

SAVITRIBAI PHULE PUNE UNIVERSITY
S. Y. B. Sc. Practical Examination – Skeleton Paper

Zoology Practical Paper (Credit 1.5)

Choice Based Credit System - 2019 pattern

Course Code: ZO - 233

Semester: III

Time: 4.00 hrs.

Max. Marks: 35

Q. 1. Dissect / observe digestive system of locally available fish. (07)

Q. 2. Make a stained Temporary preparation of scales from locally available fish & identify it. (03)

OR

Q. 2. Prepare a map for showing distribution of silk moth and rearing / sericulture practices in India. (03)

Q. 3. Do as directed. (15)

- Identify, classify giving reasons (Protochordata / Pisces / Amphibia).
- Identify and describe (Any one type of scale or type of fin in fishes).
- Identify and describe (Any one stage in life cycle of silkworm / Sericulture equipment).
- Identify, give marks of identification and nature of damage (any one insect pest or Non-insect pest).
- Identify and mention its use (Any one Plant protection appliance).

Q. 4. Certified Journal, Tour / field visit report and viva- voce (05)

Q. 5. Submission of five Photographs or sketches of Insects / pests / fishes / any animal along with identification and its brief description. (05)

Examiner

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SAVITRIBAI PHULE PUNE UNIVERSITY
T. Y. B. Sc. Zoology Practical Examination – Skeleton Paper

Zoology Practical Paper – I (Credit 02)

Choice Based Credit System - 2019 pattern

Course Code: ZO - 357

Semester: V

Time: 4.00 hrs.

Max. Marks: 35

Section I: Practicals in Pest Management

Q. 1. Write the Principle and Procedure of Separation of the pesticides or plant extracts by TLC or Column chromatography. (5)

OR

Q. 1. Write the Principle and Procedure for Detection of pesticide residues in the food stuff. (5)

OR

Q. 1. Write the Principle and Calculation of VI (Virulence Index, Plant disease and its intensity). (5)

Q. 2. Do as directed (Any Four). (08)

- A. Identify & Describe any one plant protection appliance.
- B. Identify and describe the beneficial insect.
- C. Identify and Describe the Pest / disease of honey bees.
- D. Describe the Applications of IPM components in various crops.
- E. Describe the life cycle (Red cotton bug / Lemon butterfly).
- F. Identify the pest & explain its rearing method.
- G. Identify & describe nature of damage caused by the pest.

Section II: Practicals in Histology

Q. 1. Make a stained temporary mounting of human blood smear to observe different types of blood cells. (5)

OR

Q. 1. Make a stained Temporary mounting of tissue from the supplied material (Striated Muscle Fiber / Smooth Muscle Fiber.) (5)

Q. 2. Do as directed (Any Four). (08)

- A) Identify and describe. (Epithelial tissue / Connective tissue / Muscular tissue / Nervous tissue.
- B) Identify and describe. (T. S. of Pituitary gland / T. S. of Thyroid gland / T. S. of Adrenal gland / C. S. of Pancreas).
- C) Identify, sketch and label (T. S. of skin / V. S. of tooth / C. S. of tongue).
- D) Identify and describe (T. S. of Stomach / T. S. of Duodenum / T. S. of Rectum / C. S. of Liver).
- E) Identify, sketch and label (T. S. of Testis / C. S. of Ovary).

Q. 3. Certified Journal and Viva Voce (9)

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T. Y. B. Sc. Zoology Practical Examination – Skeleton Paper

Zoology Practical Paper – II (Credit 02)
Choice Based Credit System - 2019 pattern

Course Code: ZO - 358

Semester: V

Time: 4.00 hrs.

Max. Marks: 35

Section I: Practicals in Biological Chemistry

- Q. 1. Determine the enzyme activity in given sample (salivary amylase/ urease/ invertase). (5)
OR
Q. 1. Evaluate the specific activity of an enzyme from given sample. (5)
OR
Q. 1. Detect the carbohydrates with the help of suitable tests. (monosaccharides /
disaccharides / polysaccharides) (5)
- Q. 2. Isolation of starch from potato and digestion of starch by salivary amylase. (5)
OR
Q. 2. Preparation of Acid / Alkali & its standardization. (5)
OR
Q. 2. Estimation of Protein by Lowry *et. al.*, method. (5)
- Q. 3. Principal and procedure of Isolation of Caesin from milk by adjusting iso-electric point. (4)
OR
Q. 3. To prepare a buffer of desired pH and molarity. (4)
OR
Q. 3. Write the Principal and working mechanism of pH meter. (4)

Section II: Practicals in Genetics

- Q. 1. Temporary preparation of polytene chromosomes from suitable material (6)
- Q. 2. Do as directed (Any Four) (8)
- Identify and describe - Any One Blood groups in human.
 - Identify and comment on – Down syndrome / Klinefelter's syndrome / Turner syndrome / Any one Genetic Trait.
 - Identify and describe - External characters / life cycle / Rearing of *Drosophila* / *Drosophila* mutant.
 - Comment on - structural chromosome aberrations (dicentric, ring chromosomes and inversions in polytene chromosomes (Any one).
 - Calculate from the hypothetical data provided (Monohybrid ratio / Dihybrid Ratio).
- Q. 3. Certified Journal and Viva -voce (7)

T. Y. B. Sc. Zoology Practical Examination – Skeleton Paper

Zoology Practical Paper – III (Credit 02)
Choice Based Credit System - 2019 pattern

Course Code: ZO - 359

Semester: V

Time: 4.00 hrs.

Max. Marks: 35

Section I: Practicals in Developmental Biology

Q. 1. Make a stained temporary preparation of chick embryo, identify its age and comments on peculiarities. (6)

OR

Q. 1. Ex - ovo culture of chick embryo. (6)

Q. 2. Perform the following as per instructions (Any Four) (8)

- a) Identify and describe. (Ultrastructure of Sperm / Ovum of Mammal / Blastulae / Gastrulae (*Amphioxus* / Frog / Hen).
- b) Identify and describe type of egg. (Insect / *Amphioxus* / Frog / Hen).
- c) Identify and comment. (Cleavage and its type).
- d) Identify and comment. (T. S. / V. S. of chick embryo 24 hrs/ 33 hrs passing through Brain / Heart with the help of Slide / Photograph / Chart / Model).
- e) Identify & comment (Whole mount slides of 24 hrs / 33 hrs / 48 hrs chick embryo).

Section II: Practicals in Parasitology

Q. 1. Identification of the gut parasites from Cockroach. (6)

Q. 2. Identify the following as per instructions. Any three, (6)

- a) Identify and describe. (*Entamoeba histolytica* / *Plasmodium vivax*).
- b) Identify and comment on Control measures (*Ascaris lumbricoides* / *Taenia solium*).
- c) Identify and describe the pathogenicity / Identify and describe its role as a vector - Soft tick / hard tick / Mite (*Sarcoptes scabies*) / *Pediculus humanus* / *Xenopsylla cheopis* / *Cimex lectularius*.
- d) Identify and describe the Parasitic association with their host with example / Effects of parasite on the host body.

Q. 3. Submission of any Three parasites. (2)

Q. 3. Viva -voce (7)