for Computer Science and Computer Applications (Commerce), and from Office packages in the case of Computer Applications (Humanities). Part B contains questions for web applications from the respective syllabus and Part C includes questions for database queries. A candidate has to attend two questions – one from Part A and the other from either Part B or C whichever is assigned.
- There should be a minimum of 16 question papers for each batch of 15 students. Each Question paper should contain a question from Part A and another Question from Part B or C. While framing questions for each question paper, it should be noted that if the question from Part A requires more time due to its higher level, the second question from Part B or C should be of lower level and vice versa.
- One question paper will be selected by the student at random from a set of 16 Question papers. Appropriate strategy may be adopted by the examiner to ensure the fair conduct of examination.
- Once the learner is assigned the questions, he/she should write the source code/ procedure/statements for any one of the questions and submit it to the examiner. The examiner checks the correctness of the logic or procedure and allows doing it on the computer if found correct. If the logic or procedure is approximately 70% correct, some clues or hints may be given and the student is allowed to try on the computer. If the logic (or procedure) is wrong, the examiner can give another problem from the same area with the same level. The student may be allowed to change the question within half an hour, if the question is found unanswerable. In such cases, score should be deducted appropriately.
- The debugging skills are to be assessed and credit should be given.
- The accuracy in the output is to be tested with proper sample data.
- Teacher should ensure that the programs developed as part of lab work and by the previous candidates are deleted before the commencement of the examination.
- The students are not allowed to use the help files of the software.

- The score distribution for each question in C++ should be as follows:
    - Logic of the solution (Program coding) – 8 score
    - Debugging skills (Error correction and execution) – 6 score
    - Dynamic problem solving skills – 2 score
 } 16 score
  - The score distribution for each question in web application should be as follows:
    - Proper tags and attributes (Script if required) – 8 score
    - Debugging skills (Error correction and execution) – 6 score
    - Dynamic problem solving skills – 2 score
 } 16 score
  - The score distribution for each question in SQL should be as follows:
    - Proper commands, clauses, operators, etc. – 8 score
    - Debugging skills (Error correction and execution) – 6 score
    - Dynamic problem solving skills – 2 score
 } 16 score
  - The score distribution for each question in Office packages should be as follows:
    - Procedure/Formula/Menus & Commands/Tools – 10 score
    - Creativity and formatting ability – 4 score
    - Dynamic skill in using the software – 2 score
 } 16 score
  - Total score for 2 questions – 32 score
  - Practical Log Book – 4 scores
  - Viva voce – 4 scores
- } **40 score**
- Viva voce should not create sense of fear among the students. It should not be formal in the form of an interview. It should be a casual interaction with the students during the evaluation **to check whether he/she has conceptual/process clarity in the given two questions only**. The examiner may ask 4 to 6 questions to award the scores for viva voce.
  - The mark-list of the students should be prepared, reflecting the split scores along with the total score.
  - The scores of the students are to be recorded in the mark sheet issued by the DHSE and send it to the DHSE as per the instructions given by the directorate.

*Dynamic problem solving skills may be tested as follows:*

- *After completing the program, a slight modification in the problem can be made and let the learner modify the code to effect the change.*
- *The ability of the learner can be credited by awarding the 2 scores suitably.*
- *E.g.: If the original question is to find the largest among three numbers, ask to modify the code to find the smallest.*

### Format of Score Sheet for Practical Evaluation

Sl. No.	Register Number	Qn. No.	Score Distribution						Total Score (40)
			<i>Logic/ Procedure (8 or 10)</i>	<i>Execution/ Output (6 or 4)</i>	<i>Dynamic Skills (2)</i>	Total for 2 Qns. (32)	Practical Log Book (4)	Viva Voce (4)	
1									
2									
3									
:									
:									
:									
:									
:									
:									
:									
:									
:									
15									

Name and Designation of Examiner

.....  
 .....  
 .....

Date of Exam: .....

Signature: .....

## APPENDIX – 1

### Pool of Questions - Computer Applications (Commerce)

#### Programming in C++ (10 x 3 = 30 questions)

##### Level 1

1. Input a number and check whether it is positive, negative or zero.
2. Input three numbers and find the largest.
3. Input a digit and display the corresponding word using switch.
4. Find the sum of the digits of an integer number.
5. Display the multiplication table of a number having 12 rows.
6. Find the sum of the squares of the first N natural numbers without using any formula.
7. Find the length of a string without using strlen() function.
8. Input the heights of 10 students and find the average height.
9. Find the factorial of a number with the help of a user-defined function.
10. Read admission number, name and marks of three subjects of a student. Define a function named calc() to calculate average mark.

##### Level 2

1. Input three numbers and find the difference between the smallest and the largest numbers.
2. Input the principal amount, type of account (C for current a/c or S for SB a/c) and number of years, and display the amount of interest. Rate of interest for current a/c is 8.5% and that of SB a/c is 6.5%.
3. Assume that January 1 is Monday. Write a program using switch to display the name of the day when we input a day number in that month.
4. Input a number and check whether it is palindrome or not.
5. Write a C++ program to display the following patterns:

```
*   *   *   *   *
*   *   *   *
*   *   *
*   *
*
```

6. Input a number and check whether it is prime or not.
7. Create an array of N numbers and count the number of even numbers and odd numbers in the array.

8. Input the price of a set of higher secondary textbooks and find the highest and lowest prices.
9. Input an integer number and display its binary equivalent with the help of a user-defined function.
10. Define a function to swap the contents of two variables. Using this function, interchange the values of three variables. E.g.  $A \rightarrow B \rightarrow C \rightarrow A$ .

### Level 3

1. Find the amount to be paid for the consumption of electricity when the previous and current meter-readings are given as input based on the conditions given in the table.

Units consumed	Amount per Unit
Up to 100	Rs. 0.50/-
101 – 150	Rs. 0.75/-
151 – 200	Rs. 1.00/-
201 – 250	Rs. 1.50/-
Above 250	Rs. 2.00/-

2. Input three numbers and find the smallest and the second smallest.
3. Find the area of a rectangle, a circle and a triangle. Use switch statement for selecting an option from a menu.
4. Display the first N terms of Fibonacci series.
5. Input two years (e.g. 1000, 2000) and display all leap years in between them.
6. Input the amount of sales for 12 months of a medical representative and find the average sales value without using an array.
7. Input a string and create a triangle using its characters as shown in the given example.

```

S
S   M
S   M   I
S   M   I   L
S   M   I   L   E

```

8. Read N numbers into an array and display the numbers larger than the average value.
9. Define separate functions to return simple interest and compound interest by accepting principle amount, time and rate of interest as arguments.
10. Define a function to accept an integer number and return its reverse (e.g. if the argument is 123 the return-value should be 321). Using this function display all palindrome numbers between a given range.

## Web Applications (10 x 3 = 30 Questions)

(HTML – 7, JavaScript – 3)

### Level 1

1. Design a simple and attractive webpage for Kerala Tourism. It should contain features like background colour/image, headings, text formatting and font tags, images, etc.
2. Design a webpage as shown below using appropriate list tags.

#### Permanent members in UN Security Council

- Russia
- China
- USA
- UK
- France

3. Design a personal webpage for your friend. It should have a link to his e-mail address.
4. Design a web page containing a table as shown below.

Terrestrial Planets (Source: NASA)

Planet	Day Length (In Earth hours)	Year Length (In Earth days)
Mercury	1408	88
Venus	5832	224.7
Earth	24	365.26
Mars	25	687

5. Design a web page containing a table as shown below.

Speed Limits in Kerala

Vehicles	Near School (In Km/hour)	Within Corporation/ Municipality (In Km/hour)	In other roads (In Km/hour)
Motor Cycle	25	40	50
Motor Car	25	40	70
Light motor vehicles	25	40	60
Heavy motor vehicles	15	35	60

6. Design a webpage with the heading "Department of Tourism, Government of Kerala" and save it with the file name "TourHead.htm". Create a frame page which divides it horizontally in the ratio 20:80. In the smaller area use the webpage "TourHead.htm". In the larger area use the web page created for Kerala Tourism in Question No. 1.

7. Design a simple webpage as shown below:

**Client Login**

Enter User Name

Enter your Password

8. Develop a webpage with two text boxes and a button labelled "Show". The user can enter a number in the first text box. On clicking the button, the second text box should display whether the number is even or odd. Write the required JavaScript.
9. Develop a webpage with two text boxes and a button labelled "Show". The user can enter a number in the first text box. On clicking the button, the second text box should display the sum of all numbers up to the given number. Write the required JavaScript.
10. A webpage should contain one text box for entering a text. There should be two buttons labelled "To Upper Case" and "To Lower Case". On clicking each button, the content in the text box should be converted to upper case or lower case accordingly. Write the required JavaScript for these operations.

## Level 2

1. Design a webpage for promoting vegetable cultivation at homes as shown in the figure. It should contain features like background colour/image, headings and stylish fonts, images, marquee, etc.



2. Design a webpage as shown below using appropriate list tags.

### List of Nobel Laureates from India

Rabindra Nath Tagore

He was the first to get Nobel Prize from India. He received prize in literature in 1913. He got Nobel Prize for his collection of poems "Gitanjali".

C V Raman

He got Nobel for Physics in 1930. He received Nobel Prize for his contribution called Raman Effect.

Mother Teresa

Mother Teresa who founded Missionaries of Charity which is active in more than 100 countries received Nobel Prize in 1979.

Amartya Sen

Amartya Sen was awarded Nobel Prize in 1998 in Economics. He has made contributions to welfare economics, social choice theory etc.

Kailash Satyarthi

He is a child right activist who founded "Bachpan Bachao Andolan" in 1980. He shared Nobel prize for peace in 2014.

3. Design a simple webpage about your school. Create another webpage named address.htm containing the school address. Give links from school page to address.htm.
4. Design a webpage that displays the share prices of various companies as given below.

**National Stock Exchange – Market on 13<sup>th</sup> June 2015**

Sector	Company	Price (Rs.)
IT	Infosys	1978.05
	TCS	2520.00
Banking	ICICI Bank	296.15
	Axis Bank	551.90
Pharmaceuticals	Sun Pharma	814.90
	Aurobindo Pharma	1279.00

5. Design a webpage that displays the indent for Plus Two text books as given below.

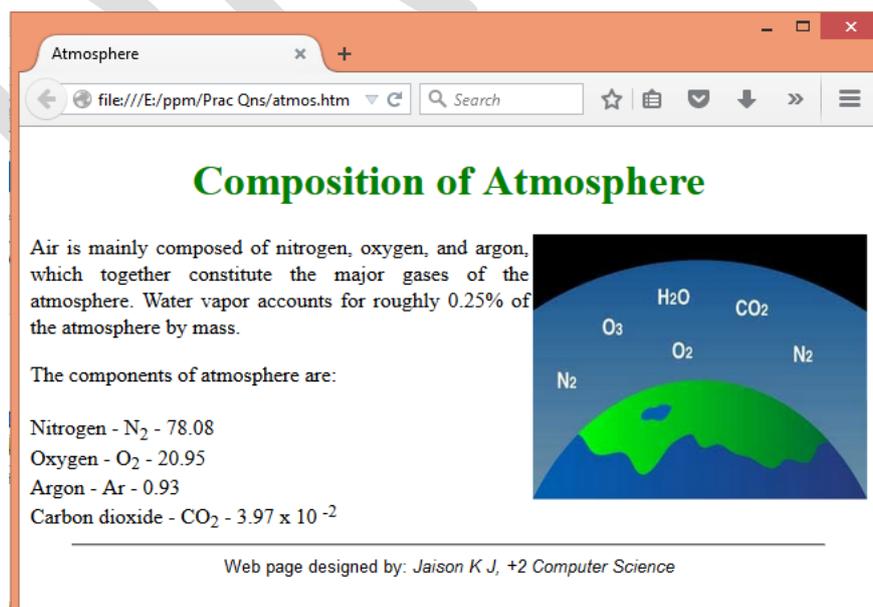
Section	Book Name	Quantity
Language	English	100
	Malayalam	100
Commerce	Accountancy	80
	Business Studies	90
	Economics	85
	Computer Applications	100

6. Design a webpage containing frames that divide the screen vertically in the ratio 50:50. Design two web pages – one containing the list of Indian cricket team members and the second page containing a list of Indian football team members.

7. Consider that your school is hosting an inter-school IT fair. Design a form webpage that contains a form for accepting registrations. The form page should contain facility to enter school name, user name, password and a mobile phone number. It should also contain buttons for saving and clearing the data entered.
8. Develop a simple calculator using JavaScript. The webpage should contain two text boxes of entering two numbers and another text box for displaying the answer. There should be four buttons to perform addition, subtraction, multiplication and division. On clicking a button, the corresponding result should be displayed in the answer box. Write the required JavaScript.
9. Develop a webpage with two text boxes and a button labeled "Show". The user can enter a number in the first text box. On clicking the button, the second text box should display the day corresponding to the given number using switch statement in JavaScript. (1 – Sunday, 2 – Monday, ....., 7 – Saturday).
10. Develop a webpage for the inter-school IT fair conducted by your school. The webpage should contain facility to enter school name, user name, password and a mobile phone number. It should also contain buttons for saving and clearing the data entered. Ensure that the data is entered in all the text boxes and the text box for mobile phone number contains only numbers. Write JavaScript for this validation.

### Level 3

1. Design a webpage about atmosphere as shown below. It should contain features like background colour/image, headings and stylish fonts, images, etc.



2. Design a webpage showing tourist destinations in Kerala as shown below.

## Department of Tourism Government of Kerala

### *Tourist Destinations in Kerala*

1. Beaches
    - a. Kovalam
    - b. Muzhuppilangad
    - c. Kappad
  2. Hill Stations
    - i. Munnar
    - ii. Wayanad
    - iii. Gavi
  3. Wildlife
    - a. Iravikulam
    - b. Muthanga
    - c. Kadalundi
3. Design an attractive webpage about India. Provide details about the Indian freedom movement at the lower part of the webpage. Also create another webpage containing the list of states in India, named 'states.htm'. Create two links in the main webpage – one to link to the bottom of the webpage where details about freedom movement is given and another to the webpage 'states.htm'.
4. Design the following table using HTML.

Class	Strength		
	Science	Commerce	Humanities
Plus One	49	50	48
Plus Two	50	50	49

5. Design the following catalogue of products for an IT shop using HTML.

Laser Printer	
	Model: Canon LBP 2900 Price: Rs. 6500
Scanner	
	Model: HP Scanjet G2410 Price: Rs. 3800
Monitor	

	Model: LG 22MP67VQ Price: Rs. 10500
<b>Keyboard &amp; Mouse Combo</b>	
	Model: Logitech MK200 USB Price: Rs. 950

6. Design an HTML form to accept the Curriculum Vita of a job applicant. The form should provide facility to accept name, address in multiple lines, gender using option button, nationality using a list box and hobbies using check boxes. The form should provide buttons to save and clear the contents of text boxes.
7. Design three web pages – one containing a heading displaying your school name, named 'head.htm'; second webpage containing the list of teachers, named 'teachers.htm'; and the third webpage about your school, named 'school.htm'. Create a frame dividing the browser window into two sections horizontally in the ratio 15:85. The top frame should display the webpage 'head.htm'. The bottom frame has to be divided into 2 frames vertically in the ratio 30:70. The left part should display the webpage 'teachers.htm' and the right part should display the webpage 'school.htm'.
8. Develop a webpage to find the capital of Indian States. The page should contain a dropdown list from which the user can select a state. On clicking the show button, the web page should display the capital of the state in another text box. Write the required JavaScript.
9. Develop a webpage with two text boxes and a button labelled "Show". The user can enter a number in the first text box. On clicking the button, the second text box should display whether the number is prime or not. Write the required JavaScript.
10. Develop a webpage containing a two text boxes for entering User name and Password. There should be a login button also. On clicking the login button, it should check the followings:
  - a) The user name should contain at least 10 characters and all the letters should be in lower cases.
  - b) The password should contain at least 7 characters and should contain at least one lower case letter, one upper case letter and a digit.

## SQL (5 x 3 = 15 Questions)

### Level 1

1. Create a table *Student* with the following fields and insert at least 5 records into the table except for the column Total.

Roll_Number	Integer	Primary key
Name	Varchar (25)	
Batch	Varchar (15)	
Mark1	Integer	
Mark2	Integer	
Mark3	Integer	
Total	Integer	

- a. Update the column Total with the sum of Mark1, Mark2 and Mark3.
  - b. List the details of students in Commerce batch.
  - c. Display the name and total marks of students who are failed (Total < 90).
  - d. Display the name and batch of those students who scored 90 or more in Mark1 and Mark2.
  - e. Delete the student who scored below 30 in Mark3.
2. Create a table *Employee* with the following fields and insert at least 5 records into the table except the column Gross\_pay and DA.

Emp_code	Integer	Primary key
Emp_name	Varchar (20)	
Designation	Varchar (25)	
Department	Varchar (25)	
Basic	Decimal (10,2)	
DA	Decimal (10,2)	
Gross_pay	Decimal (10,2)	

- a) Update DA with 75% of Basic.
  - b) Display the details of employees in Purchase, Sales and HR departments.
  - c) Update the Gross\_pay with the sum of Basic and DA.
  - d) Display the details of employee with gross pay below 10000.
  - e) Delete all the clerks from the table.
3. Create a table *Stock*, which stores daily sales of items in a shop, with the following fields and insert at least 10 records into the table.

Item_code	Integer	Primary key
Item_name	Varchar (20)	
Manufacturer_Code	Varchar (5)	
Qty	Integer	
Unit_Price	Decimal (10,2)	
Exp_Date	Date	

- a. Display the details of items which expire on 31/3/2016.
  - b. Display the item names with stock zero.
  - c. Remove the items which expire on 31/12/2015.
  - d. Increase the unit price of all items by 10%.
  - e. List the items manufactured by "ABC & Co" with quantity above 100.
4. Create a table *Book* with the following fields and insert at least 5 records into the table.

Book_ID	Integer	Primary key
Book_Name	Varchar (20)	
Author_Name	Varchar (25)	
Pub_Name	Varchar (25)	
Price	Decimal (10,2)	

- a. Display the details of books with price 100 or more.
  - b. Display the Name of all the books published by SCERT.
  - c. Increase the price of the books by 10% which are published by SCERT.
  - d. List the details of books with the title containing the word "Programming" at the end.
  - e. Remove all the books written by "Balaguruswamy".
5. Create a table *Bank* with the following fields and insert at least 5 records into the table.

Acc_No	Integer	Primary key
Acc_Name	Varchar (20)	
Branch_Name	Varchar (25)	
Acc_Type	Varchar (10)	
Amount	Decimal (10,2)	

- a. Display the account details of "Savings Account" in Kodungallur branch.
- b. Change the branch name "Trivandrum" to "Thiruvananthapuram".
- c. Display the details of customers in Thiruvananthapuram, Ernakulam and Kozhikode.
- d. List the details of customers in Thrissur branch having a minimum balance of Rs. 5000.
- e. Delete all the current accounts in Mahe branch.

## Level 2

1. Use *Student* table and write SQL statements for the following:
  - a. Update the column Total with the sum of Mark1, Mark2 and Mark3.
  - b. List the details of students in Science batch in the ascending order of their names.

- c. Display the highest Total in Humanities batch.
  - d. List the details of students who passed (Subject minimum is 30 and aggregate minimum is 90) the course.
  - e. Delete the students of Commerce batch who failed in any one subject.
2. Use *Employee* table and write SQL statements for the following:
  - a. Update DA with 75% of Basic for Managers and 80% Basic for all other employees.
  - b. Update the Gross\_pay with the sum of Basic and DA
  - c. Display the details of employees in Purchase, Sales and HR departments in descending order of Gross pay.
  - d. Find the number of employees in Accounts department.
  - e. Delete the details of clerks whose Gross pay is below 5000.
3. Use *Stock* table and write SQL statements for the following:
  - a. Display the details of items which expire after 31/3/2016 in the order of expiry date.
  - b. Find the number of items manufactured by the company "SATA".
  - c. Remove the items which expire between 31/12/2015 and 01/06/2016.
  - d. Add a new column named Reorder in the table to store the reorder level of items.
  - e. Update the column Reorder with value obtained by deducting 10% of the current stock.
4. Use *Book* table and write SQL statements for the following:
  - a. Insert a column named Number\_of\_pages into the table.
  - b. Display the details of books of the same author together in the descending order of the price published by NCERT.
  - c. Display the average price of books published by "BPB" and written by "Robert Lafore".
  - d. List the details of books published by "PHI" that contains the word "Programming" in the title.
  - e. Remove all the books written by "Balaguruswamy", "Kanetkar" or "Robert Lafore".
5. Use *Bank* table and write SQL statements for the following:
  - a. Display the branch-wise details of account holders in the ascending order of the amount.

- b. Insert a new column named `Minimum_Amount` into the table with default value 1000.
- c. Update the `Minimum_Amount` column with the value 1000 for the customers in branches other than Alappuzha and Malappuram.
- d. Find the number of customers who do not have the minimum amount 1000.
- e. Remove the details of SB accounts from Thiruvananthapuram branch who have zero (0) balance in their account.

### Level 3

1. Use *Student* table and write SQL statements for the following:
  - a. Update the column `Total` with the sum of `Mark1`, `Mark2` and `Mark3`.
  - b. Add a new column `Average` to the table *Student*.
  - c. Update the column `Average` with average marks.
  - d. List the details of student who has the highest `Total`.
  - e. Delete the students of Commerce batch who failed in any two subjects.
2. Use *Employee* table and write SQL statements for the following:
  - a. Update `DA` with 75% of `Basic` for Managers and 80% of `Basic` for all other employees.
  - b. Update the `Gross_pay` with the sum of `Basic` and `DA`.
  - c. Display name, department and gross pay of employees in Purchase, Sales and HR departments. The employees in the same department should appear together in the ascending order of `Gross pay`.
  - d. Find the number of employees in each department where there is minimum of 5 employees.
  - e. Show the details of employee with `Gross pay` greater than the average gross pay.
3. Use *Stock* table and write SQL statements for the following:
  - a. Display the number of items manufactured by each company which expire after 31/3/2016.
  - b. Add a new column `Reorder` in the table to store the reorder level of items.
  - c. Update the column `Reorder` with value obtained by deducting 10% of the current stock.
  - d. Display the details of items which expire at last.
  - e. Remove the items which expire before 01/03/2015 or that are manufactured by "ABC & Co".

4. Use *Book* table and write SQL statements for the following:
  - a. Create a view containing the details of books published by SCERT.
  - b. Display the average price of books published by each publisher.
  - c. Display the details of book with the highest price.
  - d. Display the publisher and number of books of each publisher in the descending order of the count.
  - e. Display the title, current price and the price after a discount of 10% in the alphabetical order of book title.
  
5. Use *Bank* table and write SQL statements for the following:
  - a. Display the number and total amount of all the account holders in each branch.
  - b. Display the number of Savings Bank account holders in each branch.
  - c. Display the details of customers with the lowest balance amount.
  - d. Display the branch and number of Current accounts in the descending order of the count.
  - e. Display the details of customers in Kozhikode branch whose amount is greater the average amount.

## APPENDIX – 2

### Sample List of Questions for Lab Work Computer Applications (Commerce)

#### Programming in C++ – 10 Qns. (L1 – 5, L2 – 3, L3 – 2)

1. Input a number and check whether it is positive, negative or zero. (L1)
2. Input the principal amount, type of account (C for current a/c or S for SB a/c) and number of years, and display the amount of interest. Rate of interest for current a/c is 8.5% and that of SB a/c is 6.5%. (L2)
3. Find the area of a rectangle, a circle and a triangle. Use switch statement for selecting an option from a menu. (L3)
4. Find the sum of the digits of an integer number. (L1)
5. Display the multiplication table of a number having 12 rows. (L1)
6. Find the sum of the squares of the first N natural numbers without using any formula. (L1)
7. Find the length of a string without using strlen() function. (L1)
8. Input the price of a set of higher secondary textbooks and find the highest and lowest prices. (L2)
9. Define separate functions to return simple interest and compound interest by accepting principle amount, time and rate of interest as arguments. (L3)
10. Define a function to swap two variables. Using this function, interchange the values of three variables. E.g. A→B→C→A. (L2)

#### Web Applications – 10 Qns. (L1 – 5, L2 – 3, L3 – 2)

1. Design a simple and attractive webpage for Kerala Tourism. It should contain features like background colour/image, headings, text formatting and font tags, images, etc. (L1)
2. Design a webpage as shown below using appropriate list tags. (L2)

#### List of Nobel Laureates from India

Rabindra Nath Tagore

He was the first to get Nobel Prize from India. He received prize in literature in 1913. He got Nobel Prize for his collection of poems "Gitanjali".

C V Raman

He got Nobel for Physics in 1930. He received Nobel Prize for his contribution called Raman Effect.

Mother Teresa

Mother Teresa who founded Missionaries of Charity which is active in more than 100 countries received Nobel Prize in 1979.

Amartya Sen

Amartya Sen was awarded Nobel Prize in 1998 in Economics. He has made contributions to welfare economics, social choice theory etc.

Kailash Satyarthi

He is a child right activist who founded “Bachpan Bachao Andolan” in 1980. He shared Nobel prize for peace in 2014.

3. Design a simple webpage about your school. Create another webpage named address.htm containing the school address. Give links from school page to address.htm. (L2)
4. Design the following table using HTML: (L3)

Class	Strength		
	Science	Commerce	Humanities
Plus One	49	50	48
Plus Two	50	50	49

5. Design a web page containing a table as shown below: (L1)

**Speed Limits in Kerala**

Vehicles	Near School (In Km/hour)	Within Corporation/ Municipality (In Km/hour)	In other roads (In Km/hour)
Motor Cycle	25	40	50
Motor Car	25	40	70
Light motor vehicles	25	40	60
Heavy motor vehicles	15	35	60

6. Design a webpage containing frames that divide the screen vertically in the ratio 50:50. Design two web pages – one containing the list of Indian cricket team members and the second page containing a list of Indian football team members. (L2)
7. A webpage should contain one text box for entering a text. There should be two buttons labelled “To Upper Case” and “To Lower Case”. On clicking each button, the content in the text box should be converted to upper case or lower case accordingly. Write the required JavaScript for these operations. (L1)
8. Develop a webpage to find the capital of Indian States. The page should contain a dropdown list from which the user can select a state. On clicking the show button, the web page should display the capital of the state in another text box. Write the required JavaScript. (L3)
9. Develop a webpage with two text boxes and a button labelled “Show”. The user can enter a number in the first text box. On clicking the button, the second text box should display the sum of all numbers up to the given number. Write the required JavaScript. (L1)

10. A webpage should contain one text box for entering a text. There should be two buttons labelled “To Upper Case” and “To Lower Case”. On clicking each button, the content in the text box should be converted to upper case or lower case accordingly. Write the required JavaScript for these operations. (L1)

**SQL – 5 Qns. (L1 – 2, L2 – 2, L3 – 1)**

1. Create a table *Student* with the following fields and insert at least 5 records into the table except for the column Total. (L1)

Roll_Number	Integer	Primary key
Name	Varchar (25)	
Batch	Varchar (15)	
Mark1	Integer	
Mark2	Integer	
Mark3	Integer	
Total	Integer	

- Update the column Total with the sum of Mark1, Mark2 and Mark3.
  - List the details of students in Commerce batch.
  - Display the name and total marks of students who are failed (Total < 90).
  - Display the name and batch of those students who scored 90 or more in Mark1 and Mark2.
  - Delete the student who scored below 30 in Mark3.
2. Create a table *Employee* with the following fields and insert at least 5 records into the table except the column Gross\_pay and DA. (L1)

Emp_code	Integer	Primary key
Emp_name	Varchar (20)	
Designation	Varchar (25)	
Department	Varchar (25)	
Basic	Decimal (10,2)	
DA	Decimal (10,2)	
Gross_pay	Decimal (10,2)	

- Update DA with 75% of Basic.
  - Display the details of employees in Purchase, Sales and HR departments.
  - Update the Gross\_pay with the sum of Basic and DA.
  - Display the details of employee with gross pay below 10000.
  - Delete all the clerks from the table.
3. Create a table *Stock*, which stores daily sales of items in a shop, with the following fields and insert at least 10 records into the table. (L2)

Item_code	Integer	Primary key
Item_name	Varchar (20)	
Manufacturer_Code	Varchar (5)	
Qty	Integer	
Unit_Price	Decimal (10,2)	
Exp_Date	Date	

- a. Display the details of items which expire after 31/3/2016 in the order of expiry date.
- b. Find the number of items manufactured by the company "SATA".
- c. Remove the items which expire between 31/12/2015 and 01/06/2016.
- d. Add a new column named Reorder in the table to store the reorder level of items.
- e. Update the column Reorder with value obtained by deducting 10% of the current stock.

4. Create a table *Book* with the following fields and insert at least 5 records into the table. (L3)

Book_ID	Integer	Primary key
Book_Name	Varchar (20)	
Author_Name	Varchar (25)	
Pub_Name	Varchar (25)	
Price	Decimal (10,2)	

- a. Create a view containing the details of books published by SCERT.
- b. Display the average price of books published by each publisher.
- c. Display the details of book with the highest price.
- d. Display the publisher and number of books of each publisher in the descending order of the count.
- e. Display the title, current price and the price after a discount of 10% in the alphabetical order of book title.

5. Create a table *Bank* with the following fields and insert at least 5 records into the table. (L2)

Acc_No	Integer	Primary key
Acc_Name	Varchar (20)	
Branch_Name	Varchar (25)	
Acc_Type	Varchar (10)	
Amount	Decimal (10,2)	

- a. Display the branch-wise details of account holders in the ascending order of the amount.
- b. Insert a new column named Minimum\_Amount into the table with default value 1000.
- c. Update the Minimum\_Amount column with the value 1000 for the customers in branches other than Alappuzha and Malappuram.
- d. Find the number of customers who do not have the minimum amount 1000.
- e. Remove the details of SB accounts from Thiruvananthapuram branch who have zero (0) balance in their account.

**Directorate of Higher Secondary Education**  
**Guidelines for Lab Work and Practical Evaluation of**  
**Computer Applications (Humanities)**  
**2014 – 15 Admission onwards**

We follow outcome focussed assessment approach in the evaluation process in the Kerala School Curriculum 2013. Term-end evaluation is an important aspect of assessment. Along with term-end evaluation at the end of an academic year, practical evaluation (PE) is to be conducted. PE is the term-end assessment of the lab work done in the academic year. Lab work is an integral part of the Continuous and Comprehensive Evaluation (CCE). Hence, it should be considered for the process assessment and portfolio assessment which are the components of Continuous Evaluation (CE) score.

### **A. Syllabus for Practical**

Lab work is a part of the transaction of certain contents in the syllabus. Students can attain the learning outcomes associated with some of the concepts/content only through the lab work. Hence the practical should begin in Class XI itself and it should go on with the respective theoretical aspects. Areas to be covered for the lab work and the minimum number of problems in the three subjects are given below:

#### **Computer Applications – Humanities (25 problems)**

- |  |                      |
|--|----------------------|
| <b>1. Office packages</b>  | <b>(10 problems)</b> |
| • Spreadsheet  | (2 problems)         |
| • Presentation software  | (2 problems)         |
| • Image editing  | (2 problems)         |
| • Word processing including table, mail merge, indexing, table of contents   | (4 problems)         |
| <b>2. Web applications</b>   | <b>(10 problems)</b> |
| • Basic tags in HTML   | (1 problem)          |
| • Inserting image  | (1 problem)          |
| • Lists  | (2 problems)         |
| • Hyper linking  | (1 problem)          |
| • Table  | (1 problem)          |
| • Frame  | (1 problem)          |
| • Form   | (1 problem)          |
| • CSS  | (2 problems)         |
| <b>3. Database queries using MySQL</b>   | <b>(5 problems)</b>  |
| • Five tables should be identified and queries should be designed in such a way that all clauses, operators and aggregate functions are to be covered. |                      |

## B. Lab Work

This is an activity by which, the concepts acquired and observations noted are practically implemented in the lab, and thereby, more clarity about the concepts and operational skills are achieved. The students should also be convinced about the use of computer for problem solving with the help of user developed programs. This activity makes the students utilise the computer to develop applications in various fields. The active participation and involvement of the students are to be ensured.

A minimum of 25 problems, as specified above, are to be solved through the lab work. Sample questions from each area are given as Appendix-1 of this document. The questions are grouped into three for each area, based on the difficulty level. While selecting the minimum required questions, we should ensure that, questions are chosen from all the three groups. The number of questions from each group should be in the ratio 5:3:2 for each area of the syllabus. A sample list of 25 problems as per the foresaid criteria is given as Appendix-2.

### Practical Log Book

Practical Log Book (PLB) is a standard record book in which all the activities related to lab work are recorded. A PLB is opened in Class XI for the lab work and the same is used in Class XII. Lab work is a continuous process. The PLB should contain a minimum of 25 works as specified in the practical syllabus. The format of recording in Practical Log Book may be as follows:

#### Office Packages

LHS page	RHS page
<ul style="list-style-type: none"><li>• Print out of final product</li><li>• Name of file and folder</li></ul>	<ul style="list-style-type: none"><li>• Problem number and Date of practical work</li><li>• Procedure in steps</li><li>• Menus/Commands/Tools used</li></ul>

#### Web Applications (HTML documents, CSS)

LHS page	RHS page
<ul style="list-style-type: none"><li>• Tags and attributes required</li><li>• Printout of resultant web page</li></ul>	<ul style="list-style-type: none"><li>• Problem number and Date of practical work</li><li>• Problem statement</li><li>• HTML Code</li></ul>

#### Database queries using MySQL

LHS page	RHS page
<ul style="list-style-type: none"><li>• Table with sample records</li><li>• Output of queries</li></ul>	<ul style="list-style-type: none"><li>• Problem number and Date of practical work</li><li>• Table structure and queries</li><li>• SQL statements</li></ul>

The teacher should verify the correctness of each work and affix his/her signature along with date and remarks, if any.

## Procedure

The lab work consists of threefold procedure – preparatory work, tryout and reporting. Teachers should ensure that the students pass through all these three stages sequentially throughout the academic year.

**Preparatory work:** The student who comes to the computer lab to do practical work should be clear about the work he/she intends to do. He/She should also know the steps for doing the job using a computer, the software to be used, how it has to be operated, what the product should be, what should be its specifications and program code. All students should have their Practical Log Book while attending the lab period with the following details:

- Program number and date
- Problem statement
- Menus and commands / Tags and attributes
- Procedure / HTML code / SQL statements

**Tryout:** In the case of web applications, the html code is typed and executed in the lab. During the debugging process, the corrections, if any, are noted down in the PLB also. When the output is obtained, it should be intimated to the teacher. Teacher performs process assessment and makes necessary recordings in both the PLB and Teacher’s manual. Students record sample output in the PLB or take the printout of the output.

**Reporting:** The PLB with the final code and sample output (pasted printout in the case of web applications and office packages) is submitted and get it signed by the teacher before the next lab period.

The programs discussed in the class room are to be tried out in the lab. More problems are also available in the text book. Teacher is expected to ensure a minimum number of problems in the Practical Log Book covering all the areas suggested for practical evaluation. The prescribed proportion among the three groups should be strictly followed in the selection of questions.

## C. Practical Evaluation (PE)

The problem solving skills and the competency in using various software packages are to be assessed through PE. The following are the guidelines to be followed while conducting PE:

- The questions should strictly be from the prescribed syllabus.
- Examination will be of 3 hours duration and maximum score will be 40.
- Practical evaluation will be conducted in batches. The maximum number of students in each batch is limited to 15.
- Students must attend the PE with Practical Log Book. It should contain a minimum of 25 programs covering the practical syllabus as described earlier. Only one notebook is

enough for the Practical Log Book (*no rough – fair separation*). Practical Log Book should be certified by the teacher-in-charge. The same should be verified and signed by the external examiner.

- The questions are to be finalised from the pool issued by the DHSE referring to the PLB.
- There will be three parts in the question paper. Part A contains questions from C++ programming area for Computer Science and Computer Applications (Commerce), and from Office packages in the case of Computer Applications (Humanities). Part B contains questions for web applications from the respective syllabus and Part C includes questions for database queries. A candidate has to attend two questions – one from Part A and the other from either Part B or C whichever is assigned.
- There should be a minimum of 16 question papers for each batch of 15 students. Each question paper should contain a question from Part A and another Question from Part B or C. While framing questions for each Question paper, it should be noted that if the question from Part A requires more time due to its higher level, the second question from Part B or C should be of lower level and vice versa.
- One question paper will be selected by the student at random from a set of 16 Question papers. Appropriate strategy may be adopted by the examiner to ensure the fair conduct of examination.
- Once the learner is assigned the questions, he/she should write the source code/ procedure/statements for any one of the questions and submit it to the examiner. The examiner checks the correctness of the logic or procedure and allows doing it on the computer if found correct. If the logic or procedure is approximately 70% correct, some clues or hints may be given and the student is allowed to try on the computer. If the logic (or procedure) is wrong, the examiner can give another problem from the same area with the same level. The student may be allowed to change the question within half an hour, if the question is found unanswerable. In such cases, score should be deducted appropriately.
- The debugging skills are to be assessed and credit should be given.
- The accuracy in the output is to be tested with proper sample data.
- The score distribution for each question in C++ should be as follows:
  - Logic of the solution (Program coding) – 8 score
  - Debugging skills (Error correction and execution) – 6 score
  - Dynamic problem solving skills – 2 score16 score
- The score distribution for each question in web application should be as follows:
  - Proper tags and attributes (Script if required) – 8 score
  - Debugging skills (Error correction and execution) – 6 score
  - Dynamic problem solving skills – 2 score16 score

- The score distribution for each question in SQL should be as follows:
    - Proper commands, clauses, operators, etc. – 8 score
    - Debugging skills (Error correction and execution) – 6 score
    - Dynamic problem solving skills – 2 score
- } 16 score
- The score distribution for each question in Office packages should be as follows:
    - Procedure/Formula/Menus & Commands/Tools – 10 score
    - Creativity and formatting ability – 4 score
    - Dynamic skill in using the software – 2 score
- } 16 score

- Total score for 2 questions – 32 score
  - Practical Log Book – 4 scores
  - Viva voce – 4 scores
- } **40 score**

- Viva voce should not create sense of fear among the students. It should not be formal in the form of an interview. It should be a casual interaction with the students during the evaluation **to check whether he/she has conceptual/process clarity in the given two questions only**. The examiner may ask 4 to 6 questions to award the scores for viva voce.
- The mark-list of the students should be prepared, reflecting the split scores along with the total score.
- The scores of the students are to be recorded in the mark sheet issued by the DHSE and send it to the DHSE as per the instructions given by the directorate.

*Dynamic problem solving skills may be tested as follows:*

- *After completing the program, a slight modification in the problem can be made and let the learner modify the code to effect the change.*
- *The ability of the learner can be credited by awarding the 2 scores suitably.*
- *E.g.: If the original question is to find the largest among three numbers, ask to modify the code to find the smallest.*

### Format of Score Sheet for Practical Evaluation

Sl. No.	Register Number	Qn. No.	Score Distribution						Total Score (40)
			<i>Logic/ Procedure (8 or 10)</i>	<i>Execution/ Output (6 or 4)</i>	<i>Dynamic Skills (2)</i>	Total for 2 Qns. (32)	Practical Log Book (4)	Viva Voce (4)	
1									
2									
3									
:									
15									

Name and Designation of Examiner

.....  
 .....  
 .....

Date of Exam: .....

Signature: .....

## APPENDIX – 1

### Pool of Questions - Computer Applications (Humanities)

#### Office Packages (10 x 3 = 30 questions)

#### (Spreadsheet – 2, Presentation – 2, Image Editing – 2, Word processing – 4)

##### Level 1

1. Prepare an examination time table using Spreadsheet software as given below:

Date	Subject	Time	Venue
12/8/2015	English	10:00 – 11:00	Library hall
13/8/2015	Sec. Lang.	10:00 – 11:00	Auditorium
14/8/2015	Political Science	10:00 – 11:00	Audio-Visual room
15/8/2015	Gandhian Studies	10:00 – 11:00	Library hall
16/8/2015	Comp. Appln.	10:00 – 11:00	Computer Lab

- a. Save the file with name 'EXAM'.
  - b. **Bold** face all column titles.
  - c. Make the contents of the entire cell *Italic*.
  - d. Change the row height to 20.
  - e. Increase the column width of the table to fit the contents of the cells in a single line.
  - f. Insert a new column with column title 'Sl.No.' as the first column.
  - g. Save the worksheet again.
2. Create the following sales bill using worksheet software:

ABC Sales Emporium			
Sales Bill			Date:
Sl.No.	Item Name	Unit Price	
		Rs.	Ps.
1	Book	25	00
2	Pen	15	50
3	Paper	30	00
	<b>Total Amount</b>	70	50

- a. Save the file as 'BILL'.
- b. **Bold** face all the contents of the bill.
- c. Increase the font size of entire contents to 13.
- d. Enter the current date in the place provided at the top right side and format the cell in dd-mmm-yy format.
- e. Format the cells containing price in currency format.
- f. Save the file again.

3. Open a new presentation file and perform the following activities
  - a. In the first slide type the matter “PROTECT OUR ENVIRONMENT”.
  - b. Bold face the matter and change size to 16.
  - c. Insert a picture (provided) as the back ground.
  - d. Duplicate the slide.
  - e. Change the content to “PLANT MORE TREES”.
  - f. Insert a video file (provided).
  - g. Save the file.

4. Create a new presentation file and perform the following tasks:
  - a. Insert the following content in the first slide



- b. Change the background colour of the slide
  - c. Insert a new slide and insert an image of Kerala state (provided).
  - d. Insert a note to the slide as God’s Own Country.
  - e. Save the file.
5. Open a file in GIMP. Create the picture of Indian national flag. Save the file with name ‘INDIA.XCF’. Export it to ‘jpg’ format.
6. You are supplied with the image of a car (car.jpg). Open the file in GIMP and perform the following operations:
  - a. Rotate the picture to 40 degrees.
  - b. Flip the picture
  - c. Shear the picture.
  - d. Save the picture after each activity with different names.
7. Using the word processor (LibreOffice Writer), create a leave letter addressed to your class teacher, requesting for one day leave. Perform the following activities also in the same document
  - a. Save the file as ‘Leave.odt’.
  - b. Bold face the ‘From’ and ‘To’ addresses appearing in the document.
  - c. Change the font size of above addresses to 12.
  - d. Make the body of the letter justify within left and right margins.
  - e. Change the line spacing of the body of the letter to double and font size 11.
  - f. Right align the name and signature at the end of the document.
  - g. Save the file again.
8. Prepare your class time table using Writer.
  - a. Save the document with name ‘Timetable.odt’.
  - b. Bold face the contents.

- c. Change the column width so as to adjust the contents of the cell.
- d. Format the table using an attractive predefined format.
- e. Insert a new row at the top of the table and enter the title 'TIME TABLE'.
- f. Insert a column after the fifth period and enter the content as 'LUNCH BREAK'.
- g. Save the file with new name 'TIME TABLE'.

9. Prepare the following table using Writer:

Section		Male	Female	Total
UP		7	10	17
HS		12	17	29
HSS	Science	3	7	10
	Commerce	2	3	5
	Humanities	2	1	3
	Languages	7	8	15
<b>Total</b>		<b>33</b>	<b>46</b>	<b>79</b>

- a. Save the file as 'STAFF.ODT'.
- b. Format the table using an attractive pre-defined format.
- c. Insert a row immediately after the header row and store the details of LP section.

10. Open a new document in Writer. Type the following matter and do the given tasks:

#### MICROCOMPUTERS

The Microcomputer has the lowest level capacity. The machine has memories that are generally made of semiconductors fabricated on silicon chips. Large-scale production of silicon chips began in 1971 and this has been of great use in the production of microcomputers. The microcomputer is a digital computer system that is controlled by a stored program that uses a microprocessor, a programmable ROM and a RAM. The ROM defines the instructions to be executed by the computer while RAM is the functional equivalent of computer memory.

- a. Save the file with name 'COMPUTER'.
- b. Centralise the heading 'MICROCOMPUTER'.
- c. Change the font face of the paragraph to 'Times New Roman' and font size to 14.
- d. Bold face and underline the paragraph heading.
- e. Change the colour of the heading text to Green and paragraph text to Blue.
- f. Copy the first sentence of the paragraph and place it at the end.
- g. Change the line spacing of the paragraph to double spacing and justify the paragraph.
- h. Save the document.

#### Level 2

1. Create the sales bill given above (Question 2 - Level 1) using spreadsheet software and do the following tasks:
  - a. Save the file with name 'SALES'
  - b. Add two more sample data in the bill.

- c. Add two new columns with column header 'Discount'.
- d. Enter the Discount percentage in a separate cell in the worksheet.
- e. Calculate Discount for all products based on Unit Price (Rs. part only).  
(Hint: Use absolute referencing to the cells containing the Discount percentage.)
- f. Add a new column with column header 'Net Price'.
- g. Calculate Net Price for all products (Net Price= Unit Price – Discount).
- h. Calculate the total bill amount.
- i. Save the file with name 'SALES'.

2. Create a worksheet containing the details of 5 employees in a company with the following fields:

Employee Name, Designation, Basic salary, DA, HRA, Gross Salary, PF, Net Salary

- a. Save the file with name 'EMPLOY'.
- b. Calculate DA, HRA, Gross Salary, PF and Net Salary for all employees.
- c. Find the total salary paid to all employees by the company in a separate cell.
- d. Save the file.

**Calculations:**

DA is 60% of Basic salary, HRA is 5% of Basic salary and PF is 10%.

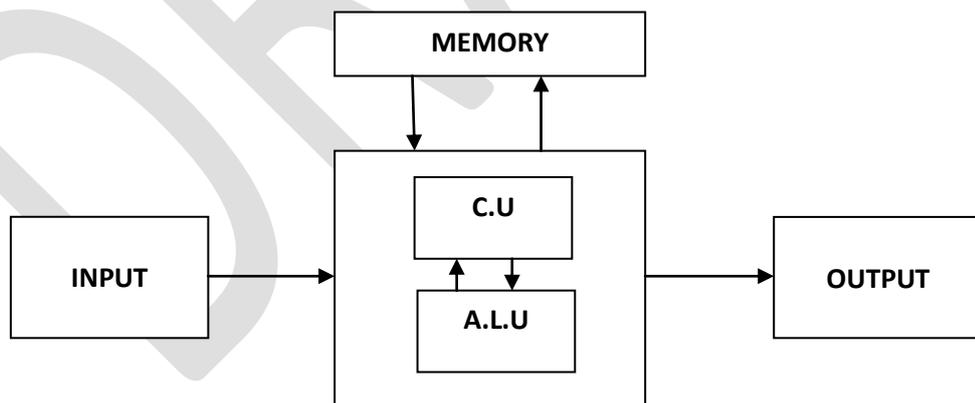
Gross salary = Basic salary + DA+ HRA

Net salary = Gross salary – PF

3. Open a new presentation file and place the given details in appropriate slide types. Also perform the following activities:

**Details:**

- i. The picture of a computer – provided
- ii. Functional units of a computer – block diagram – To be drawn as follows:



- iii. Input – Output devices

**Input Devices**

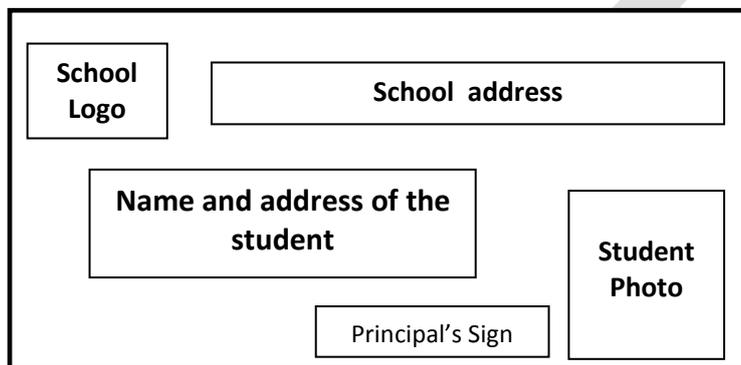
- Keyboard
- Mouse
- Scanner

**Output Devices**

- Monitor
- Printer
- Plotter

- a. Save the file with name 'COMPUTER'.
- b. Add an introductory slide as the first slide of the presentation and a closing slide as the last slide for the presentation.

- c. Change the background of each slide.
  - d. Apply suitable slide transition to each slide.
  - e. Provide slide transition time to each slide.
  - f. Save the file.
4. Create a Presentation on the topic Electronic waste with minimum five slides.
    - a. Save the file with name 'E-WASTE'.
    - b. Insert suitable pictures.
    - c. Set slide transition and slide show timings.
    - d. Save the file.
  5. Design an identity card for your school with school logo, and the photo of the student as given below:



6. Design a sign board (poster) picture to spread the message 'NO SMOKING' on the 'World Tobacco Day'. Save the file with name 'LIFE'.
7. Open a new document and type paragraph given in question 4 of Level 1. Perform the following tasks:
  - a. Save the document with name 'MICRO'.
  - b. Centralise the heading and make it Bold, Italic & Underlined.
  - c. Search the word ROM in the paragraph and replace it with 'Read Only Memory'.
  - d. Copy the same format of the paragraph heading to the word RAM in the paragraph using a button present in the toolbar.
  - e. Change the left margin of the page to 3 cm and right margin to 2.5 cm. Save the file again.
  - f. Apply Drop Caps feature to the paragraph.
  - g. Insert a suitable header and footer to the document. Save the file again.
8. You are supplied with a Writer file. Open it. Suppose the underlined words are chapter names in the document. Prepare a Table of Index page with these chapter names. Save the whole document with a new name.

The major forms of pollution are listed below along with the particular contaminant relevant to each of them. Air pollution is the release of chemicals and particulates into the atmosphere. Common gaseous pollutants include carbon monoxide, sulphur dioxide, chlorofluorocarbons and nitrogen oxides produced by industry and motor

vehicles. Light pollution includes light trespass, over-illumination and astronomical interference. Littering is the criminal throwing of inappropriate man-made objects, unresolved, Noise pollution: which encompasses roadway noise, aircraft noise, industrial noise as well as high-intensity sonar. Soil contamination occurs when chemicals are released by spill or underground leakage. Among the most significant contaminants are hydrocarbons, heavy metals, herbicides, pesticides and chlorinated hydrocarbons. Radioactive contamination, resulting from 20th century activities in atomic physics, such as nuclear power generation and nuclear weapons research, manufacture and deployment. Thermal pollution, is a temperature change in natural water bodies caused by human influence, such as use of water as coolant in a power plant.

9. Some data about students are given below. Convert the data directly into tabular form using the word processor.

ClassNo,Name,Sub1,Sub2,Sub3,Total

1.Aneesh.50.45.55.150

2.Parvathi.50.40.50.140

3.Sreedev.40.30.50.120

4.Sreedhar.40.40.30.110

5.Rahul.50.50.40.140

Hint. The text separator is full stop (.)

- Save the file as 'MARKLIST.ODT'.
- Insert a new row in between 3<sup>rd</sup> and 4<sup>th</sup> row and enter a sample record.
- Format the table using an attractive pre-defined format.
- Remove the last column of the table.
- Remove the 4<sup>th</sup> row of the table.

10. Create a document with the following matter and perform the following tasks:

Mathematics is considered as the king of all sciences. The ancient people need to count certain things: cattle, cornstalks, and so on. There is the need to deal with simple geometrical situations in providing shelter and dealing with land. Once some form of writing is added into the mix, mathematics cannot be far behind. It might even be said that the symbolic approach precedes and leads to the invention of writing.

Some famous mathematicians are listed below:

Galileo Galilei

Aristotle

Charles Babbage

Pythagoras

Archimedes

Leibniz

Euclid

- Save the document with name 'MATHS'.
- Centralise the heading, change the font size 15.
- Justify the paragraph and change the font to 'Arial'.

- d. Apply bullets to the name of scientists.
- e. Type the given mathematical equation.

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

- f. Apply page border, change the page size to A4 type and take the print preview.
- g. Save the file again.

### Level 3

1. Enter the following data using spreadsheet software:

Name	Marks1	Marks2	Marks3	Total	Percentage	Grade
Amit	80	70	80			
Renu	70	60	90			
Rajeev	60	50	80			
Manish	50	30	90			
Sanjeev	40	40	80			
Anita	70	70	90			

Do the following:

- a. Save the file with name 'STUDENT'.
- b. Compute the total marks and percentage of each student by entering appropriate formula.
- c. Compute the grades based on following criteria:
  - If percentage  $\geq 90$  then grade = A
  - If percentage  $\geq 80$  and  $< 90$  then grade = B
  - If percentage  $\geq 70$  and  $< 80$  then grade = C
  - If percentage  $\geq 60$  and  $< 70$  then grade = D
  - If percentage  $< 60$  then grade = E

2. Create a worksheet as given below and do the following tasks:

Name	Age	Dept	Salary	Can Avail Holidays	Tax	Take Home Income	Grade
Alex	21	Sales	2200				
Ben	22	HR	3210				
Rahul	25	MKT	5210				
Renuka	29	Sales	4521				
Fiaz	22	MKT	1236				
Vrinda	27	HR	2145				
Rizwan	31	HR	3652				

Youngest Employee (Age)	
Eldest Employee (Age)	
Average Salary	
Highest salary taker (Name)	

- a. Save the file with name 'SALARY'.
  - b. Fill in the 5<sup>th</sup> column of the worksheet with either 'Yes' or 'No' (only Sales Dept. employees can avail holidays).
  - c. Find the Tax in the 6<sup>th</sup> column (2% for Age less than 25 otherwise 3%, rounded to next number).
  - d. Find the Take Home Income in the 7<sup>th</sup> column for all (Salary – Tax).
    - i. Find the Grade in the 8<sup>th</sup> column ('A' for employees in Sales and HR departments having age less than and equal to 26 and 'B' for all other employees )
  - e. Find the youngest employee (employee with the least age).
  - f. Find the eldest employee (employee with the highest age).
  - g. Find the highest salary taker (employee with the highest salary).
  - h. Find the average Take Home Salary of all employees.
  - i. Save the file.
3. Create a presentation with 5 slides about your school Annual Day celebrations
    - a. Save the file with name 'SCHOOL'.
    - b. Insert pictures, links and tables wherever needed.
    - c. Insert an audio or video clipping.
    - d. Save the file.
  4. Create a presentation (minimum 5 slides) about various sports/games popular in India.
    - a. Save the file with name 'SPORTS'.
    - b. Insert suitable pictures.
    - c. Set slide transition and slide show timings.
    - d. Save the file.
  5. You are supplied with images of various modes of environment pollution. Create an attractive collage. Save the file with name 'POLLUTION'.
  6. Design the front page of your school magazine. The image should contain the following items
    - a. School logo.
    - b. An attractive title.
    - c. School name and year of release.
    - d. An attractive background picture.
    - e. Save the file with name 'MAGAZINE'.
  7. Open the given Writer file. The underlined words are important in the document. Prepare an index page. Save the whole document with a new name.

Pollution is the introduction of contaminants into the natural environment that cause adverse change. Pollution can take the form of chemical substances or energy, such as noise, heat or light. Pollutants, the components of pollution, can be either foreign substances/energies or naturally occurring contaminants. Pollution is often classed as point source or nonpoint source. Pollution control is a term used in environmental management. It means the control of emissions and effluents into air, water or soil. Without pollution control, the waste products from consumption, heating, agriculture,

mining, manufacturing, transportation and other human activities, whether they accumulate or disperse, will degrade the environment. In the hierarchy of controls, prevention and waste minimization are more desirable than pollution control. In the field of land development, low impact development is a similar technique for the prevention of urban runoff.

8. Create a new Writer document and prepare your own bio-data. Save the file as 'BIODATA'. The bio-data must contain the following:
  - a. Name, age, address, phone number, qualifications, hobbies and references.
  - b. Insert a photograph at the suitable place.
  - c. The qualifications must be typed in a table with suitable rows and columns.
  - d. Apply character formatting features to make it attractive.
  - e. Apply a stylish border to the page.
  - f. Insert header and footer.
  - g. Change the page size to A4 type.
  - h. Take a print preview.
  - i. Save the file.
9. Suppose your school day is planned to be celebrated on the next Monday. Invitation letters are to be sent to the nearby schools addressed to respective principals. The content of the letter is same, but the sending addresses are different. Use the mail merge facility to do the task.

Sample letter is given below:

From	The Principal, Name of your school, Place.
To	Mr /Ms/Mrs .....
	Sir/Madam,
	Sub – Invitation
	This is to inform you that our school anniversary is planned to be conducted on next Friday. You are invited to attend the function.
	Yours faithfully
	Principal
Place	
Date	

Sample addresses are listed below:

- I. Principal, St. Paul's H.S.S., Attingal
- II. Principal, Model H.S.S., Varkala
- III. Principal, New H.S.S., Pallickal
- IV. Principal, Al-Mina H.S.S., Alamcode

10. A company is conducting an interview for the post of computer operator. The call letter is given below. The addresses of the candidates are also given. Prepare individual call letters to the candidates using mail merge feature of the word processor.

From	The H.R. Manager, National Computer Centre, Trivandrum.
To	..... ..... .....
Dear applicant, Sub: Interview	
This is to inform you that an interview for the post of <b>Computer Operator</b> is going to be conducted on 12-2-2016 at the head office of this company. You are requested to attend the interview without fail. All certificates and experience certificates (if any) are to be brought. No TA/DA will be issued for attending the interview.	
With regards	
Manager (HR)	
Place	
Date	

Addresses of the candidates

- I. Ramesh Kumar, T.C 12/3453, Palayam, Trivandrum
- II. Anjana Devi, Kousthoobham, Poojappura, Ernakulam
- III. John Britto, Grace Villa, Nalanchira, Kottayam
- IV. Mohammed Nihas, Star Manzil, Sreekaryam, Malappuram

## Web Applications (10 x 3 = 30 Questions)

(HTML – 8, CSS – 2)

### Level 1

1. Design a simple webpage for an arts and sports club of your locality. The page should be formatted with background colour, text formatting, font tags, etc.
2. Design a simple and attractive webpage for Kerala Tourism. It should contain features like background colour/image, headings, text formatting and font tags, images, etc.
3. Design a webpage as shown below using appropriate list tags.

#### Permanent members in UN Security Council

- Russia
- China
- USA
- UK
- France

4. Design a webpage as shown below using appropriate list tags.

#### Top Arts Colleges in India

1. Lady Shriram College for Women, Delhi
  2. Loyola College, Chennai
  3. St. Stephen's College, Delhi
  4. St. Xavier's College, Mumbai
  5. Miranda House, University College for Women, Delhi
5. Design a personal webpage for your friend. It should have a link to his e-mail address.
  6. Design a web page containing a table as shown below.

#### Speed Limits in Kerala

Vehicles	Near School (In Km/hour)	Within Corporation/ Municipality (In Km/hour)	In other roads (In Km/hour)
Motor Cycle	25	40	50
Motor Car	25	40	70
Light motor vehicles	25	40	60
Heavy motor vehicles	15	35	60

7. Design a webpage with the heading "Department of Tourism, Government of Kerala" and save it with the file name "TourHead.htm". Create a frame page which divides it horizontally in the ratio 20:80. In the smaller area use the webpage "TourHead.htm". In the larger area use the web page created for Kerala Tourism in Question No. 2.
8. Design a simple webpage as shown below:

### Client Login

Enter User Name

Enter your Password

- Design a webpage that promotes cleanliness in public places. The web pages should contain a description for cleanliness, images and a set of instructions for keeping public places clean. The CSS style rules should be specified as internal style sheet using class selectors. Following are the style rules to be followed.

Heading : font- Tahoma, size – 18, colour-green, underline

Paragraphs: font-Garamond, size-12, colour-blue.

Lists: font-Arial, size-12, colour-brown, italics, line height should be 1.5 lines.

The paragraphs should have a margin of 30 pixels and background colour yellow.

- Design a webpage that promotes cleanliness in public places. The web pages should contain a description for cleanliness, images and a set of instructions for keeping public places clean. The CSS style rules should be specified as external style sheet using class selectors. Following are the style rules to be followed.

Heading: font- Tahoma, size – 18, colour-green, underline

Paragraphs: font- Garamond, size-12, colour-blue.

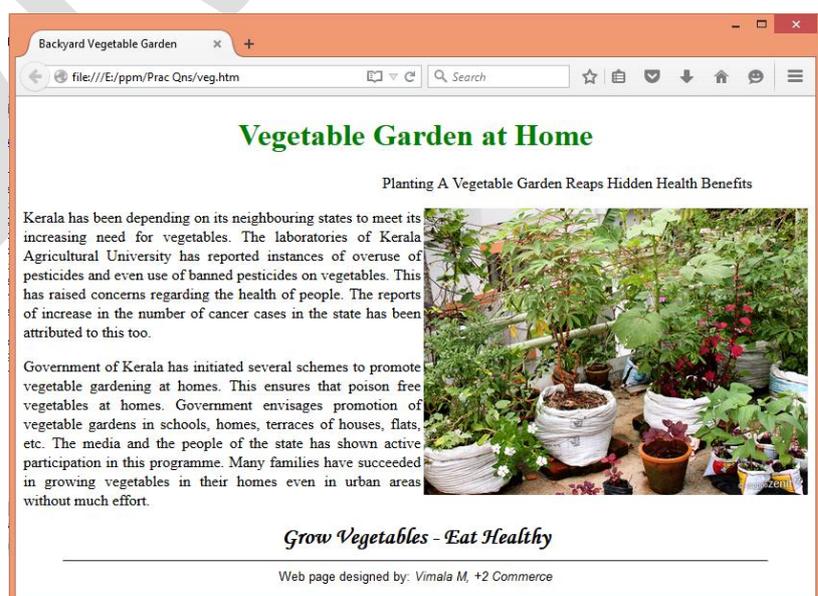
Lists: font-Arial, size-12, colour-brown, italics, line height should be 1.5 lines.

The paragraphs should have a margin of 30 pixels and background colour yellow.

## Level 2

- Design a webpage containing details about your district. The page should be formatted with background colour, text formatting, font tags, etc.

- Design a webpage for promoting vegetable cultivation at homes as shown in the figure. It should contain features like background colour/ image, headings and stylish fonts, images, marquee, etc.



- Design a webpage as shown below using appropriate list tags.

## List of Nobel Laureates from India

Rabindra Nath Tagore

He was the first to get Nobel Prize from India. He received prize in literature in 1913. He got Nobel Prize for his collection of poems "Gitanjali".

C V Raman

He got Nobel for Physics in 1930. He received Nobel Prize for his contribution called Raman Effect.

Mother Teresa

Mother Teresa who founded Missionaries of Charity which is active in more than 100 countries received Nobel Prize in 1979.

Amartya Sen

Amartya Sen was awarded Nobel Prize in 1998 in Economics. He has made contributions to welfare economics, social choice theory etc.

Kailash Satyarthi

He is a child right activist who founded "Bachpan Bachao Andolan" in 1980. He shared Nobel prize for peace in 2014.

4. Design an attractive webpage showing the following list.

### Graduate Level Courses in Leading Institutions in Kerala

- Indian Institute of Technology, Palakkad
  - B. Tech.
- National Institute of Technology, Calicut
  - B. Tech.
  - B. Arch.
- Indian Institute of Science Education and Research, Thiruvananthapuram
  - BS-MS Dual Degree
- National University of Advanced Legal Studies, Kochi
  - B.A. LL.B. (Hons.)
- Indian Institute of Space Science and Technology
  - B. Tech. (Aerospace Engineering, Avionics)
  - Dual Degree (B. Tech. + M.S./M. Tech.)

5. Design a simple webpage about your school. Create another webpage named address.htm containing the school address. Give links from school page to address.htm.
6. Design a webpage that displays the indent for Plus Two text books as given below.

Section	Book Name	Quantity
Language	English	100
	Malayalam	100
Humanities	Communicative English	80
	Gandhian Studies	90
	Social Work	85
	Computer Applications	100

- Design a webpage containing frames that divide the screen vertically in the ratio 50:50. Design two web pages – one containing the list of Indian cricket team members and the second page containing a list of Indian football team members.
- Consider that your school is hosting an inter-school IT fair. Design a form webpage that contains a form for accepting registrations. The form page should contain facility to enter school name, user name, password and a mobile phone number. It should also contain buttons for saving and clearing the data entered.
- Design a webpage on *Akshaya Centers* in Kerala. Use an internal style sheet to format the web page. Give suitable font, colour and line spacing for heading and paragraphs using type selector.
- Design a webpage on *Akshaya Centers* in Kerala. Use an external style sheet to format the web page. Give suitable font, colour and line spacing for heading and paragraphs using type selector.

### Level 3

- Design a webpage for blood donation campaign. The page should be formatted with background colour, text formatting, font tags, etc.
- Design a webpage about atmosphere as shown in the figure. It should contain features like background colour/ image, headings and stylish fonts, images, etc.

The screenshot shows a browser window with the title 'Atmosphere' and the URL 'file:///E:/ppm/Prac Qns/atmos.htm'. The main heading is 'Composition of Atmosphere' in green. The text describes the composition of air, mentioning nitrogen, oxygen, argon, and water vapor. A diagram shows a cross-section of the atmosphere with labels for H<sub>2</sub>O, CO<sub>2</sub>, O<sub>3</sub>, O<sub>2</sub>, and N<sub>2</sub>. The footer states 'Web page designed by: Jaison K J, +2 Computer Science'.

Air is mainly composed of nitrogen, oxygen, and argon, which together constitute the major gases of the atmosphere. Water vapor accounts for roughly 0.25% of the atmosphere by mass.

The components of atmosphere are:

Nitrogen - N<sub>2</sub> - 78.08  
Oxygen - O<sub>2</sub> - 20.95  
Argon - Ar - 0.93  
Carbon dioxide - CO<sub>2</sub> - 3.97 x 10<sup>-2</sup>

Web page designed by: Jaison K J, +2 Computer Science

3. Design a webpage showing the following:

#### **Road Safety Regulations**

- Do's
  1. Use helmet while driving two wheelers
  2. All passengers should use seat belts in four wheelers
  3. Give priority for pedestrians
  4. Keep your license and vehicle records while driving
- Do not's
  - a. Do not use mobile phone while driving
  - b. Do not drink and drive
  - c. Do not overspeed

4. Design a webpage showing tourist destinations in Kerala as shown below.

### **Department of Tourism Government of Kerala**

#### ***Tourist Destinations in Kerala***

1. Beaches
  - a. Kovalam
  - b. Muzhuppilangad
  - c. Kappad
2. Hill Stations
  - i. Munnar
  - ii. Wayanad
  - iii. Gavi
3. Wildlife
  - a. Iravikulam
  - b. Muthanga
  - c. Kadalundi

5. Design an attractive webpage about India. Provide details about the Indian freedom movement at the lower part of the webpage. Also create another webpage containing the list of states in India, named 'states.htm'. Create two links in the main webpage – one to link to the bottom of the webpage where details about freedom movement is given and another to the webpage 'states.htm'.

6. Design the following table using HTML.

Class	Strength		
	Science	Commerce	Humanities
Plus One	49	50	48
Plus Two	50	50	49

7. Design three web pages – one containing a heading displaying your school name, named 'head.htm'; second webpage containing the list of teachers, named 'teachers.htm'; and the third webpage about your school, named 'school.htm'. Create a frame dividing the browser window into two sections horizontally in the ratio 15:85. The top frame should display the webpage 'head.htm'. The bottom frame has to be divided into 2 frames vertically in the ratio 30:70. The left part should display the webpage 'teachers.htm' and the right part should display the webpage 'school.htm'.
8. Design an HTML form to accept the Curriculum Vita of a job applicant. The form should provide facility to accept name, address in multiple lines, gender using option button, nationality using a list box and hobbies using check boxes. The form should provide buttons to save and clear the contents of text boxes.
9. Design a webpage for tourism promotion-Incredible India-and format it using internal style sheet. Class selectors should be used to provide the style rules. Give suitable background colour, font, margins and font colour for the whole page. The popular tourist destinations should be given in brown colour, using Tahoma font and in bold.
10. Design a webpage for tourism promotion-Incredible India-and format it using external style sheet. Class selectors should be used to provide the style rules. Give suitable background colour, font, margins and font colour for the whole page. The popular tourist destinations should be given in brown colour, using Tahoma font and in bold.

### SQL (5 x 3 = 15 Questions)

#### Level 1

1. Create a table *Student* with the following fields and insert at least 5 records into the table except for the column Total.

Roll_Number	Integer	Primary key
Name	Varchar (25)	
Batch	Varchar (15)	
Mark1	Integer	
Mark2	Integer	
Mark3	Integer	
Total	Integer	

- a. Update the column Total with the sum of Mark1, Mark2 and Mark3.
- b. List the details of students in Commerce batch.
- c. Display the name and total marks of students who are failed (Total < 90).
- d. Display the name and batch of those students who scored 90 or more in Mark1 and Mark2.
- e. Delete the student who scored below 30 in Mark3.

2. Create a table *Employee* with the following fields and insert at least 5 records into the table except the column *Gross\_pay* and *DA*.

<i>Emp_code</i>	Integer	Primary key
<i>Emp_name</i>	Varchar (20)	
<i>Designation</i>	Varchar (25)	
<i>Department</i>	Varchar (25)	
<i>Basic</i>	Decimal (10,2)	
<i>DA</i>	Decimal (10,2)	
<i>Gross_pay</i>	Decimal (10,2)	

- Update *DA* with 75% of *Basic*.
  - Display the details of employees in Purchase, Sales and HR departments.
  - Update the *Gross\_pay* with the sum of *Basic* and *DA*.
  - Display the details of employee with gross pay below 10000.
  - Delete all the clerks from the table.
3. Create a table *Stock*, which stores daily sales of items in a shop, with the following fields and insert at least 10 records into the table.

<i>Item_code</i>	Integer	Primary key
<i>Item_name</i>	Varchar (20)	
<i>Manufacturer_Code</i>	Varchar (5)	
<i>Qty</i>	Integer	
<i>Unit_Price</i>	Decimal (10,2)	
<i>Exp_Date</i>	Date	

- Display the details of items which expire on 31/3/2016.
  - Display the item names with stock zero.
  - Remove the items which expire on 31/12/2015.
  - Increase the unit price of all items by 10%.
  - List the items manufactured by "ABC & Co" with quantity above 100.
4. Create a table *Book* with the following fields and insert at least 5 records into the table.

<i>Book_ID</i>	Integer	Primary key
<i>Book_Name</i>	Varchar (20)	
<i>Author_Name</i>	Varchar (25)	
<i>Pub_Name</i>	Varchar (25)	
<i>Price</i>	Decimal (10,2)	

- Display the details of books with price 100 or more.
- Display the Name of all the books published by SCERT.
- Increase the price of the books by 10% which are published by SCERT.
- List the details of books with the title containing the word "Programming" at the end.
- Remove all the books written by "Balaguruswamy".

5. Create a table *Bank* with the following fields and insert at least 5 records into the table.

Acc_No	Integer	Primary key
Acc_Name	Varchar (20)	
Branch_Name	Varchar (25)	
Acc_Type	Varchar (10)	
Amount	Decimal (10,2)	

- a. Display the account details of "Savings Account" in Kodungallur branch.
- b. Change the branch name "Trivandrum" to "Thiruvananthapuram".
- c. Display the details of customers in Thiruvananthapuram, Ernakulam and Kozhikode.
- d. List the details of customers in Thrissur branch having a minimum balance of Rs. 5000.
- e. Delete all the current accounts in Mahe branch.

## Level 2

1. Use *Student* table and write SQL statements for the following:

- a. Update the column Total with the sum of Mark1, Mark2 and Mark3.
- b. List the details of students in Science batch in the ascending order of their names.
- c. Display the highest Total in Humanities batch.
- d. List the details of students who passed (Subject minimum is 30 and aggregate minimum is 90) the course.
- e. Delete the students of Commerce batch who failed in any one subject.

2. Use *Employee* table and write SQL statements for the following:

- a. Update DA with 75% of Basic for Managers and 80% Basic for all other employees.
- b. Update the Gross\_pay with the sum of Basic and DA
- c. Display the details of employees in Purchase, Sales and HR departments in descending order of Gross pay.
- d. Find the number of employees in Accounts department.
- e. Delete the details of clerks whose Gross pay is below 5000.

3. Use *Stock* table and write SQL statements for the following:

- a. Display the details of items which expire after 31/3/2016 in the order of expiry date.
- b. Find the number of items manufactured by the company "SATA".

- c. Remove the items which expire between 31/12/2015 and 01/06/2016.
  - d. Add a new column named Reorder in the table to store the reorder level of items.
  - e. Update the column Reorder with value obtained by deducting 10% of the current stock.
4. Use *Book* table and write SQL statements for the following:
- a. Insert a column named Number\_of\_pages into the table.
  - b. Display the details of books of the same author together in the descending order of the price published by NCERT.
  - c. Display the average price of books published by “BPB” and written by “Robert Lafore”.
  - d. List the details of books published by “PHI” that contains the word “Programming” in the title.
  - e. Remove all the books written by “Balaguruswamy”, “Kanetkar” or “Robert Lafore”.
5. Use *Bank* table and write SQL statements for the following:
- a. Display the branch-wise details of account holders in the ascending order of the amount.
  - b. Insert a new column named Minimum\_Amount into the table with default value 1000.
  - c. Update the Minimum\_Amount column with the value 1000 for the customers in branches other than Alappuzha and Malappuram.
  - d. Find the number of customers who do not have the minimum amount 1000.
  - e. Remove the details of SB accounts from Thiruvananthapuram branch who have zero (0) balance in their account.

### Level 3

1. Use *Student* table and write SQL statements for the following:
  - a. Update the column Total with the sum of Mark1, Mark2 and Mark3.
  - b. Add a new column Average to the table Student.
  - c. Update the column Average with average marks.
  - d. List the details of student who has the highest Total.
  - e. Delete the students of Commerce batch who failed in any two subjects.

2. Use *Employee* table and write SQL statements for the following:
  - a. Update DA with 75% of Basic for Managers and 80% of Basic for all other employees.
  - b. Update the Gross\_pay with the sum of Basic and DA.
  - c. Display name, department and gross pay of employees in Purchase, Sales and HR departments. The employees in the same department should appear together in the ascending order of Gross pay.
  - d. Find the number of employees in each department where there is minimum of 5 employees.
  - e. Show the details of employee with Gross pay greater than the average gross pay.
  
3. Use *Stock* table and write SQL statements for the following:
  - a. Display the number of items manufactured by each company which expire after 31/3/2016.
  - b. Add a new column Reorder in the table to store the reorder level of items.
  - c. Update the column Reorder with value obtained by deducting 10% of the current stock.
  - d. Display the details of items which expire at last.
  - e. Remove the items which expire before 01/03/2015 or that are manufactured by "ABC & Co".
  
4. Use *Book* table and write SQL statements for the following:
  - a. Create a view containing the details of books published by SCERT.
  - b. Display the average price of books published by each publisher.
  - c. Display the details of book with the highest price.
  - d. Display the publisher and number of books of each publisher in the descending order of the count.
  - e. Display the title, current price and the price after a discount of 10% in the alphabetical order of book title.
  
5. Use *Bank* table and write SQL statements for the following:
  - a. Display the number and total amount of all the account holders in each branch.
  - b. Display the number of Savings Bank account holders in each branch.
  - c. Display the details of customers with the lowest balance amount.
  - d. Display the branch and number of Current accounts in the descending order of the count.
  - e. Display the details of customers in Kozhikode branch whose amount is greater than the average amount.

**APPENDIX – 2**  
**Sample List of Questions for Lab Work**  
**Computer Applications (Humanities)**

**Office Packages (L1 – 5, L2 – 3, L3 – 2)**

1. Prepare an examination time table using Spreadsheet software as given below: (L1)

Date	Subject	Time	Venue
12/8/2015	English	10:00 – 11:00	Library hall
13/8/2015	Sec. Lang.	10:00 – 11:00	Auditorium
14/8/2015	Political Science	10:00 – 11:00	Audio-Visual room
15/8/2015	Gandhian Studies	10:00 – 11:00	Library hall
16/8/2015	Comp. Appln.	10:00 – 11:00	Computer Lab

- a. Save the file with name 'EXAM'.
  - b. **Bold** face all column titles.
  - c. Make the contents of the entire cell *Italic*.
  - d. Change the row height to 20.
  - e. Increase the column width of the table to fit the contents of the cells in a single line.
  - f. Insert a new column with column title 'Sl.No.' as the first column.
  - g. Save the worksheet again.
2. Create a worksheet containing the details of 5 employees in a company with the following fields:  
Employee Name, Designation, Basic salary, DA, HRA, Gross Salary, PF, Net Salary
- a. Save the file with name 'EMPLOY'.
  - b. Calculate DA, HRA, Gross Salary, PF and Net Salary for all employees.
  - c. Find the total salary paid to all employees by the company in a separate cell.
  - d. Save the file.
- Calculations:**  
DA is 60% of Basic salary, HRA is 5% of Basic salary and PF is 10%.  
Gross salary = Basic salary + DA+ HRA  
Net salary = Gross salary – PF (L2)
3. Open a new presentation file and perform the following activities: (L1)
- a. In the first slide type the matter "PROTECT OUR ENVIRONMENT".
  - b. Bold face the matter and change size to 16.
  - c. Insert a picture (provided) as the back ground.
  - d. Duplicate the slide.
  - e. Change the content to "PLANT MORE TREES".
  - f. Insert a video file (provided).
  - g. Save the file.

4. Create a presentation (minimum 5 slides) about various sports/games popular in India.
  - a. Save the file with name 'SPORTS'.
  - b. Insert suitable pictures.
  - c. Set slide transition and slide show timings.
  - d. Save the file. (L3)
  
5. Open a file in GIMP. Create the picture of Indian national flag. Save the file with name 'INDIA.XCF'. Export it to 'jpg' format. (L1)
  
6. Design a sign board (poster) picture to spread the message 'NO SMOKING' on the 'World Tobacco Day'. Save the file with name 'LIFE'. (L2)
  
7. Using the word processor (LibreOffice Writer), create a leave letter addressed to your class teacher, requesting for one day leave. Perform the following activities also in the same document
  - a. Save the file as 'Leave.odt'.
  - b. Bold face the 'From' and 'To' addresses appearing in the document.
  - c. Change the font size of above addresses to 12.
  - d. Make the body of the letter justify within left and right margins.
  - e. Change the line spacing of the body of the letter to double and font size 11.
  - f. Right align the name and signature at the end of the document.
  - g. Save the file again. (L1)
  
8. You are supplied with a Writer file. Open it. Suppose the underlined words are chapter names in the document. Prepare a Table of Index page with these chapter names. Save the whole document with a new name. (L2)

The major forms of pollution are listed below along with the particular contaminant relevant to each of them. Air pollution is the release of chemicals and particulates into the atmosphere. Common gaseous pollutants include carbon monoxide, sulphur dioxide, chlorofluorocarbons and nitrogen oxides produced by industry and motor vehicles. Light pollution includes light trespass, over-illumination and astronomical interference. Littering is the criminal throwing of inappropriate man-made objects, unresolved, Noise pollution: which encompasses roadway noise, aircraft noise, industrial noise as well as high-intensity sonar. Soil contamination occurs when chemicals are released by spill or underground leakage. Among the most significant contaminants are hydrocarbons, heavy metals, herbicides, pesticides and chlorinated hydrocarbons. Radioactive contamination, resulting from 20th century activities in atomic physics, such as nuclear power generation and nuclear weapons research, manufacture and deployment. Thermal pollution, is a temperature change in natural water bodies caused by human influence, such as use of water as coolant in a power plant.

9. Suppose your school day is planned to be celebrated on the next Monday. Invitation letters are to be sent to the nearby schools addressed to respective principals. The content of the letter is same, but the sending addresses are different. Use the mail merge facility to do the task. (L3)

Sample letter is given below:

From	The Principal, Name of your school, Place.
To	Mr /Ms/Mrs .....
Sir/Madam,	
Sub – Invitation	
This is to inform you that our school anniversary is planned to be conducted on next Friday. You are invited to attend the function.	
Yours faithfully	
Principal	
Place	
Date	

Sample addresses are listed below:

- I. Principal, St. Paul's H.S.S., Attingal
- II. Principal, Model H.S.S., Varkala
- III. Principal, New H.S.S., Pallickal
- IV. Principal, Al-Mina H.S.S., Alamcode

10. Open a new document in Writer. Type the following matter and do the given tasks:

### MICROCOMPUTERS

The Microcomputer has the lowest level capacity. The machine has memories that are generally made of semiconductors fabricated on silicon chips. Large-scale production of silicon chips began in 1971 and this has been of great use in the production of microcomputers. The microcomputer is a digital computer system that is controlled by a stored program that uses a microprocessor, a programmable ROM and a RAM. The ROM defines the instructions to be executed by the computer while RAM is the functional equivalent of computer memory.

- a. Save the file with name 'COMPUTER'.
- b. Centralise the heading 'MICROCOMPUTER'.
- c. Change the font face of the paragraph to 'Times New Roman' and font size to 14.
- d. Bold face and underline the paragraph heading.
- e. Change the colour of the heading text to Green and paragraph text to Blue.
- f. Copy the first sentence of the paragraph and place it at the end.
- g. Change the line spacing of the paragraph to double spacing and justify the paragraph.
- h. Save the document.

## Web Applications – 10 Qns. (L1 – 5, L2 – 3, L3 – 2)

1. Design a webpage for blood donation campaign. The page should be formatted with background colour, text formatting, font tags, etc. (L3)
2. Design a simple and attractive webpage for Kerala Tourism. It should contain features like background colour/image, headings, text formatting and font tags, images, etc. (L1)
3. Design a webpage as shown below using appropriate list tags. (L2)

### List of Nobel Laureates from India

Rabindra Nath Tagore

He was the first to get Nobel Prize from India. He received prize in literature in 1913. He got Nobel Prize for his collection of poems "Gitanjali".

C V Raman

He got Nobel for Physics in 1930. He received Nobel Prize for his contribution called Raman Effect.

Mother Teresa

Mother Teresa who founded Missionaries of Charity which is active in more than 100 countries received Nobel Prize in 1979.

Amartya Sen

Amartya Sen was awarded Nobel Prize in 1998 in Economics. He has made contributions to welfare economics, social choice theory etc.

Kailash Satyarthi

He is a child right activist who founded "Bachpan Bachao Andolan" in 1980. He shared Nobel prize for peace in 2014.

4. Design a webpage as shown below using appropriate list tags. (L1)

### Permanent members in UN Security Council

- Russia
- China
- USA
- UK
- France

5. Design a simple webpage about your school. Create another webpage named address.htm containing the school address. Give links from school page to address.htm. (L2)

6. Design the following table using HTML: (L3)

Class	Strength		
	Science	Commerce	Humanities
Plus One	49	50	48
Plus Two	50	50	49

7. Design a webpage containing frames that divide the screen vertically in the ratio 50:50. Design two web pages – one containing the list of Indian cricket team members and the second page containing a list of Indian football team members. (L2)

8. Design a simple webpage as shown below: (L1)

**Client Login**

Enter User Name

Enter your Password

9. Design a webpage that promotes cleanliness in public places. The web pages should contain a description for cleanliness, images and a set of instructions for keeping public places clean. The CSS style rules should be specified as internal style sheet using class selectors. Following are the style rules to be followed.

Heading : font- Tahoma, size – 18, colour-green, underline

Paragraphs: font-Garamond, size-12, colour-blue.

Lists: font-Arial, size-12, colour-brown, italics, line height should be 1.5 lines.

The paragraphs should have a margin of 30 pixels and background colour yellow.

(L1)

10. Design a webpage that promotes cleanliness in public places. The web pages should contain a description for cleanliness, images and a set of instructions for keeping public places clean. The CSS style rules should be specified as external style sheet using class selectors. Following are the style rules to be followed.

Heading: font- Tahoma, size – 18, colour-green, underline

Paragraphs: font- Garamond, size-12, colour-blue.

Lists: font-Arial, size-12, colour-brown, italics, line height should be 1.5 lines.

The paragraphs should have a margin of 30 pixels and background colour yellow.

(L1)

### SQL – 5 Qns. (L1 – 2, L2 – 2, L3 – 1)

1. Create a table *Student* with the following fields and insert at least 5 records into the table except for the column Total. (L1)

Roll_Number	Integer	Primary key
Name	Varchar (25)	
Batch	Varchar (15)	
Mark1	Integer	
Mark2	Integer	
Mark3	Integer	
Total	Integer	

- Update the column Total with the sum of Mark1, Mark2 and Mark3.
  - List the details of students in Commerce batch.
  - Display the name and total marks of students who are failed (Total < 90).
  - Display the name and batch of those students who scored 90 or more in Mark1 and Mark2.
  - Delete the student who scored below 30 in Mark3.
2. Create a table *Employee* with the following fields and insert at least 5 records into the table except the column Gross\_pay and DA. (L1)

Emp_code	Integer	Primary key
Emp_name	Varchar (20)	
Designation	Varchar (25)	
Department	Varchar (25)	
Basic	Decimal (10,2)	
DA	Decimal (10,2)	
Gross_pay	Decimal (10,2)	

- Update DA with 75% of Basic.
  - Display the details of employees in Purchase, Sales and HR departments.
  - Update the Gross\_pay with the sum of Basic and DA.
  - Display the details of employee with gross pay below 10000.
  - Delete all the clerks from the table.
3. Create a table *Stock*, which stores daily sales of items in a shop, with the following fields and insert at least 10 records into the table. (L2)

Item_code	Integer	Primary key
Item_name	Varchar (20)	
Manufacturer_Code	Varchar (5)	
Qty	Integer	
Unit_Price	Decimal (10,2)	
Exp_Date	Date	

- a. Display the details of items which expire after 31/3/2016 in the order of expiry date.
- b. Find the number of items manufactured by the company "SATA".
- c. Remove the items which expire between 31/12/2015 and 01/06/2016.
- d. Add a new column named Reorder in the table to store the reorder level of items.
- e. Update the column Reorder with value obtained by deducting 10% of the current stock.

4. Create a table *Book* with the following fields and insert at least 5 records into the table. (L3)

Book_ID	Integer	Primary key
Book_Name	Varchar (20)	
Author_Name	Varchar (25)	
Pub_Name	Varchar (25)	
Price	Decimal (10,2)	

- a. Create a view containing the details of books published by SCERT.
- b. Display the average price of books published by each publisher.
- c. Display the details of book with the highest price.
- d. Display the publisher and number of books of each publisher in the descending order of the count.
- e. Display the title, current price and the price after a discount of 10% in the alphabetical order of book title.

5. Create a table *Bank* with the following fields and insert at least 5 records into the table. (L2)

Acc_No	Integer	Primary key
Acc_Name	Varchar (20)	
Branch_Name	Varchar (25)	
Acc_Type	Varchar (10)	
Amount	Decimal (10,2)	

- a. Display the branch-wise details of account holders in the ascending order of the amount.
- b. Insert a new column named Minimum\_Amount into the table with default value 1000.
- c. Update the Minimum\_Amount column with the value 1000 for the customers in branches other than Alappuzha and Malappuram.
- d. Find the number of customers who do not have the minimum amount 1000.
- e. Remove the details of SB accounts from Thiruvananthapuram branch who have zero (0) balance in their account.

# **Directorate of Higher Secondary Education**

## **Guidelines for Lab Work and Practical Evaluation**

### **Accountancy with Computerised Accounting**

**(2017 – 18)**

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#### **A. Syllabus for Practical**

Accountancy for Class XII Commerce consists Part III Optional Computerised Accounting System. The text book covers various aspects regarding the use and application of accounting packages and database applications in accounting realities. Learning of theoretical and practical aspects of these contents are equally important and can be ensured only through the lab work. Not only for the effective transaction of contents in the syllabus, but also for attaining the learning outcomes associated with the concepts/content, practical lab work is necessary.

#### **Areas to be covered for the practical work.**

Part III Optional Computerised Accounting System is divided in to six units, and the first unit is purely theoretical, for which no lab work is necessary. The second, third and fourth units deal with electronics spreadsheet and its diverse applications in business, while the fifth unit establishes the underlying features of accounting software(Tally/GNUKhata). The sixth and last unit deals with practical aspects of managing database for accounting. Accordingly the practical areas can be broadly grouped in to three as follows:

<b>SI_No</b>	<b>Area</b>	<b>Unit</b>	<b>No.of Programs</b>
1	Spreadsheet	II, III & IV	12
2	Tally/GNUKhata	V	4
3	DBMS	VI	4
		Total	20

Table 1

SLNO	Area	II	III	IV	V	VI	Total
		Spreadsheet	Use of Spreadsheet in Business application	Graphs and charts for business	Accounting software Package	DBMS for accounting	
1	Formulas & Functions	3					3
2	Data Entry, Text Management, Cell Formatting	2					2
3	One variable, two variable and Pivot Table	2					2
4	Pay Roll Accounting		1				1
5	Asset Accounting		1				1
6	Loan Repayment Schedule		1				1
7	Graph and Charts			2			2
8	Account Groups				1		1
9	Voucher Entry				1		1
10	BRS				1		1
11	T/B, P&LA/C, and Balance Sheet				1		1
12	Creating Table					1	1
13	Creating Forms					1	1
14	Creating Queries					1	1
15	Creating Reports					1	1
	Total	7	3	2	4	4	20

Table 2.

### **B. Lab Work**

Lab work is considered essential in promoting students' learning of Accountancy with the use of accounting software and its familiarization. Student's class room observations and various concept and ideas acquired etc can be practically implemented in the lab which will strengthen conceptual clarity and operational skills and enhance overall academic success. More over lab work in computerised accounting enables students to cope with challenges in practical accounting situations in the industry, business and other professional areas.

Every student has to practice a minimum of 20 problems, from various units as mentioned above through the lab work. Sample questions from each area, are given in Appendix-1 of this document. While selecting the minimum required questions, care should be taken to include questions in satisfactory proportion as shown in Table 1 and Table II above from all the three broad groups. A list of sample questions from these areas, based on the previously mentioned criteria, are given as Appendix-1.

## Practical Log Book

All the activities related to lab work are recorded in Practical Log Book (PLB). The Practical Log Book should contain a minimum of 20 works as specified in the practical syllabus. The format of recording in Practical Log Book may be as follows :

<b>Practical Log Book</b>	
<b>Left Hand Side</b>	<b>Right Hand Side</b>
Output Charts/Graphs, Statements drawn (TB, B/S etc) Tables, (Print out of output/ results can also be pasted)	Problem Number Date of practical work Unit Name Area/Title  Problem/Question statement Process Statements/ steps in problem solving with formulas/functions or codes, if any

Table 3

The teacher should verify the correctness of each work and sign on the bottom of the page where output is noted along with date and remarks, if any.

### Procedure

The lab work should be carried out strictly under the guidance and supervision of the teacher. During the whole process of lab work, a student has to go through three phases, and they are listed below:

- 1) **Preparatory Phase:** Every student is supposed to possess adequate knowledge regarding problem to be tried out in the lab and familiarise himself/herself the steps for doing the work. Basic knowledge of the software to be used, loading the software to work with etc are presupposed. Every student should personally possess Practical Log Book while attending the lab work and the Log book should as far as possible be prepared in tune with the directions and format as shown in Table 3 above
- 2) **Tryout:** It is in this phase that the problem is actually tried to test correctness in the lab. In the case of spreadsheet, various formulas and functions may be used in the preparation of charts, management of assets or payroll preparation, which are tested to get the desired results. During the actual execution, if there is any correction or change or modification in the functions and formula statements, then such changes are to be noted down in the Practical Log Book. In Accounting software and DBMS, which are more internally controlled software, there can be some variation in steps, paths, account types, entity and attribute names, data types etc, then such changes made are also to be noted in Practical Log Book.
- 3) **Reporting:** When the problem is successfully executed in the lab, it will produce definite output /results either in the form of figures or statements. The Practical Log Book has to be updated with the final results. Students can use print out or photocopy of output and paste it in the left hand side of the Practical Log Book. After the completion of each lab work, the Practical Log Book should be submitted to the concerned teacher and get the work duly signed, before the next lab period. All remarks should be noted in the teachers diary by the teacher which may serve useful for assessing the students as a part of CE.

Teachers are expected to ensure the minimum number of problems in the Practical Log Book covering all the areas suggested for practical evaluation. The prescribed proportion among the three groups should strictly be followed in the selection of questions.

### **C. Practical Evaluation (PE)**

Practical Evaluation(PE) is designed to measure or assess problem solving skills, and the competency in using spreadsheets in solving business and accounting problems, competency and skill in using accounting software package and database management application for accounting.

#### ***Guidelines to be followed while conducting PE:***

- 1) The PE questions should cover the prescribed syllabus
- 2) The maximum score for PE will be 40
- 3) PE test shall be of three hours duration
- 4) PE will be conducted in batches consisting of 15 students per batch
- 5) PE will be conducted in the Computer Lab of the school where exam center is allowed.
- 6) Every student should attend the PE with Practical Log Book duly certified by the teacher in charge
- 7) Practical Log Book should be verified and certified by the External Examiner and Internal Examiner at the time PE is done in the Lab.
- 8) Practical Log Book should contain not less than 20 problems in proportion to the weight of area.
- 9) PE should be conducted using necessary sets of questions finalized from the pool of questions approved by the DHSE or questions issued by the DHSE.
- 10) The PE question paper may contain four parts(Part A,B,C and D). The examiner, to ensure the fair conduct of examination, may adopt appropriate strategy.
- 11)
  - a. **THREE** sets of question papers has to be prepared and for a group of 15 students five copies of each set (5 X 3 =15 ) should be made available for selection at a random basis. In each question paper, part A consists of three questions from **SPREADSHEET**, and the student has to attempt any two. Similarly part B contains three questions from **USE OF SPREADSHEET IN BUSINESS APPLICATIONS** and **GRAPHS AND CHART FOR BUSINESS DATA** and the student has to attempt any two. Part C and Part D contain one question each, from **ACCOUNTING SOFTWARE PACKAGE** and **DATABASE MANAGEMENT SYSTEM FOR ACCOUNTING** respectively , for which no internal choice is allowed.
  - OR
  - b. A single question paper may be prepared, in which Part A contains 9 questions from **SPREADSHEET** and the student has to attempt any two. Similarly, Part B contains 9 questions from **USE OF SPREADSHEET IN BUSINESS APPLICATIONS** and **GRAPHS AND CHART FOR BUSINESS DATA** and the student has to attempt any two. Part C and Part D contain 3 questions each from **ACCOUNTING SOFTWARE PACKAGE** and **DATABASE MANAGEMENT SYSTEM FOR ACCOUNTING** respectively and students have to *attempt* only one from each section. *If only a single question paper is prepared for the practical evaluation, the external examiner should exercise the right to choose questions to be attempted,by putting tick mark in each part of the question paper.*
- 12) It should be ensured that the computer used by a candidate does not contain previously done lab works and that all lab works are deleted before another candidate is allotted the same system. The students are not allowed to use the **help** files of the software.
- 13) During the conduct of practical examination, each student has to attend a viva

voce, which the external examiner may use to assess how far the student has attained conceptual clarity with the practical aspects of computerised accounting. Viva voce should not create sense of fear among the students. It should not be formal in the form of an interview, but as far as possible it should be casual interaction.

14) The pattern, structure and split up score of questions are given as follows.

		No Of Questions with Choice	Split Up Score		Total Questions to be attended	TOTAL	Time (180 mts)
			Process	Output			
							Writing & Doing
<b>PART A</b>							
1	SPREADSHEET	1	4	2	2	12	35
2	SPREADSHEET	1	4	2			35
	SPREADSHEET	1	4	2			
<b>PART B</b>							
5	SPREADSHEET IN BUSINESS APPLICATION and GRAPHS AND CHARTS FOR BUSINESS	1	3	1	2	8	20
		1	3	1			20
6		1	3	1			
<b>PART C (No Internal Choice)</b>							
7	Tally / GNUKhata	1	4	2	1	6	35
<b>PART D (No Internal Choice)</b>							
8	DATABASE MANAGEMENT SYSTEM FOR ACCOUNTING	1	4	2	1	6	35
			<b>22</b>	<b>10</b>	<b>6</b>	<b>32</b>	
	Viva					4	
	Record(PLB)					4	
			<b>Total</b>			<b>40</b>	<b>180</b>

### Question paper with 3 sets

Each set of question paper consist of:

Part A Total question THREE, attempt any TWO	2x 6 =	12
Part B Total question THREE, attempt any TWO	2x4 =	8
Part C Total questions ONE, attempt ONE	1x 6 =	6
Part C Total Question ONE, attempt ONE	1x 6 =	6

**Total 32**

Maximum score for Practical Log Book 4

Maximum Score for Viva 4

**Total Score for PE 40**

OR

**Single question paper**

Part A Total question NINE, attempt any TWO	2x 6 =	12
Part B Total question NINE, attempt any TWO	2x4 =	8
Part C Total questions THREE, attempt ONE	1x 6 =	6
Part C Total Question THREE, attempt ONE	1x 6 =	6
	<b>Total</b>	<b>32</b>
Maximum score for Practical Log Book		4
Maximum Score for Viva		4
	<b>Total Score for PE</b>	<b>40</b>

*(External should choose the required number of questions by putting tick mark in respective sections of question paper.)*

15) The time allotted is three hours and the maximum score is 40.

16) The general instructions to be given in the top of question paper is given.

**Instructions to the candidates**

1. Write the procedures and show the output of each questions.
2. Questions should be circled or tick marked in each sections.
3. Viva voce will be conducted based on the given practical questions.
4. The mark division consist of :

Part A	12
Part B	8
Part C	6
Part D	6
Practical log book	4
Viva voce	4

## Appendix I : Pool of questions under Part A,B,C and D (Practical Evaluation)

### Part A

(Attempt any TWO questions, 2x6= 12 )

#### QUESTION NO. 1

Given below is a table showing the Name, Designation and Monthly Salary paid for different employees in Royal Traders for March 2017

Employee Name	Designation	Monthly Salary ₹
Kumar	CEO	80000
Anil	AO	50000
Jithesh	FM	40000
Alex	FM	15000
Arshad	MM	45000
Angel	FM	30000

Find out the following:

- The total monthly salary by Naming the concerned range as **TOTAL\_SALARY**.
- The total monthly salary paid to the Finance Manager (FM) in the firm.
- The Name of employee with monthly salary of ₹40,000 by using **LOOKUP** Function

#### QUESTION NO-2

Binu obtained the following Scores out of 100 in his Higher Secondary Examination, March 2017.

Subjects	Scores
ENGLISH	85
MALAYALAM	96
BUSINESS STUDIES	76
ACCOUNTANCY	67
ECONOMICS	29
COMPUTER APPLICATION	45

Convert the above Scores into Grades for each subject based on the following criteria, by using **IF** function.

Scores	Grades
90-100	A+
80-89	A
70-79	B+
60-69	B
50-59	C+
40-49	C
30-39	D+
20-29	D
Below 20	E

### QUESTION NO.3

Consider the following table.

	A	B	C	D	E	F	G	H	I	J
1	390	651			856	765	STOCK	192	CASH	1032
2	342	9899	658	456	765	398	155T	DRS	CRS	INVESTMENT

Answer the following questions using appropriate functions:

- How many cells contain Numbers only.
- Count the Number of cells contain any value.
- Count the Number of cells containing the value exceeding 1000.

### QUESTION NO.4

From the following information create a Pivot Table to give country wise sales of the products

Sl No	Products	Sales Volume ₹	Country
1	SQUID	25000	CHINA
2	PRAWN	20000	AMERICA
3	CLOVE	30000	ENGLAND
4	SQUID	50000	CHINA
5	PRAWN	40000	AMERICA
6	CLOVE	15000	ENGLAND

### QUESTION NO.5

Following table gives the details of some products.

Sl No	Products Code	Name of Product	Name of Supplier	Quantity
1	E-234	PUMP SETS	ARON PVT LTD.	23
2	E-546	WATER HEATER	ALPHA TRADERS	16
3	E-678	AIR CONDITIONER	AIR COOL LINKS	25
4	E-789	VACUUM CLEANER	READY CLEAN CO.	17

Enter the details into a text file (Notepad/Text Editor) and import the same to a spreadsheet.

### QUESTION NO.6

Ms. Sajeev intends to apply for Civil Service examination this year. But the upper age limit is 32 as on 01/08/2016. Determine whether he is eligible to apply or not. Based on the cut off age. His date of birth is 06/09/1982 using appropriate spreadsheet functions.

### QUESTION NO.7

A) Following are the scores obtained by some students in a competitive examination. Find out the HIGHEST, LOWEST and AVERAGE scores using appropriate function in spreadsheet.

	A	B	C	D	E	F	G	H
1	Name	ARUN	BIBIN	CINI	DENNY	EBIN	FABIN	GEO
2	Scores	150	180	410	480	260	161	515

B) From the data given below Fill the Address in F2 using CONCATENATE Function.

	A	B	C	D	E
1	Name	House Name	Place	Post	PIN
2	JAYA	DEEPAM	NEWSTREET	KOZHICODE	680534

### QUESTION NO.8

A) From the following Table, find out the **BASIC PAY** of Mr. Ajith using **VLOOKUP** Function using EMPCODE 1846

EMPCODE	NAME	BASIC PAY
1512	VINU	7000
3475	AKHIL	11500
1846	AJITH	8500
5432	SONU	6000

B) From the following details, Find out the actual profit for **QUARTER II** using **HLOOKUP** Function

	QUARTER I	QUARTER II	QUARTER III	QUARTER IV
TOTAL SALES	20,000	30,000	45000	50000
TOTAL COST	15,000	18000	43000	37000
PROFIT	5000	12000	2000	13000

### QUESTION NO.9

The XYZ Company Ltd. Furnishes you the list of their employees and their taxable income.

NAME	SEX	TAXABLE INCOME	TAX
SHIBU	Male	239000	
SULAIMAN	Male	475000	
SASI	Male	525000	
AJITHA	Female	425000	
HUSAIN	Male	600000	

Compute tax based on the following criteria by using appropriate function in spreadsheet.

- If Taxable Income is below 250,000 Tax is NIL
- If Taxable income is 250,000 to 500,000 Tax rate is 10%
- If Taxable Income is above 500,000 Tax rate is 20%

### QUESTION NO.10

Assume that your School have only Commerce and Science batches. You are required to enter the following list of students after creating the **data validation**.

Data validation Rules are

- a) **Age** should be between 15 and 20.
- b) The **Batch** must limit to Commerce and Science.

Admission No	Name	Batch	Age
1231	AYYOOB	COMMERCE	16
1232	ARSHAD	SCIENCE	15
1233	DONA	COMMERCE	17
1234	FIDHA	COMMERCE	16
1235	FADWA	SCIENCE	15

### QUESTION NO.11

List of Debtors and the amount dues from them are given below. Apply Conditional formatting to high light receivables with date that have expired on 31/01/2016. Also highlight the receivables more than ₹35000 with red colour.

Sl No	Name	Amount of receivables	31/01/2016
1	JIBY	25000	28/01/2016
2	JINU	30000	15/01/2016
3	GRACE	45000	15/01/2016
4	LUCY	37000	31/03/2016
5	BABU	32000	18/01/2016

### QUESTION NO.12

A company proposes to invest 10,00,000 by installing a plant and machinery with expected cash inflow of ₹ 4,00,000, ₹ 3,50,000, ₹ 2,75,000 and ₹ 2,25,000 respectively for 4 years of its life. Find out the Net Present Value of the project using appropriate spreadsheet Function. The Normal rate of return of business is 20%.

### QUESTION NO.13

Consider the following information

- Loan amount – ₹300,000
- No. of Payments – 48 months
- Annual Rate of interest – 10%
- Prepare a one variable table showing the repayment of the above loan in different number of payment such as 12 months, 24 months, 36 months, 48 months, 60 months and 72 months. Use PMT Function.

### Question 14

Mr. ShyamLal took a loan of ₹200,000 from State Bank Of India, Cherukara and No. of Instalments is 84 months. Calculate the rate assuming payments ₹3300 per month using appropriate spreadsheet Function.

### Part B

(Attempt any TWO questions, 2x4=8)

### Question 15

The total commission earned by Mr.Vinod and Mr. Thomas for the year 2013 – 2017 are given below:

Year	Mr. Vinod	Mr. Thomas
2013	8910	6880
2014	14000	9800
2015	12000	14880
2016	15150	14300
2017	15950	13890

- Present the data in a column chart
- Change the chart type to line chart

### Question 16

Draw a pie chart for the following data on vehicles registered in the motor vehicles department during 2016 – 2017 in a city.

Vehicle Type	Bus	Truck	Auto rickshaw	car	Two wheeler	Heavy Vehicle
Number of vehicles	575	5889	12345	9765	23456	65

### Question 17

Draw a column chart for the following data and give a title **Marks Scored by Students**.

Marks	0-20	21-40	41-60	61-80	81-100	Total
No. of Students	113	180	350	232	125	1000

### Question 18

Below are the details of various assets in a firm. Calculate depreciation under straight line method using spreadsheet software.

Asset	Cost of Purchase	Installation charges	Transportation charges	Pre-operating expenses	Salvage value	Life in years
Machinery	20000	2000	4600	1200	2000	10
Furniture	40000	3500	1500	500	3000	8

### Question 19

ABC Ltd. purchased a machine on 01-01-2017 for Rs. 200000 and spend Rs. 10000 for the installation. The machinery was installed on 10-01-2017. The expected salvage value is Rs. 8000, at the end of its useful life of 10 years. Calculate annual depreciation under SLN method using spreadsheet.

### Question 20

A machinery was purchased on 1<sup>st</sup> April 2013 for Rs. 200000. Its estimated life is 10 years with salvage value of Rs. 20000. Accounting year is 1<sup>st</sup> April to 31<sup>st</sup> March every year. Using built-in function (Spreadsheet) calculate depreciation under the Diminishing Balance Value method for 5 years.

### Question 21

The following are the details of a plant and machinery under WDV method using spreadsheet.

Name of Asset	Plant & Machinery
Date of purchase	10/07/2010
Date of installation	20/07/2010
Cost of Plant & Machinery	300000
Installation Cost	50000
Pre-operating cost	10000
Salvage Value	30000
Expected Life of Asset	8 years
1 <sup>st</sup> year end date	31-03-2011
Period	1

## Question 22

Prepare payroll of the following employees

Name	Basic Pay	PF Loan
Sindhu	39500	11100
Ashly	41500	11800
Unni	41500	11300
Ranjith	54000	0
Bindu	48000	11700
Ambily	48000	11850
James	41500	12000
Thara	62000	0
Arun	33500	12000
Rahim	38000	5500

### Additional Information

1. DA – 36% of Basic Pay
2. HRA – Rs.1750 for employees Basic Pay greater than Rs. 52000, for others Rs.1500.
3. TA – 400 per Employee
4. PF subscription – 10% for Gross Pay.
5. TDS – 20% for Gross Pay greater than Rs. 60000, otherwise 10%

## Question 23

Mr. Binu has taken a loan of Rs. 500000 from a bank, interest @ 10% per annum . The loan is repayable over a period of 10 years in monthly installments . Prepare a loan repayment schedule by showing outstanding balances for the first year ( Hint: Use PMT function )

## PART C

(Attempt ONE question, 1x6=6)

### Question 24

The various transactions relating to Zion Chemicals for the month of January 2016 is given below. Ascertain cash balance for the month using an accounting software.

Jan 1. Started business with cash Rs. 50000

Jan 1 : Purchased office furniture Rs. 4500

Jan 1 : Cash purchases Rs.25000

Jan 1 : Credit sales to Anand Rs 43000

Jan 2 : Salary to staff Rs. 12000

Jan 2 : Received from Anand Rs 17500

### Question 25

Enter the following transactions using appropriate accounting vouchers and show the purchase and sales Ledgers of Karuna Traders Ernakulam.

01/01/2016 Started business with cash Rs. 150000

01/01/2016 Deposited in to SBI Rs 40000

01/01/2016 Purchased goods from Aruna Traders Rs. 25000

02/01/2016 Purchased goods Rs. 5000

02/01/2016 Sold goods Rs. 4000

02/01/2016 Purchased goods for Rs. 10000 and paid by cheque

02/01/2016 Sold goods on credit to Aneesh for Rs. 15000

### Question 26

Enter the following transactions by using suitable accounting vouchers and display the profit and loss account and balance sheet.

01/06/2016 Commenced business with cash Rs. 17000

01/06/2016 Purchased machinery Rs. 10000

01/06/2016 Paid Rent of building Rs. 7500

01/06/2016 Cash deposited with Canara bank Rs. 20000

01/06/2016 Purchased goods for Rs. 8400

02/06/2016 Sold goods for cash Rs. 3260

02/06/2016 Sold goods on credit to Mr. Rajesh Rs. 2800

### Question 27

Enter the following transactions in appropriate accounting vouchers and prepare the BRS as on 31/01/2017 for m/s Royal Stores

- 01/01/2017 Commenced business with cash Rs. 100000
- 01/01/2017 Open the bank Account with pnb Rs. 50000
- 02/01/2017 Purchased goods by check (No. 10051 Rs. 12000)
- 02/01/2017 Received check (No. 20101 from Alvin traders Rs. 15000)
- 02/01/2017 Issued a check (No. 10052 to bibin and Co. Rs. 4000)
- 02/01/2017 Withdraw from bank for office use Rs. 16000

On comparison of cash book with the passbook the following details were obtained

- a) Check No. 10051 was cashed on 02/01/2017.
- b) Check No. 10052 was cashed on 02/02/2017.
- c) Check received from Alvin Traders (Check No. 20101 was collected on 02/02/2017)

### Question 28

Create the following ledgers in an accounting software and display the balance sheet as on 01/04/2017.

Items	Amount
Capital	250000
Loose tools	50000
Crediters	50000
Bank Loan	75000
Land and Buildings	1000000
Plan and Machinery	1000000
Motor vehicle	75000
Debtors	50000
Outstanding salary	3000
Cash in hand	30000

### Part D

(Attempt ONE question, 1x6=6)

#### Question 29

Enter the following in a database table with the file name Emp\_details.

EMP_ID	EMP_NAME	EMP_SEX	EMP_BASICPAY
100	ARUN	M	30000
101	NISHA	F	60000
102	ANIL	M	40000
103	ROOPA	F	80000

- Display the name of employees drawing BASICPAY greater than or equal to 60000.
- Display the name of employees begin with 'A'.

#### Question 30

A) Prepare a payroll of employees with the gross pay on the basis of the following database table.

EMP_ID	EMP_NAME	EMP_BASICPAY	DA	HRA
201	SUBHASH	40000		250
202	GEETHA	41500		250
203	SAJNA	48000		250
204	AKHIL	54000		250

(DA - 20% of BASICPAY)

- Display the salary details of the employees whose names ending with 'A'.

#### Question 31

Create a database table named TABLE\_EMPLOYEE and enter the following details using a form.

EMP_ID	EMP_NAME	BP	HRA
1001	MAJEED	10000	1500
1002	ABHILASH	20000	1500
1003	SUNIL	30000	1500

Also create a query to display EMP\_NAME and BP.

### Question 32

From the following details calculate Total cost and profit/lost of each quarter for the year 2016-2017 by using appropriate query.

QUARTER	SALES	COST	ADM_EXP	SELLING_EXP	TOTAL_COST	PROFIT_LOSS
Q1	80000	45000	5000	2000		
Q2	60000	35000	5000	3000		
Q3	50000	30000	6000	4000		
Q4	40000	30000	7000	5000		

### Question 33

Create database tables named EMPLOYEE and PAY\_DETAILS with the following field names.

Table name	Fields
EMPLOYEE	EMP_ID, EMP_NAME, EMP_SEX
PAY_DETAILS	EMP_ID, BP, DA, HRA

Create relationship between these two tables.

### Question 34

Create STUDENT table in database with the following fields.

Field name	Data type	Field width
STUD_NO	Text	5
STUD_NAME	Text	25
SEX	Text	1
PLACE	Text	20
CLASS	Text	10

(Hint: Classes are Science, Commerce and Humanities)

- Enter six records with imaginary details.
- Prepare of report of students from commerce class.

**COMMUNICATIVE ENGLISH  
PRACTICALS**

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**ASSESSING SPEAKING AND LISTENING SKILLS  
(Suggested Activities)**

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**Scheme of Examination**

Teaching speaking is a very important part of second language learning. The revised Communicative English text book for the higher secondary classes lays stress on developing listening and speaking skills providing a rich environment with collaborative activities, authentic materials and challenging tasks. So the practical exam should focus on assessing the four skills (LSRW) associated with language learning.

**LISTENING ( 5 + 5 = 10 Score)**

The students will be assessed on:

- a) **To play an audio text** (short episodes / passages / stories / news bulletin / speeches by famous personalities (not exceeding 5 min.) The Students listen to this play-back and answer questions in a sheet of paper (containing 5 questions). **Auditory Comprehension** (5 score).  
Time for this exercise for the response of the students will be approximately 10 minutes.
- b) **To play a face - to - face conversation** (not exceeding 5 minutes) through a video or audio system and the students listen to this conversation with full attention and answer 5 questions in a sheet of paper. Fill in the blanks type of questions may also be given to assess the Listening skills of the students. Time to be taken by the students for this exercise will be approximately 10 minutes. (5 score).

**READING ALOUD (5 Score)**

- a) Each student reads a passage aloud. While reading, the students will be assessed based on their performance in pronunciation, articulation, intonation, punctuation, pauses etc... The examiner should have to keep as many passages / exercises as required, proportionate to the number of batches. The passages / exercises should be the same for all the students of a particular batch. But it should not be repeated for other batches, there should be different passages / exercises for different batches. (5 score)

### **SPEAKING (15 Score)**

- a) Introducing oneself / Introducing others (5 score).
- b) Short speech on simple topics on simpler themes for about 2 minutes (5 score).

(NOTE: The topics identified in the syllabus for Presentation (Speaking skills) have to be written individually one by one in separate papers or in separate cards. The students may be allowed to choose a topic through lot system. They are expected to speak on the topic chosen by them for at least 2 minutes. The selection of the topics is left to the discretion of the examiner.)

- c) Assessing the performance of the students on any of the topics given in the syllabus (5 score).

Group discussion/role play/presentation /reporting events/describing situations etc

### **Portfolio and Class Blog (10 Score)**

#### **Portfolio**

- (1) One written product from each unit. (5 score)
- (2) Any one Project report posted on blog. (Class Blog/Personal Blog)- (5 score)

Or

Facebook/Twitter/Social media posts relevant to the topics of Communicative English textbook.

Or

Presentations (ppt or impress)

## Guidelines for Higher Secondary Practical Evaluation – 2015

### ELECTRONICS

We follow outcome focussed assessment approach in the evaluation process in the Kerala School Curriculum 2013. Term end evaluation is an important aspect of assessment. Along with term end evaluation at the end of the academic year, practical evaluation (PE) is to be conducted. A list of 13 experiments each are given below which are suitable for plus one and plus two classes. A minimum of 6 experiments each from the list are to be performed during both the years. Those performed by the students with a minimum of 12 experiments are to be considered for the final practical examination which will be conducted at the end of the second year of the course. Practical evaluation will be conducted in batches. The maximum number of students in each batch is limited to 15.

- Final practical examination will be of three hours and the maximum score will be 40.
- Any one question selected at random may be given to each student.
- Only 15 students will be permitted to attend the practical examination at a time.
- Students must attend the practical examination with a practical log book.
- Neatness in connecting equipment as per the circuit diagram, ability in observing the output , accuracy in measurement an ability in recording the data should be assessed.
- Calculation of data, sketching graph and recording final results should be assessed.
- The score distribution will be as follows.

1. Theory and principle	:	9
2. Circuit diagram	:	7
3. Setting up of circuit	:	7

## Teacher Text-Electronics

4. Performing experiment	:	5
5. Measurement and recording	:	6
6. Result	:	2
7. Ascertaining the awareness relating to the particular experiment	:	4

## LIST OF PRACTICAL EXPERIMENTS

### First year

1. The study of the characteristic of a PN junction- forward and reverse.(use silicon and germanium)
2. The study of forward and reverse characteristics of Zener diode (repeat the experiment for two or three diodes of different break down voltages.)
3. The input and output VI characteristics of CE configuration.
4. Study of transistor switch- switch a LED on and OFF using transistor switch.
5. Study of the characteristic of LDR – resistance variation with intensity of light.
6. Study of VI characteristic of LED
7. Light detection using photodiode and phototransistors.
8. Study of half wave rectifier- measurement of ripple factor.
9. Study of centre tap full wave rectifier- measurement of ripple factor.
10. Study of bridge type full wave rectifier- measurement of ripple factor.
11. Reduction of ripple at the output of a rectifier using simple capacitor filter- repeat experiment for different value of capacitor.
12. Voltage gain measurement of a CE amplifier.
13. Study of frequency response of CE amplifier.

**Second year**

14. Generation of sine wave using a RC phase shift oscillator.
15. Generation of square wave using astable multivibrator.
16. Setting up of OR, AND and NOT gates and verification of truth table.
17. Familiarization of logic gate ICs.
18. Setting up of an Ex-OR gate using basic gates and verification of truth table.
19. Implementation of half adder and full adder using logic gates.
20. Design and set up of an op-amp inverting and non inverting amplifier.
21. Study of clipping circuits- simple clipper and biased clipper- positive and negative
22. Study of clamper circuits- simple clamper and biased clamper- positive and negative.
23. Study of integrator and differentiator circuits.
24. Study of zener diode voltage regulation.
25. Familiarization of voltage regulator ICs.
26. Setting up of LPF and HPF using circuits and study of their frequency response.

## **SCHEME FOR PRACTICAL EVALUATION**

*Time :3 Hrs*

*Score:40*

### **PART-A**

**Answer any two questions from part-A (8x2=16)**

1. Prepare a prang colour wheel using primary colours.
2. Plan and prepare a dish and calculate the nutritive value of the prepared dish Carbohydrates/Protein/Iron/Calcium/Vitamin A/Vitamin C.
3. Plan a day's menu for a pregnant woman( Sedentary)/ Lactating mother ( sedentary 0-6 months) /Adolescent Boy/ Girl(16-18 years) and prepare a dish from the planned meal and calculate the nutritive value (carbohydrate/protein / iron) of the prepared dish.
4. Plan a day's menu for diarrhoea/fever/anaemia/obesity and prepare a dish from the planned menu and calculate the nutritive value(carbohydrate /protein / iron) of the prepared dish.
5. Identify the given weave and prepare a sample of it. (using coloured papers )
6. Estimate vitamin C in lime juice/lactose in milk.

### **PART -B**

**Answer any two questions from part-B (5x2=10)**

1. Prepare a poster on a given theme.
2. Prepare a sample of tie and dye/vegetable block printing/batik printing.
3. Prepare a value scale.

4. Prepare a dish involving germination/fermentation/combination.
5. Illustrate monochromatic/analogous/complimentary/split/double/triad colour harmonies.

### **PART-C**

**Answer any two questions from part - C (3x2=6)**

1. Identify the weave of the given sample.
2. Identify the given fibre
3. Detect the adulterant present in the given sample.
4. Identify the nutrient in the given sample.

### **PART- D**

**Practical Record (8)**

**Total 40**

**(Note:Scheme for practical evaluation should not be changed at any circumstances)**

## **GUIDE LINES FOR PRACTICAL EVALUATION (PE) IN GEOLOGY**

The practical evaluation at class XI& XII is meant for evaluating the ability of the learner to identify various mineral and rock specimens. Through this evaluation, the learner is expected to examine and identify:

- 1) Mineral specimens with the help of their salient physical properties.
- 2) Rock specimens based on their texture and mineralogy.
- 3) Metallic and non-metallic mineral specimens with the help of their chief diagnostic properties.

### **I. Content areas for PE at class XII**

#### **Unit: 1 (Mineralogy-Rock forming minerals)**

##### **Megascopic identification of the following mineral specimens**

- |                     |                   |
|---------------------|-------------------|
| 1. Talc             | 2. Biotite (Mica) |
| 3. Muscovite (Mica) | 4. Calcite        |
| 5. Fluorite         | 6. Apatite        |
| 7. Feldspar         | 8. Quartz         |
| 9. Garnet           | 10. Corundum      |

#### **Unit: 2 (Petrology)**

##### **Megascopic identification of the following rock specimens**

###### **A. Igneous rocks**

- |            |              |
|------------|--------------|
| 1. Granite | 2. Pegmatite |
| 3. Basalt  | 4. Dolerite  |
| 5. Gabbro  | 6. Basalt    |

###### **B. Sedimentary rocks**

- |              |                 |
|--------------|-----------------|
| 1. Sandstone | 2. Conglomerate |
| 3. Shale     | 4. Limestone    |

### **C. Metamorphic rocks**

- |           |                |
|-----------|----------------|
| 1. Slate  | 2. Schist      |
| 3. Gneiss | 4. Charnockite |

### **Unit: 3 (Economic Geology)**

#### **A. Megascopic identification of the following ore/metallic minerals**

- |                |              |
|----------------|--------------|
| 1. Hematite    | 2. Magnetite |
| 3. Chalcoprite | 4. Bauxite   |
| 5. Pyrolusite  | 6. Galena    |

#### **B. Megascopic identification of the following non-metallic/ industrial minerals**

- |              |           |
|--------------|-----------|
| 1. Asbestos  | 2. Gypsum |
| 3. Graphite  | 4. Baryte |
| 5. Magnesite | 6. Clay   |

### **II. Practical evaluation (PE)-guide lines**

1. The practical evaluation is conducted at the end of the first year course as an internal examination.
2. Practical evaluation at the end of the second year of the course shall also be conducted by an external examiner.
3. The learner shall keep with him/her a single entry practical log book containing his/her observations and the teacher's comments.
4. The evaluation done by the teacher is recorded in practical log book.
4. The first year log book can be used for recording practical works done in the second year also.
5. The practical log book will be evaluated by the external examiner during the PE conducted at the end of the second year

6. No separate viva voce shall be conducted for PE. It may be conducted based on the items given for practical work while the examination is going on.

### **III. Scheme of work for PE**

Maximum scores for PE are 40 (both first year & second year)

Total time is 3 hours

The distribution pattern of mineral specimens, intended to be given for practical evaluation is provided herewith.

i). Four specimens from Unit I (mineralogy),

The specimens of rock forming minerals specified in the content area shall be provided.

Scores assigned to each item is 4.

Total = 16 scores (4x4 = 16 scores).

ii). Three specimens from Unit II (Petrology)

The three rock specimens, each from igneous, sedimentary and metamorphic groups of rocks shall be provided from Petrology.

Score assigned to each item is 4.

Total = 12 scores from this unit (4x3 = 12 scores).

iii). Two specimens from Unit III (Economic Geology) shall be given.

The two specimens, each from metallic (ore) and non-metallic (industrial) minerals can be given from this unit.

Score assigned to each item is 4.

Total = 8 scores from the unit 3 (4x2 = 8 scores).

iv). A maximum of 4 scores for the single entry practical log book and viva voce.

### **IV. Scoring key for PE**

#### **Identification of mineral specimens**

Analysis of physical properties and identification of given mineral specimens: 4 scores each

The scores are distributed as follows:

- i). Identification of chief diagnostic properties of a specimen- 2 scores each
- ii). Ability to diagnose all other physical properties-1 score each
- iii). Identification and nomenclature-1 score each

**Identification of rock specimens**

- i). Identification of textures/ structures of a rock specimen- 1 scores each
- ii). Description of mineralogy- 2 scores each
- iii). Identification and nomenclature- 1 score each shall be given.

## **Practical**

It may be noted that different units contain a number of activities to help the students to explore the various concepts discussed. These explorations can be taken up as project works or as experiments. The experiments can be introduced via practicals.

Psychology is a vibrant science, with the tremendous scope for application in every field of human endeavour. Almost all the units, there is scope to include practical's to supplement the understanding of theory and concepts.

A psychological test is essentially an objective and standardized measure of a sample of behaviour. Psychological tests are like the tests in any other science, in so far as observations are made on a sample but carefully chosen sample of an individual's behaviour. In this respect, the psychologists proceed in much the same way as the biochemist that tests a patient's blood. If a psychologist wishes to test the extent of a child's vocabulary, a clerk's ability to perform arithmetic computations, or a pilot's eye-hand coordination, he/she examines their performance with a representative set of words, arithmetic problems, or motor tests.

At higher secondary level students are to be equipped with the basic concepts, facts and theories in psychology. There should be an integration of theories and practical, so that the concepts/ theories are made more meaningful to the students. Teacher can administer as many as practical as possible. But a minimum of four practical are to be carried out in first year and same number at second year. Any four from the following list can be selected.

### **For standard XI**

1. Maze learning
2. Memory span
3. Span of attention
4. Short term memory
5. Problem solving
6. Distraction of attention
7. Bilateral transfer
8. Concept formation
9. Knowledge of results on performance
10. Suggestibility

### List of equipments required for doing the practical

1. Memory drum apparatus
2. Tachistoscope
3. Problem solving questionnaire (test)
4. Mirror drawing apparatus
5. Concept formation test
6. Knowledge of result questionnaire
7. Suggestibility test
8. Muller-layer illusion apparatus

### Evaluation weightage for first year

Total score for TE	60
Total score for CE	20
Total score for PE	20
Grand total	100

## Slot for practical XI

Unit No	Unit Name	Practical
1	What is Psychology?	
2	Methods of Enquiry in Psychology	1. Survey 2. Case study 3. Observation 4. Field visit 5. Interview
3	The Bases of Human Behaviour	
4	Human Development	Suggestibility
5	Sensory, Attentional and Perceptual Processes	Span of attention
6	Learning	1. Maze learning 2. Bilateral transfer, 3. Knowledge of results on performance
7	Human Memory	Short term memory
8	Thinking	1. Problem solving 2. Concept formation
9	Motivation and Emotion	Levels of aspiration

## **CLASS XII**

A minimum of 4 experiments from the following

1. Intelligence test
2. Aptitude test
3. Adjustment inventory
4. Personality test
5. Anxiety scale
6. Attitude test
7. Vocational interest inventory
8. Self concept questionnaire/scale

### **Evaluation weightage for second year**

Total score for TE	60
Total score for CE	20
Total score for PE	20
Grand total	100

Slot for practical XII

<b>Unit No</b>	<b>Unit Name</b>	<b>Practical</b>
<b>1</b>	<b>Variations in Psychological Attributes</b>	<b>Intelligence test Aptitude test Vocational interest inventory</b>
<b>2</b>	<b>Self and Personality</b>	<b>Personality test Self concept questionnaire</b>
<b>3</b>	<b>Meeting Life Challenges</b>	
<b>4</b>	<b>Psychological Disorders</b>	<b>Anxiety scale Adjustment inventory</b>
<b>5</b>	<b>Therapeutic Approaches</b>	
<b>6</b>	<b>Attitude and Social Cognition</b>	<b>Attitude test</b>
<b>7</b>	<b>Social Influence and Group Processes</b>	
<b>8</b>	<b>Psychology and Life</b>	
<b>9</b>	<b>Developing Psychological Skills</b>	



# PRACTICAL EVALUATION



## **Social Work Lab**

The scientific and professional characteristics of social work make it imperative to have 'practical' a dynamic component of its learning strategy. The theoretical inputs regarding social dynamism, various social work methods, therapeutic strategies, etc. will be exposed to the learner in live situations. Due weightages are given in the distribution of scores while evaluating the learner.

## **Guidelines**

- Social awareness and community sensitization must be part of practical learning.
  - Organization and agencies chosen for exposure visit and study must be socially acceptable and 50% of it must be professionally managed.
  - Due care must be given to familiarize various methods of social work through the selection of such agencies.
  - Action or extension programme chosen must provide room for learners to plan, organize and implement the activities.
  - The staff guide must facilitate the conduct of the exposure visits concurrently or together as a block.
  - Except the exposure visits, any one of the component of the field work should be done during the first year.
  - The learners must be oriented in writing practical records, case study reports, and other relevant end products.
  - Resource mobilization and budgeting for the practical projects must be in consultation with the class PTA on a democratic basis.
- 

- An exposure visit itinerancy must be prepared involving the learners and this must be given to the parents. The consent of the parents must be obtained in writing. Agencies of visit, place of stay etc. must be mentioned in the consent letter.
- The presence of lady teachers must be ensured while taking the students for exposure visit. Mother PTA representatives can also be included in the absence of lady teachers.
- Students in groups should be involved in planning, organizing, implementing and evaluating the field exposure programme.
- End products like field visit records, action programme report, resource map, case study report, photographs etc. must be made for each corresponding programme and this must be made available for evaluation.

## **Components of Social Work Lab**

### **A. Exposure Visit**

A minimum of four exposure visits should be conducted. These visits can be to social welfare agencies, communities, correctional institutions, social action centres, etc. Of these four visits, two must be centres where professionally qualified social workers are employed. The learners should be facilitated to gain inputs on the history, objectives, programmes, organizational structure, methods of social work used and challenges of the agencies.

The end product of this practical component will be a record of the report of each corresponding visit. Each report should contain a minimum of four pages and should not exceed seven pages. The score for exposure visits is 20.

### **b. Micro Research or Case Study**

Learners in convenient groups should be facilitated to undertake a small research work or a case study. This must be on any socially relevant issues like alcoholism, use of tobacco, mobile misuse, erroneous study habits etc. Through this practical component, the students should be familiarized on the various essential steps of

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scientific research methodology and sensitized on a socially relevant issue which demands social work intervention.

The product of this practical component will be a study report not exceeding ten pages compressing the title, subjective, methodology, data analysis and interpretation. The case study report must contain the profile of the case, problems, diagnosis and suggestions. It should not exceed seven pages. The score for micro research or case study is 5.

**c. Extension or Action Programme**

Extension, today is recognized as the third dimension of education. In social work education, extension provides ample opportunities to the learner to relate with the immediate community and intervene in socially relevant issues. The students can organize any action programme or extension activity like prominent day observations (environment day, geriatric day, poverty day, population day, human rights day, etc.) or organize community linked programme of issues like environment protection, water literacy, hygiene, organic farming, self-help groups etc. the students should be helped to given experience in planning, organizing, implementing and evaluating the programme.

The product of the component will be a report on the process and programme. It should not exceed five pages. The score is 5.

**d. Social Group work**

The students are facilitated to form various groups to fulfil certain developmental needs of the school/class. (Eg. Organise a career exhibition, health programme, waste management, etc.). The teacher facilitates the learner to identify suitable issues, help them to form group according to their interest, plan, organize and evaluate activities. Through this the learners are helped to observe the stages of group formation and the dynamics involved in its functioning. The product of this component is a report containing the process and dynamics of group formation and programme implementation. The report should not exceed five pages. The score is 5.

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### **Evaluation of Practical Work**

Viva voce and rapid appraisal tests are the tools for practical evaluation. This will be conducted by an external examiner with the support of the staff guide. Each learner will be personally interviewed by the external examiner. The learner should be facilitated to express his/her understanding on the scientific knowledge base of social work and the experience gained through other practical components.

The rapid appraisal test will help the external examiner to assess the knowledge, experience and skill gained by the learner. Besides, short objective type questions, the external examiner can assess the experience and skill gained by the learner through various other strategies . The learners can be asked to prepare resource maps, developmental projects, venn diagrams, problem trees, etc.

Though viva voce and rapid appraisal tests are practical evaluation tools, the range in individual performance levels (clarity, assertiveness, communication, ...) should be measured providing a maximum score of 5.

## **Guidelines for Practical Evaluation - Statistics**

The subject statistics has a wide range of practical application in all walks of life. Use of proper data and its analysis are very importance. In the present scenario of outcome based approach, the learning activities should go hand in hand with the related practical situations. Now a day's almost all data analysis can be successfully done using computers.

The guidelines for conducting practical examination for higher secondary STATISTICS are given below in detail.

There will be Practical Evaluation only for second year students ,but the portions from first year also included in examination .Teachers can conduct lab works in first year itself (if needed),but the final assessment will be done only at the end of second year.

Maximum Score : 40

Maximum time allowed: 3 hrs.

### **Topics for PE**

1.	Diagrams and graphs	Simple Bar diagram, Multiple bar diagram, Sub divided bar diagram, Percentage bar diagram, pie diagram, Histogram, Scatter diagram, Control charts using line charts(SQC).
2.	Descriptive statistics	Construction of frequency table, Mean, median, mode, quartiles, skewness, kurtosis. Normal probability, Poisson probability , binomial probability
3.	Correlation and Regression	Karl Pearson's coefficient of correlation, Regression equations, Forecasting using Regression equations, Trend line fitting (straight line), Estimation of trend values, moving averages.
4	Testing of Hypothesis	Z test - two sample for means, Ftest – ANOVA one variable, Chi square test for independence.

## Evaluation Process

The question paper contains four sections related to the topics given above which will be supplied by DHSE to the external examiner. Each section carries 4 questions. External examiner can prepare question paper consists of four questions. External examiner should ensure that there is one question from each section. Change of question paper may be allowed with a penalty of 2 scores for each change.

Each question carries 8 scores.	8x4 = 32 scores
Record work.	4 scores
Content awareness/Viva voce	4 scores
	<hr/>
Total	40 scores

### Score distribution for each question:

1. Identifying the questions .....	1
2. Data entry .....	2
3. Selecting appropriate statistical tool .....	2
4. Processing the data .....	2
5. Interpretation of the result/conclusion .....	1

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<b>Total Scores</b> .....	<b>8</b>
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\*\*\* All the problems should be done using computer

### For practical examination

- Computerized procedure
- Output of the problem
- Inference

## Contents of Record

\*Different types of problems from the PE topics cited above.

### 1 Diagrams and graphs

Simple Bar diagram	- one problem
Multiple bar diagram	- one problem
Sub divided bar diagram	- one problem
Percentage bar diagram	- one problem
Pie diagram	- one problem
Histogram	- one problem
Scatter diagram	- one problem
Control charts	- one problem

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**8 problems**

### 2 Descriptive statistics

Construction of frequency table	- one problem
Mean, median, mode, quartiles, skewness, kurtosis.	- one problem
Normal probability	- one problem
Poisson probability	- one problem
Binomial probability	- one problem

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**5 problems**

### 3 Correlation and Regression

Karl Pearson's coefficient of correlation	- one problem
Regression equations	- Two problems ( Yon X and XonY)
Forecasting using Regression equations	- one problem
Trend line fitting (straight line)	- one problem
Estimation of trend values	- one problem
Moving averages	- two problems (odd,even cases)

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**8 problems**

#### 4 Testing of Hypothesis

Z test - two samples for means	- two problems (Population SD known & unknown)
F test – ANOVA one variable	- two problems (Row and Column)
Chi square test for independence	- one problem

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**5 problems**

**Total 26 problems**

#### Structure of Record:

- Aim : The objective of the problem.
- Principle : Theory of the problem.
- Computational procedure : The PATH for solving the problem using computer.
- Data analysis : Computer printout or manual write up.
- Inference : Interpretation / conclusion.

#### Reference

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Statistics made simple do it yourself on PC, by K.V.S.Sarma, Prentice- Hall of India Pvt. Ltd.  
Any book related to these areas.

# Guidelines for Practicals

Based on the directions from the new curriculum revision committee, from this year onwards, a new systematic approach has been adopted for practical in Gandhian Studies. According to this scheme, there are two options and teachers have the right to choose any one:

**Option 1 - Any 7 crafts from the listed 6 categories + Field visit**

or

**Option 2 - Any 10 crafts from the listed 6 categories**

The crafts can be selected only from the listed items. No other crafts are allowed. From the given 6 categories one item from each category is compulsory. The additional crafts can be selected from any given category. If field visit is not included, additional 3 crafts are compulsory.

The 6 categories are

## **Category 1**

- Screen printing
- Textile printing
- Vegetable printing
- Glass painting
- Fabric painting

## **Category 2**

- Food processing (on the spot cooking)
- Bio-pesticide
- Mushroom cultivation
- Fresh flower arrangement
- Flower bouquet

## **Category 3**

- Products using natural fibers ( bag, mat etc.)
- Coir products
- Bamboo products
- Badminton /volley ball net making
- Coconut shell products

## **Category 4**

- Metal engraving/wood carving
- Pot designing
- Embroidery
- Plaster of Paris products

- Products using waste materials

### **Category 5**

- Agarbathy making
- Soap making (toilet or washing)
- Chalk making
- Candle making
- Umbrella making

### **Category 6**

- Book binding (calico binding/stitch binding)
- Folding file+ Office file+ Plain cover/ office file + writing board
- Paper bag (two types)
- Beads work or Ornaments (set of ornaments)
- Interior decoration items (wall hangers, bunch of flowers, flower vases etc.)

All the works should be recorded systematically in the record book. Submit the duly signed record book for external evaluation.

## **Format of record book**

Page 1 - Certificate

Page 2 - Index

Page 3 – Recording of craft (one by one)

### **Craft 1**

Date

Name of the craft with category number

Aims and objectives

Materials required

Procedure

Time required

Cost of production

Skills achieved

Utility of the product

Marketing strategy

Signature of teacher

### **Craft 2**

.....

### **Craft 3**

.....

#### **Craft 4**

.....

#### **Craft 5**

.....

#### **Craft 6**

.....

#### **Craft 7**

.....

Field visit report or Craft 8, 9 & 10 –

#### **Field visit report format**

Certificate from the Institution visited with date

Report - Name of the Institution

Introduction

History & background of the institution

Aims & objectives of the institution

Area of operation and funding

Administrative structure

Activities of the institution

Analysis of activities in the light of Gandhian ideas

Observation and conclusion

#### **Procedure of certain craft items**

##### **1. Screen printing**

Screen printing is the method of printing designs on plastic, cloth, pen, paper, metal, ceramic and glass.

**Materials required:** - Frame with a screen, exposing frame, squeegee, exposing box, table, vessels, enamel tray, palette knife, stove, old newspaper, bleaching powder, waste, soap, paint (various colours) and DTP.

**Method:** Fix mesh on the frame. Mesh is widely available in numbers from 8 to 16. Accurate screen will only be available on the cloth with equivalent strand. Then take DTP of the required matter on butter paper. The printer and the 5 star film should be laid together. Then put the exposing frame on it. Print should bring on the film by exposing it on the sunlight. Wash the film in the liquid consisting of hydrogen peroxide and hot water with a ratio of 1:3. Again wash it in fresh water and affix it on the frame. Put the frame on the intended surface meant for printing. Pull it with the squeegee filled with ink.

## 2. Vegetable printing

**Materials required:** Fabric paints, brush (No-3), vegetables (potato, onions, ladies finger, carrot etc), cloth (minimum ½ meter)

**Method:** - Cut the vegetables in suitable shapes. Apply paint upon the sliced vegetables by using brush. Apply it on the cloth in desirable pattern. Allow it for drying.

## 3. Glass painting

**Materials required:** Glass piece, Glass paints, White glue (fevicol tube), buds, designs

**Method :-** Design of the picture meant for adorning the glass should be laid down below the glass. Then draw the outline by using white glue. After drying apply the black colour on it. Colour the inner part using desirable colours. Let it for drying. After this we can frame it.

## 4. Fabric painting

**Materials required:** fabric paint, medium cloth (50 cm), brush 0 to 6, frame, paint tray, glass, water, waste cloth, oil paper, carbon paper (yellow) and designs.

**Method:-** Draw the design on the cloth by using carbon paper. Put the cloth on the frame. Apply the suitable fabric paints by using brush on the framed cloth. If you paint the outlines only, then use brush no 6. Let it dry.

## 5. Coconut shell products

**Materials required:** Coconut shell, fevicol, axo blade, varnish, sandpaper.

**Methods:** We can make various items like cups, flower vase, spatula etc. by using coconut shell.

Clean the shell neatly and polish it with a sand paper. Cut the shell using axo blade into required shapes. Use fevicol for fixing various pieces into the required shapes. Put varnish on it and allow for drying.

## 6. Pot designing

**Materials required:** Clay pot, enamel paint-black, sand paper, varnish, clay, white glue, fabric paints, brush, emulsion paints etc.

**Method:** Polish the pot by using sand paper. Apply the emulsion paint on it. Again polish it with sand paper and apply the enamel paint. (It can be done without applying the paint). Make different shapes (flowers, stem and leafs, fruits, etc) by using clay. Fix it on the pot by using glue. Let it dry. Apply desirable colours on the shapes. Allow to dry. Apply varnish on it.

## **7. Plaster of Paris Product**

**Materials required:** Plaster of paris, fevicol, mould etc.

**Method:** Mix plaster of paris and fevicol in the appropriate way. Put it over the mould. Allow to dry. Remove it from the mould. Apply suitable colours for better finishing.

## **8. Agarbathi making**

**Materials required:** Charcoal dust-8kg, Wood carving powder- 38kg, kulamav powder – 8kg, perfume, agarbathi stick, sieve, water.

**Method:** Filter the powders using a sieve. Mix the powders well. Pour some water and perfume into the mixture and knead it like chappathi mavu. Fix the mix over the stick. Allow to dry.

## **9. Chalk making**

**Materials required:** plaster of paris, water, lubricant oil, mould.

**Method:** Mix plaster of Paris with water. After applying oil on the mould, pour the prepared mixture into the mould. After setting, remove it from the mould and dry it in sunlight.

## **10. Candle making**

**Materials required:** Wax, stove, vessel, cup, thread, mould, knife, oil, water and a large vessel.

**Method:** Light the stove and put an aluminum vessel on it. Put wax into the vessel and allow it to melt. Open the mould and apply oil on it. Then put the thread on it. Close the mould. Pour the melted wax on it. Dip the mould into the water in a large vessel. Allow to cool completely. Take the mould from the water and remove the candles with the help of a knife.

## **11. Umbrella making**

**Materials required:** Parts of an umbrella- umbrella stick, umbrella cloth, metal bars, cap, washer, handle, thread and needle, metal thread (winding wire).

**Method:** Assemble the metal bar and stick together. Stitch the umbrella cloth on it. Fix the washer and cap on the top. Put the handle. Stitch the strap to hold together the umbrella cloth.

## **12. Book binding 200 pages**

**Materials required:** paper , calico, card board (bind), fancy paper, binding paste or gum , thread, needle, knife, scale

**Method:** Cut the paper according to the double size of the type of book preferred. Divide them into 4 equal parts. Fold each part and press strongly. Set the folded

paper in such a way that the folded sides come together. Mark two points equidistant from both edges. Put another mark on the middle. Make a small hole on each marking. Using thread and needle to stitch the bundle together strongly. Cut the bind into the required size. Fix this over the stitched book with the help of calico and paper. Graft fancy paper over the bind. Put some gum over the inner side and fix the first page on the bind.

### **13. Folding file / Office file**

**Materials required:** chart paper, brown paper, string, eyelet, punch, tag, scale, etc.

**Method:** - folding file - Fold the chart paper in the order 1" 2" and affix it. The inner part should be folded as the ½ manner. Then fix the 2 eyelets on the middle part with 4 or 5 inch distance and put a tag on it.

#### **Office file**

**Materials required:** card board, calico, gum, brown paper, white cotton ribbon, knife.

**Method:** The cardboard should be cut with proper length and width in the shape of a rectangle. Cut the calico into the required size and graft it on the side of the board. Fix the ribbon at the middle edges. Graft the middle part with brown paper and mark as the covered part comes on the front. Then make a folding with brown paper and calico and tie the ribbon on it.

### **14. Plain cover**

**Materials required:** brown paper, gum, scale, pencil, paper cutter.

**Method:** Take a brown paper of 12" length and 9" width and blend it together. Then fold it. Do not make any folders in the frontal area. Then fold as marking ½ on the lower part. Cut away the piece inside and graft it. Again fold the upper part by marking it as 1". Cut away the portion inside and shape the side.

### **15. Writing board**

**Materials required:** solid card board, calico, colour paper, gum, knife, scale, etc.

**Method:-** Cut the cardboard with 1meter length and 1 meter width.( you can increase or decrease the size of board according to your choice). The side should be affixed with calico and colour paper should be affixed on the upper and lower areas.

### **16. Paper bag**

**Materials required:** paper, gum, knife, scale, tag, eyelet and punch, iron hammer etc.

**Method:-** Measurements – 24" x 18" and 10" x 8".

Take a paper with the measurement of 24" length and 18" width and affix the lengthy portions each other. Fold as the affixed side comes in the front. Fold 1" mark from both sides. Then fold as the folded inside part should come in the outer

part and the outer comes in the inside. Mark the portion as 2" and fold it. Affix the angle folded. Again mark the upper portion as 1" and fold it. Put the tag by fixing eyelet.

### **17. Beads works / ornament making**

**Materials required:** beads, needle, knife, thread, cutter, player etc.

**Method:-** You can make bangles, ear rings and necklaces according to your imagination.

### **18. Fresh flower arrangement**

**Material required:** different type of flowers, stems and leaves, flower arranging bases, scissors, thread, cello tape etc.

**Method:-** We can make bouquets with fresh flowers according to our imagination. Flowers can be arranged on vehicles, auditoriums, halls, and stages according to the needs.

### **19. Embroidery**

**Materials required:-** cloth, thread, scissors, ribbon, needle, frame etc.

**Method:-** This is the method of stitching beautiful designs by hand. You can take any cloth of your choice. But be cautious while stitching the thread, it should match with cloth meant for stitching. It is better to use a thread which may not make any damage in the colour. After drawing the design put the cloth on a frame and you can do your embroidery work on it.

There are various types of stitches in the hand embroidery. 1. Running stitch – it is mainly used for stitching the outline of the leaves and flowers and also the stem of the plants. 2. Back stitch – same as the above. 3. Stem stitch – it is meant for stitching the stem of a plant. 4. Bullion stitch – meant for stitching rose flower. 5. Chain stitch – can be used in any type of design. 6. Satin stitch – meant for stitching the petals and leaves of the flowers.

### **20. Food products – Jam making**

**Material required:** pineapple, induction stove, citric acid, sugar, permitted food colour, essence, spoon, mixer, measuring jar etc.

**Method:-** After peeling, the pineapple should be juiced in the mixer. Heat it by adding the same amount of sugar and stir it well. Then pour some citric acid till it boils well. When it reaches the stage of leaving off from the vessel, add colour and essence with it and stir it well. After cooling pack it in bottles.

### **21. Bio-pesticides**

#### **A. Tobacco decoction**

**Materials required:** tobacco, water, ordinary bar soap.

**Method of preparation:** Steep 500 gm of tobacco in 4.5 litres of water for 24 hours. Dissolve 120 gm of ordinary bar soap separately in 0.5 litre of water. Add the soap solution to the tobacco extract and stir vigorously. Add 5 litres of water to this stock solution and spray.

### **B. Neem oil & Garlic emulsion**

**Materials required:** Neem oil 200ml, Garlic 200gm, ordinary bar soap 50gm.

**Method of preparation:** Slice the bar soap and dissolve in 500ml lukewarm water. Grind the garlic pearls. Mix it with 300 ml water and strain to prepare garlic extract. Pour 500 ml soap solution into 200 ml neem oil slowly and stir vigorously to get a good emulsion. Mix the garlic extract in the emulsion. Dilute this 1 litre stock solution by adding 9 litres of water to get 10 litres of 2% emulsion.

### **22. Toilet soap making**

**Materials required:** Coconut oil 500ml, caustic soda, stone/talcum powder, colour, perfume, water, measuring jar, 2 plastic bowls, spoon, small jar.

**Method of preparation:** Dissolve caustic soda in 300 ml water and keep it for six hours. Put the colour in to the small jar and mix it in 10 ml oil. Pour the remaining oil into the plastic bowl and add the stone/talcum powder. Stir well till the powder dissolves completely. Add colour and stir well. Then pour caustic soda solution and perfume. Stir well till the mixture becomes thick. Grease the mould and transfer the mixture to the mould. Let it for setting. After 24 hours remove the soap from the mould.

### **23. Mushroom cultivation / Oyster mushroom**

**Materials required:** Seed, polythene cover, hay etc.

**Method:** While we hear about mushroom, the image into our mind is, about the mushroom that are grown with various colours and shapes in our premises on decayed tree stumps in our compound. Since time immemorial human beings have been using mushrooms as a food product. Now mushroom cultivation has developed into a state of getting mushrooms at any time and place compared to its availability only during the rainy seasons in the earlier days. As a result of the relentless perseverance of scientists and the farmers, mushroom cultivation has become easy and profitable.

Oyster mushroom cultivation is the most appropriate one for Kerala as compared to the other ones. It is suitable for any type of weather and is now available in Kerala. Mushroom cultivation will be a positive remedy to the unemployment and malnutrition in our society.

Agriculture method of oyster mushroom is very simple and less expensive. But training and experience is a minimum requirement for the successful cultivation.

The core factor of this cultivation is nothing but the availability of proper seeds and equipment. The seeds should be brought only from trusted sources or it should be made yourself.

Cultivating mushrooms in polythene cover is the suitable way. Usually hay is used as the medium for cultivation. It can also be done in the saw-dust of rubber wood. Approximately 150-200 gage polythene covers should be used for cultivation. Cover will be ready for the cultivation if you put 10 or 12 holes somewhere in the cover with a perimeter of 30 cm and a length of 60 cm.

Hay making – Hay can be used either by slicing it into small pieces (5 to 10 cm) or scrolls like wisp with an approximately 30 cm diameter and weight 500 grm. The hay should sink in the water for getting soaked up to 16-18 hours. After pouring out the water the wet hay should be boiled in water 30-45 minutes. The boiled hay after getting cool is ripe enough for sowing the seed.

Likewise the saw-dust of rubber wood can also be prepared. Put the saw dust in a gunny bag made of jute fiber into the water for getting soaked, it will be easy to heap it up. The saw dust should be left for soaking up to 18-20 hours.

Sowing method – The hay prepared as mentioned above, should put into covers which are already prepared by filling it layer by layer and then sow the seed. It is enough to sow the seed through the side of the inner part while layering each hay seed. 3-5 layers can be filled in each bed (approximately 1kg hay). The upper portion of the filled cover should be tied together. The covers should be placed in a dark room with lesser air movement. The mushroom strings will grow better in the hay layers inside the cover when it reaches 12-15 days. Then the cover should place somewhere, where we could get enough air, cooling and light.

Watering – The bed after cutting the cover should be made wet in the morning and evening after one day according to the need. It will be better to give the heat of a tube light upto 2or 3 days. The mushrooms will be sprout within 2 or 3 days and the sprouted mushrooms will be ripe enough to pluck within this period.

Harvesting – Ripened mushroom should be plucked without causing any damage to the bed. Mushrooms should be plucked without letting its roots to remain in the bed. Clean the plucked mushrooms immediately. Fill the cleaned mushrooms in poly propellin covers( approximately 200 grms) and seal it. If the sealed mushroom packets are kept in a cool environment it will remain without any damage up to 8-10 days.

The beds which have once undergone the harvest should keep dry for a day and continue the watering accordingly. The second crop will be ready for harvest within 6-7 days. If you nurture the bed with the same care, it will automatically get ready for the third harvest. Once the harvesting is over you can change the bed into fertilizers.

Diseases and insects affecting the mushrooms – There are various insects which affect the growth of the mushrooms. Bees belonging to various creeds destroy the mushroom - medium and the mushroom itself. Bees get into the holes inside and lay eggs on the plastic cover which is wrapped in the bed. Attacks from the bees increase the growth of the bacteria and consequently lead to the decay of the bed.

Insects control – Mix 10 ml gingelly oil with 1 liter water and spray on the bed. It is better to spray after 4 o'clock. Here we can save water by avoiding spraying in the evening. Likewise continue the same for 3 days. If the bodintre has gone 30% decayed, spray the sodium carbonite on the areas having green marks. It need not to be watered up to 48 hours. If it has gone 70%, the bed should be destroyed. Bury the cover after sowing sodium carbonite where the green colours are seen on the opened cover. If there is any bad smell on the span run directions, then destroy the bed immediately itself.

After each harvesting, the bed should be dissolved into 2 grms of bleaching powder and 10 liters of water and spray it in the morning and evening. It will help to kill the insects.

Plan and construction of mushroom hall – The length and width of the mushroom hall can be changed according to the need. The hut should be constructed in the east-west direction to maintain the heat inside by avoiding sunlight. There should be less light and more air movement in the mushroom hall. It is better to prefer leaf thatched hut on the plain regions and asbestos huts in the higher region where there is comparatively lower heat.

The roof can have approximately 4 meters height. It is easy to maintain heat by constructing a fake roof of 2.5 meter height from the ground. The hut should be covered around and it should have a door and a window. You can put net on the window to avoid the attack from insects and other beings. Hanging gunny bag made of jute fiber inside the hut and watering the ground and sides 2 times a day will help to maintain moisture inside the hut.

#### **Precautions –**

- Fix net on each window and door for preventing the insects and bees
- The workers engaged in the mushroom cultivation should wash their hands and legs with dettol.
- The beds once used for cultivation should not be left inattentively around the mushroom hall.
- Destroy the small bushes around the mushroom hut.

## PRACTICAL EVALUATION

### JOURNALISM

The practical evaluation in the subject Journalism is done at the last term of second year higher secondary course. However out of forty marks twenty marks is given for first year syllabus and the remaining twenty is given for the second year.

The following are the core areas and topics for practical evaluation.

#### First Year

##### News Reporting

- Analysis of Five Ws and one H in a news story.
- Lead writing based on Five Ws and H (*for example monsoon havoc*)
- A hard news story writing.
- A soft news story writing
- Cover a major cultural function on the campus. (*praveshanotsvam, club inauguration, youth festival etc.*)
- Cover a sports event on the campus or outside. (*for example school sports meet*)
- Cover a development news related to campus life of your locality.
- Report an environmental problem in your locality. Write a news based on it.

##### News Editing

- Headline writing
- Electronic editing of a story
- Rewriting a story
- Design of different types of headlines
- Electronic layout of a newspaper page-modular layout

##### Photo Editing

- Scaling on a software
- Cropping on a software

**Production work**

- Campus newspaper/magazine

**Scrap book or Practical Record**

Scrap book should include all the items mentioned in the first year text book. It should also reflect student's understanding of various concepts in Journalism.

**Second Year**

**Production work**

- Magazine
- Radio programme
- TV Documentary
- Blog
- User manual
- Corporate communication tool

**Photographs**

- Taking photographs of various shots

**Anchoring or Compering**

- Presentation of a radio news bulletin
- Compering a radio programme
- Presentation of a live report

**Creative writing**

- Feature
- Film review
- Ad copy

**Scrap book or Practical Record**

Scrap book should include all the items mentioned in the second year text book. It should also reflect student's understanding of various concepts in journalism.

# **PLUS ONE**

## **PRACTICAL MUSIC**

### **UNIT I**

#### **PRELIMINARY LESSONS I**

(a) Sapta Svaras

(b) Varisas :- Sarali Varisas, Mandra-Madhya-Tara Sthayi varisas, Janta varisas

(5 Nos), Dhattu varisa (1 No) in three degrees of speed

### **UNIT II**

#### **PRELIMINARY LESSONS II**

Alankaras

Sapta tala Alankaras in the following ragas

(a) Mayamalavagaula

(b) Sankarabharanam

### **UNIT III**

#### **MUSICAL FORMS - 1**

Gita in the following ragas

1. Malahari

2. Mohanam

3. Kalyani

**PLUS TWO**

**PRACTICAL MUSIC**

**UNIT VIII  
MUSICAL FORMS-1**

1. Any one Jatisvaram
  - (a) Sankarabharanam
  - (b) Mohanam
2. Svarajati - Bilahari

**UNIT IX  
MUSICAL FORMS-2**

Varnam in the following ragas

1. Mohanam
2. Hamsadvani

**UNIT X  
SIMPLE KRITIS**

Any two Kritis in the following ragas

1. Chakravakam
2. Kalyani
3. Bagesri