

Q.P. Code – 42542

**Fifth Semester B.Sc. Degree Examination, October/November 2019**

(CBCS Scheme)

**Zoology**

**Paper VI — CELL BIOLOGY AND IMMUNOLOGY**

Time : 3 Hours]

[Max. Marks : 90

Instructions to Candidates : Draw neat labelled diagrams wherever necessary.

PART – A

- I. Answer any **TEN** of the following : **(10 × 2 = 20)**
1. What is phase contrast microscope?
  2. Briefly explain Exocytosis.
  3. Mention the functions of Desmosome.
  4. What is Parthenogenesis?
  5. Write a note on Telomere.
  6. Briefly explain Embryonic stem cells.
  7. What is Metastasis?
  8. List the applications of Immunology in Microbiology.
  9. Explain Basophil.
  10. What are exogenous antigens?
  11. What is cell mediated immune response?
  12. Mention any two Primary Lymphoid Organs.

PART – B

- II. Answer any **SIX** of the following : **(6 × 5 = 30)**
13. Explain the structure and functions of Golgi complex.
  14. With a neat labelled diagram describe the structure of Lamp brush chromosome.

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15. List the significances of Parthenogenesis.
16. Mention the differences between Non-malignant and Malignant tumours.
17. Write a note on B-Lymphocytes.
18. Briefly explain Endogenous antigens.
19. Explain Innate Immunity.
20. Write a note on ELISA.

PART – C

III. Answer any **FOUR** of the following : **(4 × 10 = 40)**

21. Explain the structure of centrifuge and mention the application of centrifugation.
22. Write a note on :
  - (a) Centrosome
  - (b) Mitochondrion
23. Explain carcinogens and add a note on preventive measures of Cancer.
24. Write notes on :
  - (a) Spleen
  - (b) Western blot test
25. Give an account :
  - (a) Supernumerary chromosomes
  - (b) Polyclonal antibodies
26. Explain Cornea Grafting and Plastic Surgery.

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**Fifth Semester B.Sc. Degree Examination, October/November 2019**

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**Zoology**

**Paper V — GENETICS AND EVOLUTIONARY BIOLOGY**

Time : 3 Hours]

[Max. Marks : 90

Instructions to Candidates : Draw a neat labelled diagrams wherever necessary.

PART – A

I. Answer any **TEN** of the following :

(10 × 2 = 20)

1. What is Genotype? Give an example.
2. State the Law of dominance.
3. Define : Co-dominance.
4. What is chromosomal mapping?
5. Define : Spontaneous mutation.
6. What are intersexes?
7. Define : Cosmozoic theory.
8. Write a note on Gene pool.
9. What are fossils?
10. Write a note on Mesohippus.
11. List the trends in the Evolution of Ramapithecus.
12. Mention the Eras of Geological time scale.

PART – B

II. Answer any **SIX** of the following :

(6 × 5 = 30)

13. Explain genetic variation with an example.
14. What is gene interaction? Explain with reference to comb shape in poultry.



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15. A colour blind woman marries a normal man. Find the possible offspring in this couple. (Note – Colour blindness is sex linked recessive character)
16. Give an account of Somatic cell genetics.
17. Explain, Abiogenesis.
18. Describe Darwinism.
19. What is dating of fossil? Explain Uranium-lead method.
20. Write a note on Neanderthal man.

PART – C

III. Answer any **FOUR** of the following :

(4 × 10 = 40)

21. Write notes on :
  - (a) Dominant Epistasis.
  - (b) Lethal alleles.
22. What is mutation? Explain this with-reference to change in the structure of chromosomes.
23. Explain different types of chromosomal mechanism of sex determination.
24. Describe, Homologous and Analogous organs with reference to organic evolution.
25. Write notes on :
  - (a) Hardy-Weinbergs Law.
  - (b) Merichippus.
26. Mention the zoogeographical realms of the world. Explain the fauna of oriental region.

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Fifth Semester B.Sc. Degree Examination, October/November 2019

(Semester Scheme)

**Zoology**

**Paper VI —CELL BIOLOGY, IMMUNOLOGY AND ENVIRONMENTAL BIOLOGY**

Time : 3 Hours]

[Max. Marks : 60

Instructions to Candidates : Draw neat labelled diagrams wherever necessary.

PART – A

I. Answer any **FIVE** of the following : (5 × 3 = 15)

1. Mention the principle of Light microscope.
2. Briefly explain Arrhenotoky.
3. Explain ELISA test.
4. Mention the properties of stem cell.
5. What is Ecological Niche? Explain Spatial niche.
6. Explain Natality.
7. Write a note on Appiko movement.

PART – B

II. Answer any **FIVE** of the following : (5 × 5 = 25)

8. What is Centrifugation? Mention its applications.
9. Write a note on Chemotherapy.
10. What are T-Lymphocytes? Mention their role in Immune response.
11. What is plastic surgery? Explain various types of cosmetic surgery.
12. Explain Shelford's law of tolerance with an example.
13. Describe Antibiosis and Competetion.
14. Give an account of Ozone Layer.

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PART – C

III. Answer any **TWO** of the following :

**(2 × 10 = 20)**

15. Explain Fluid mosaic model of plasma membrane and mention its functions.
  16. List the general properties of Cancer cell.
  17. Write notes on :
    - (a) Photoperiodism
    - (b) Laws of Thermodynamics.
  18. What is pollution? Give an account of water pollution.
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**Fifth Semester B.Sc. Degree Examination, November 2017**

(Semester Scheme)

**Zoology**

**Paper V – HISTOLOGY AND GENETICS**

Time : 3 Hours]

[Max. Marks : 60

Instructions to Candidates : Draw neat labelled diagrams wherever necessary.

PART – A

- I. Answer any **FIVE** of the following: **(5 × 3 = 15)**
1. Write a note on circum vallate papillae of tongue.
  2. Explain the histological details of Islets of langerhans.
  3. Give an account of histology of crypts of lieberkuhn.
  4. Explain phenocopy with an example.
  5. What is Incomplete dominance? Give an example.
  6. Write a note on Klinefelter's syndrome.
  7. Briefly explain Cistron, Recon and Muton.

PART – B

- II. Answer any **FIVE** of the following: **(5 × 5 = 25)**
8. Draw a neat labelled diagram of T.S. of spleen.
  9. Briefly describe Graffian follicle with a neat labelled diagram.
  10. A man with 'A' blood group marries a woman with 'B' blood group. Their children represent all four types of blood groups. What will be the genotypes of the parents?
  11. Explain XX – XO type of sex determination with an example.

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12. Write a note on Induced mutation.
13. Give an account of Eugenics.
14. Write notes on DNA vaccines.

**PART – C**

III. Answer any **TWO** of the following: **(2 × 10 = 20)**

15. With a neat labelled diagram, describe the histology of mammalian liver.
16. What is sex – linked inheritance? Explain with reference to Colour blindness in man.
17. Give an account of Insulin production by recombinant DNA technology.
18. Write notes on:
  - (a) Law of segregation
  - (b) Gynandromorphs



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**Fifth Semester B.Sc. Degree Examination, November 2017**

*(Semester Scheme)*

**Zoology**

**Paper VI – CELL BIOLOGY, IMMUNOLOGY AND ENVIRONMENTAL  
BIOLOGY**

*Time : 3 Hours]*

*[Max. Marks : 60*

*Instructions to Candidates : Draw diagrams wherever necessary.*

PART – A

I. Answer any **FIVE** of the following:

**(5 × 3 = 15)**

1. Mention the principles of electron microscope.
2. Briefly explain cell fractioning.
3. Write a note on artificial parthenogenesis.
4. Explain cornea grafting.
5. Write a note on Shelford's law of tolerance.
6. What is biotic potential?
7. Briefly explain Bioremediation.

PART – B

II. Answer any **FIVE** of the following:

**(5 × 5 = 25)**

8. What are Gap junctions? Mention their significance.
9. Write a note on Radiotherapy and Immunotherapy in cancer treatment.
10. Briefly explain autoimmune diseases.
11. Write a note on Immune suppressors and chemotherapy in Transplantation.

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12. Give an account of Trophic niche and bioluminescence.
13. Write short notes on Mutualism and Exploitation.
14. Mention the causes and effects of Global warming.

PART – C

III. Answer any **TWO** of the following:

**(2 × 10 = 20)**

15. What is cancer? Explain the general properties of cancer cells.
16. Explain the production of Monoclonal antibodies and mention their applications.
17. Write an essay on water pollution.
18. Write short notes on:
  - (a) Radiation and chemical hazards
  - (b) Chipko movement