

Reg. No. : .....

D 1119

Q.P. Code : [D 09 PZO 06]

(For the candidates admitted from 2009 onwards)

M.Sc. DEGREE EXAMINATION, DECEMBER 2013.

Second Year

Zoology

ANIMAL PHYSIOLOGY AND ENDOCRINOLOGY

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

(5 × 20 = 100)

1. Describe the functions of salivary gland and liver in digestion.
2. Draw and explain the structure of mammalian kidney.
3. What is blood coagulation? Describe the mechanism of coagulation by any one theory.
4. Write short notes on:
  - (a) Blood pressure
  - (b) Reproductive pheromones.

5. Describe the organization and functions of neuroendocrine system.
  6. Give an essay on Chemical nature and functions of hormones.
  7. Give a detailed account on how water and mineral balance are regulated by endocrine systems?
  8. Describe the structure and functions of thyroid gland.
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Reg. No. : .....

D 1120

Q.P. Code : [D 09 PZO 07]

(For the candidates admitted from 2009 onwards)

M.Sc. DEGREE EXAMINATION, DECEMBER 2013.

Second Year

Zoology

**MICROBIOLOGY AND IMMUNOLOGY**

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

(5 × 20 = 100)

1. Give a detailed account on classification of bacteria with suitable methods and examples.
2. Describe the typical structural characteristics of any one RNA and DNA virus with neat diagrams.
3. What are the microorganisms causing spoilage of milk and milk products? Explain the important mechanisms of spoilage.
4. Classify the types of immunity and explain their functional features.

5. "Lymphoid organs are central components of immune system" – Discuss.
  6. How does immune system reject an allograft?
  7. Distinguish between active versus passive immunization and highlight their relevance in Immunotechnology.
  8. Explain the basic principle, types and applications of ELISA.
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D 1121

Q.P. Code : [D 09 PZO 08]

(For the candidates admitted from 2009 onwards)

M.Sc. DEGREE EXAMINATION, DECEMBER 2013.

Second Year

Zoology

EVOLUTION AND PHYLOGENY

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

(5 × 20 = 100)

1. What is Fossil? Explain how fossilization takes place.
2. Give a detailed account on race formation.
3. What is a metazoan? Explain the theories of its origin. +
4. What is adaptation? Describe the impacts of adaptations in evolution with suitable examples.
5. Write the affinities of trilobites with suitable examples.

6. Write an essay on crustacean larvae and their significance.
  7. Give a detailed account on origin of Reptiles.
  8. What is evolution? Explain the mechanism of evolution with examples.
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Reg. No. : .....

**D 1122**

**Q.P. Code : [P 09 PZO 09]**

(For the candidates admitted from 2009 onwards)

M.Sc. DEGREE EXAMINATION, DECEMBER 2013.

Second Year

Part III — Zoology

**DEVELOPMENTAL BIOLOGY AND HUMAN  
WELFARE**

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

Draw a labelled diagram wherever necessary.

Underline the important points.

1. Write a detailed note on the growth of Oocyte.
2. Give an account on the Acrosome reaction.
3. Explain the following:
  - (a) Activation of egg
  - (b) Origin of primordial germ cells in mammals.
4. What is cleavage? Explain various patterns of cleavage in the vertebrates.

5. What is organizer? Describe neural induction experiment with suitable illustrations.
  6. What is metamorphosis? Write detailed account on the types of metamorphosis in insects.
  7. Describe the main causes of sterility in man and women add various tests for detecting sterility.
  8. Describe the technique of production of test tube babies and add its merits and demerits.
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D 1123

Q.P. Code : [P 09 PZO 10]

(For the candidates admitted from 2009 onwards)

M.Sc. DEGREE EXAMINATION, DECEMBER 2013.

Second Year

Zoology

BIOTECHNOLOGY AND BIOINFORMATICS

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

(5 × 20 = 100)

1. What is somatic cell hybridization? Add detailed notes on different chemical methods used for somatic cell hybridization with suitable examples and illustrations.
2. Write detailed account on the principle and applications of electroporation and microinjection techniques.
3. Write detailed essay on the role of biotechnology in aquaculture with reference to transgenic fishes.

4. Elaborate the biotechnological approaches adopted in the production of insulin with examples and illustrations.
  5. What is bioinformatics and what are the uses of bioinformatics? Add notes on the types, objectives, properties and applications of biological databases.
  6. What is protein sequence database and what are the features and structures? Comment on any three primary databases.
  7. Define 'general purpose genomic database' and add notes on the structure of comparative genomic database. Comment on any two comparative genomic analysis package.
  8. Explain the diagnostic methods used to detect the genetic disorder at early stages and add notes on the cancer proteomics.
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