

PHYSICS PRACTICAL

Model Question Paper with Scheme of valuation

(For the Academic Year 2023)

Time: 3Hrs.

Max Marks: 30

- | | |
|--|-----------------------|
| 1. Formula and Procedure | (2 + 3) = 5 Marks |
| 2. Tabular form - Observations and graph | (2 + 4 + 2) = 8 Marks |
| 3. Calculations - Result and Units | (4 + 1 + 1) = 6 Marks |
| 4. Precautions | 2 Marks |
| 5. Viva - Vove | 5 Marks |
| 6. Record | 4 Marks |

Total Marks

30 Marks

Note:

1. Every candidate shall submit the certified practical record book to the practical examiner.
2. One mark should be awarded for every five experiments.
3. If a candidate attends the practical examination without certified practical record book, he may be allowed to take the practical examination. But record marks shall not be awarded to such candidates.
4. Only **one question** should be taken from Part - C and **12th question** may be taken from other parts.

ZOOLOGY PRACTICAL

Model Question Paper with Scheme of valuation

(For the Academic year 2023)

Time: 3Hrs.

Max Marks: 30

- I. Observe the dissected and displayed system or its unlabelled model/ chart/ projection. Identify the system and draw diagram and label the parts (min. Four parts)

Scheme of evaluation

1 x 6 = 6 Marks

Identification : 1 Mark

Diagram : 3 Marks

Labeling: 2 Marks

- II. Identify the presence of sugar in the given samples A, B, C, D. Write the principle, procedure and result.

Scheme of evaluation

1 x 5 = 5 Marks

Principle : 1 Mark

Procedure : 3 Marks

Result : 1 Mark

- III. Identify the spotters A, B, C, D, E, F, G. Mention 2 to 4 identification points. Draw a rough diagram and label it (min. 2 parts)

A. Invertebrate slide

B. Invertebrate specimen (Euspongia to Leech)

C. Invertebrate specimen (Scolopendra to Asterias)

D. Histological slide

E. Vertebrate (mammalian) slide

F. Vertebrate specimen

G. Mammalian Joints

Scheme of evaluation

7 x 2 = 14 Marks

Identification : 1/2 Mark

Labelled Diagram : 1/2 Mark

Identification points: 1 Mark

- IV. Record

1 x 5 = 5 Marks

BOTANY (Practicals)

Question Paper with Scheme of Valuation (For the Academic year 2023)

Time: 3 Hrs.

Max. Marks: 30

- I. Describe vegetative and floral characters of the given twig 'A' in technical terms. Draw labelled diagrams of the twig with inflorescence and L.S. of flower. Give floral diagram and floral formula. Identify it's family.

Marks : 06

Technical description of vegetative characters	-	1 Mark
Technical description of floral characters	-	2 Marks
Identification of the family	-	1 Mark
Floral formula	-	½ Mark
Floral diagram	-	½ Mark
Labelled diagrams of Twig with inflorescence	-	½ Mark
L.S.. of flower	-	½ Mark

- II. Take T.S. of the given material 'B. Stain, mount and leave the preparation for evaluation, Identify it and draw a well labelled diagram (Sector only). (No need to write identification characters)

Marks : 06

Preparation of slide	-	3 Marks
Identification	-	1 Mark
Labelled diagram (Sector only)	-	2 Marks

- III. Experiment 'C'
- | | | |
|--|---|---------|
| - Performing the experiment | - | 3 Marks |
| - Writing the Aim, Principle, Observation and Inference/
result (no need to write procedure and no need to
draw diagram) | - | 3 Marks |

(½ + 1 + 1+ ½)

- IV. Identify D, E, F, G, H giving reasons **(D Only deleted)** **Marks : 04**
(Diagrams are not needed) (Each 1 mark)
- Identification - ½ Mark
- Reasons - ½ Mark
- V. Record and Herbarium **(Marks : 08)**
- Record (Based on I and II Year Practical Syllabus) - 5 Marks
- Herbarium (Minimum of 10 herbarium sheets
representing the Families included in the syllabus) - 3 Marks

Question Paper with Scheme of Valuation**(For the Academic Year 2021-23)****Time: 3hrs****Max.Marks:30**

1. Qualitative Analysis**10 Marks**

1. Physical state, Colour, Flame test and Action of heat

 $\frac{1}{2} \times 4 = 2$ Marks**2. Carbonates**

(a) Action of dil.HCl

1 Mark

(b) Testing gas with burning splinter/limewater

1 Mark

(c) Action of BaCl₂ solution

1 Mark

(d) Solubility of the above ppt.in dil.HCl

1 Mark

3. Acetates

(a) Action of dil.HCl

1 Mark

(b) Test with neutral FeCl₃ solution

1 Mark

(c) Boiling the above solution with water

1 Mark

(d) Esterification test

1 Mark

4. Halides

(a) Action of dil.HCl

1 Mark

(b) Action of conc. H₂SO₄

1 Mark

(c) Action of MnO and conc. H₂SO₄

1 Mark

(d) Action of Silver Nitrate solution

1 Mark

5. Nitrates

(a) Action of dil.HCl

1 Mark

(b) Action of conc. H₂SO₄

1 Mark

(c) Action of Copper turnings and conc. H₂SO₄

1 Mark

(d) Brownring test

1 Mark

6. Sulphates

- | | |
|--|--------|
| (a) Action of dil.HCl | 1 Mark |
| (b) Action of conc. H ₂ SO ₄ | 1 Mark |
| (c) Action of BaCl ₂ solution | 1 Mark |
| (d) Solubility of the above ppt.in conc.HCl | 1 Mark |

7. Identification of Cation

- | | |
|--|---------|
| (a) Systematic identification of cation in the correct group | 2 Marks |
| (b) Confirmation Test for cation | 1 Mark |

8. Correct Salt Report

1 Mark

Note: 1. Minimum twelve salts must be given for a batch of 20 students

2. Only water soluble salts are to be given

II. Titrimetric Analysis (Volumetric Analysis)

8 Marks

- | | |
|---|-----------|
| 1. Procedure in the first 10 mts. with equation | 1+1 Marks |
| 2. For an error upto 1% | 4 Marks |
| 3. For an error between 1% and 2% | 3 Marks |
| 4. For an error above 2% | 2 Marks |
| 5. For indicating the formula | 1 Mark |
| 6. For Calculation | 1 Mark |

Note: Minimum two concentrations are to be given for a batch of 20 students

III (a) Identification of Functional group in the given organic compound with the following tests **6 Marks**

- | | | |
|-------------------|--------------------------------|---------|
| 1. Physical state | (i) Solid | ½ Mark |
| | (ii) Liquid | |
| 2. Ignition Test | (i) Sooty flame- Aromatic | ½ Mark |
| | (ii) Non-sooty flame-Aliphatic | |
| 3. Solubility | (i) In ether | 2 Marks |
| | (ii) In water | |
| | (iii) In NaHCO ₃ | |
| | (iv) In NaOH | |
| | (v) In dil.HCl | |

4. Identification and Confirmation Tests for Functional Groups **3 Marks**

1. Carboxylic acids

- | | |
|---|---------|
| (i) Test with neutral FeCl ₃ | 2 Marks |
| (ii) Esterification test | 1 Mark |

2. Aldehydic and Ketonic

- | | |
|---------------------------------|---------|
| (i) Test with 2,4 DNP | 2 Marks |
| (ii) Test with Schiff's reagent | 1 Mark |

3. Alcoholic

- | | |
|-------------------------|---------|
| (i) Esterification test | 2 Marks |
| (ii) Iodoform test | 1 Mark |

4. Phenolic

- | | |
|---|---------|
| (i) Test with neutral FeCl ₃ | 2 Marks |
| (ii) Libermann test | 1 Mark |

5. Amino group

- | | |
|---|---------|
| (i) Test with NaNO ₂ , dil.HCl and β-Naphthol (Azo dye test) | 2 Marks |
| (ii) Carbyl amine test | 1 Mark |

OR

III (b). Preparation of Colloidal solutions (sols) **6 Marks**

- | | |
|---------------------------------------|---------|
| (i) Preparation of one lyophilic sol | 3 Marks |
| (ii) Preparation of one lyophobic sol | 3 Marks |

OR

III (c). Chromatography	6 Marks
(i) Preparation of Chromatographic paper	2 Marks
(ii) Elution	2 Marks
(iii) Calculation of R_f value	2 Marks

OR

III (d). 1. Qualitative tests for Carbohydrates	6 Marks
(a) Test with conc. H_2SO_4	2 Marks
(b) Mollisch's Test	2 Marks
(c) Benedict's Test	2 Marks

OR

2. Qualitative tests for Proteins	6 Marks
(a) Biuret Test	2 Marks
(b) Xanthoproteic Test	2 Marks
(c) Ninhydrin Test	2 Marks

IV. Viva Voce **2 Marks**

V. Project Work **2 Marks**

VI. Record **2 Marks**

Total **30 Marks**