

Post Graduate Teaching Department of Zoology
An Autonomous Department of
Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
M. Sc. Zoology Semester -IV (CBCS)
Special Group: Mammalian Reproductive Physiology -II
Theory Examination Summer-2023

Name of the Paper: Paper 4T3: Reproductive Toxicology, Embryology and Fertility

Time: 3hrs

Maximum Marks: 60

Note

- 1. All the questions are compulsory.**
- 2. All questions carry equal marks.**
- 3. Draw well labelled diagrams and charts wherever necessary.**

Q.1 Describe the testicular toxicity induced by various chemical toxicants. **12**
OR

Write notes on: -

- (a) Impact of environmental factors on reproductive health.
- (b) Heavy metals and infertility.

Q.2 Explain the preimplantation development of mammalian embryo and its regulation. **12**
OR

Write notes on: -

- (a) Role of placenta in foetal programming.
- (b) Endocrine control of parturition.

Q.3 What do you mean by IUDS / IUCDS? Describe medicated and non-medicated IUDS along with their advantages and disadvantages. **12**
OR

Write notes on: -

- (a) Medical termination of pregnancy.
- (b) Role of anti-HCG and Antizona as pregnancy vaccines.

Q.4 Describe in detail the process of vasectomy and reversible vas occlusion. **12**
OR

Write notes on: -

- (a) Anti-androgen and anti-spermiogenic compounds.
- (b) Antibodies for sperm surface proteins.

Q. 5 Write in brief on the followings: - **12**

- (a) Consequences of genotoxicity on reproduction.
- (b) Major developmental events during the fetal period in human.
- (c) Subdermal implants.
- (d) GnRH antagonist.

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M. Sc. Zoology Semester -IV (CBCS)
Special Group: Animal Physiology-II
Theory Examination Summer-2023
Name of the Paper: Paper 4T3: Physiology of Respiration and Reproduction

Time: 3hrs

Maximum Marks: 60

Note

- 1. All the questions are compulsory.**
- 2. All questions carry equal marks.**
- 3. Draw well labelled diagrams and charts wherever necessary.**

Q.1 Describe in detail the mechanism of transport of respiratory gases. Add a note on the O₂ and CO₂ dissociation curve. **12**

OR

Write notes on: -

- (a) Anatomy of respiratory system.
- (b) Mechanism of breathing.

Q.2 Give a detail account on the neural and chemical regulation of respiration. **12**

OR

Write notes on: -

- (a) Oxygen therapy.
- (b) COVID-19.

Q.3 Describe the mechanism of spermatogenesis. Add a note on the hormonal regulation and functions. **12**

OR

Write notes on: -

- (a) Female reproductive system.
- (b) Andropause.

Q.4 Give a detail account on the mechanism of milk synthesis and secretion. **12**

OR

Write notes on: -

- (a) Parturition.
- (b) Causes of infertility in male and female.

Q. 5 Write in brief on the followings: - **12**

- (a) Lung volumes.
- (b) Hypoxia.
- (c) Secretory phase of menstrual cycle.
- (d) Testicular steroids.

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M. Sc. Zoology Semester -IV (CBCS)
Special Group: Entomology-II
Theory Examination Summer-2023
Name of the Paper: Paper 4T3: Pest Control Measures and Insects Vectors

Time: 3hrs

Maximum Marks: 60

Note

- 1. All the questions are compulsory.**
- 2. All questions carry equal marks.**
- 3. Draw well labelled diagrams and charts wherever necessary.**

Q.1 Describe properties, mode of action and use of chlorinated hydrocarbon. **12**
OR

Write notes on: -

- (a) Organophosphates.
- (b) Inorganic insecticides.

Q.2 Give detailed account of life cycle and biological relationship with insect pest of any two predators. **12**
OR

Write notes on: -

- (a) Natural enemies of pest.
- (b) Successful Biological Control Programmes.

Q.3 Give detailed account of principle, modelling, applications of IPM. **12**
OR

Write notes on: -

- (a) Viruses used in Biological control programmes.
- (b) *Bacillus thuringiensis*.

Q.4 Describe the life cycle of Sandfly and Tse Tse fly causing diseases in man, mode of transmission of pathogen and control measures. **12**
OR

Write notes on: -

- (a) *Tabanus* and *Lyperosia*.
- (b) *Culex* mosquito.

Q. 5 Write in brief on the followings: - **12**

- (a) Nicotinoids.
- (b) *Xanthopimpla*.
- (c) Pheromones in pest control programmes.
- (d) Human louse.

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M. Sc. Zoology Semester -IV (CBCS)
Special Group: Fish and Fisheries -II
Theory Examination Summer-2023
Name of the Paper: Paper 4T3: Fishery Technology and Fish Pathology

Time: 3hrs

Maximum Marks: 60

Note

- 1. All the questions are compulsory.**
- 2. All questions carry equal marks.**
- 3. Draw well labelled diagrams and charts wherever necessary.**

Q.1 Write in detail on construction and maintenance of fish farm. **12**
OR

Write notes on: -

- (a) Gear and crafts in inland water.
- (b) Water pollution and fisheries.

Q.2 Write detail account on manufacture and maintenance of aquarium. **12**
OR

Write notes on: -

- (a) Plankton in relation to fish production.
- (b) Culture of zooplankton Moina.

Q.3 Describe in detail fish marketing, marketing practices, marketing channels and systems. **12**
OR

Write notes on: -

- (a) Domestic and export marketing.
- (b) Sex reversal and chromosomal manipulation in fish.

Q.4 Give detail account on Bacterial and Fungal fish diseases and its control. **12**
OR

Write notes on: -

- (a) Fish products and byproducts.
- (b) Spoilage and methods of preservation of fish.

Q. 5 Write in brief on the followings: - **12**

- (a) Indian Fishery legislations.
- (b) Hybridization.
- (c) Cryopreservation technique and its applications.
- (d) Signs of sickness and effects on fish.