R.K. Vigyan (P.G.) Mahavidyalay, Kalwar, Jaipur

ZOOLOGY (SEM-IV) FLP – I

Sec. A: Choose all 10 questions. Each question carries a mark weight of 2.

1. What is the unit membrane concept?

2. What are microbodies?

3. State any two differences between 70s and 80s ribosomes.

4. What are bacteriophages?

5. Name the scientist who coined the term chromosomes.

6. What are polytene chromosomes?

7. What is linkage?

8. What is the law of independent assortment?

9. Which scientist discovered bacteriophages?

10. Where are plasmids present?

Sec. B: Choose any 4 questions, choosing 1 question from each unit. Each question carries a mark weight of 15.

UNIT-I 1. Explain the fluid mosaic model of the plasma membrane with a diagram. 2. Differentiate between (i) prokaryotic and eukaryotic cells. (ii) osmosis and diffusion.

UNIT-II 1. Write notes on (i) heterochromatin and euchromatin. (ii) cell cycle. 2. Describe the structure and functions of chromosomes.

UNIT-III 1. Write notes on (i) dominance. (ii) gene exchange. 2. Describe Mendel's laws of inheritance with examples.

UNIT-IV 1. What is cloning? How many types are there? Describe organism cloning. 2. Explain recombinant DNA technology and its utility.

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ZOOLOGY (SEM-IV) FLP-II

Sec. A: Choose all 10 questions. Each question carries a mark weight of 2.

1. Define diffusion.

2. Define a virus.

3. Name the scientist who discovered mitochondria.

4. What is a Lamp-Bruce chromosome?

5. Name the scientist who coined the term mitosis.

6. What is reverse hybridization?

7. What are the main components of a nucleosome?

8. Who formulated the chromosome theory of inheritance?

9. What is a vector?

10. Who first discovered cloning?

Sec. B: Choose any 4 questions, choosing one from each unit. Each question carries a mark weight of 15.

UNIT-I 1. Explain passive and active transport. 2. Write short notes on: (i) Viruses (ii) Cilia and flagella (iii) Bacteriophages

UNIT-II 1. Explain polytene and Lamp-Bruce chromosomes. 2. Write an essay on meiosis.

UNIT-III 1. Define mutation. Discuss polyploidy in detail. 2. Explain the mechanism of mutation.

UNIT-IV 1. Write an article on the role of vectors in gene transfer. 2. Write a note on: (i) Plasmids (ii) Cosmids

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ZOOLOGY (SEM-IV) HLP-I (UNIT-I & II)

Sec. A: Choose any 5 questions. Each question carries a mark weight of 2.

1. Explain the function of lysosomes.

2. Explain the function of centromeres.

3. What is the percentage of protein in the plasma membrane?

4. What is active transport? Give an example.

5. Explain the structure of 70s ribosomes.

6. What is the cell cycle?

7. What is zygotene?

8. What is mitosis?

9. What is chromatid?

10. What is telomycetes?

Sec. B: Choose any 2 questions, choosing one from each unit. Each question carries a mark weight of 15. UNIT-I 1. Describe the structure and functions of the Golgi apparatus. 2. Explain the polymorphism in lysosomes and comment on their functions.

UNIT-II 1. Briefly explain mitosis. 2. Differentiate between meiosis and mitosis.

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ZOOLOGY (SEM-IV) HLP-II (UNIT-III & IV)

Sec. A: Choose any 5 questions. Each question carries a mark weight of 2.

1. Name two contrasting traits studied by Mandal in pea seeds. 2. What is exchange? 3. What is the cause of seedlessness in pea plants? 4. What is the phenotypic ratio of dishybrid crosses? 5. What are homozygous and heterozygous? 6. What are haptens? 7. How many types of lymphocyte cells are there? 8. What is the clone selection theory? 9. What are monoclonal antibodies? 10. Which scientist discovered restriction enzymes?

Sec. B: Choose any 2 questions, choosing one from each unit. Each question carries a mark weight of 15.

UNIT-III 1. Write a note on (i) polyallelic alleles (ii) linkage. 2. Write a note on (i) Turner syndrome (ii) complementary genes.

UNIT-IV 1. Write a note on (i) bacteriophages (ii) yeast artificial chromosomes.

2. What are stem cells and discuss their types and uses.
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4. ZOOLOGY (SEM-IV) QLP-I (UNIT-I)
5. Sec. A: Choose any 3 questions. Each question carries a mark weight of 2.
6. 1. What are peroxisomes?
7. 2. Who formulated the cell theory?
8. 3. Who first discovered the Golgibody?
9. 4. Name the scientist who discovered the centriole?

10. 5. Who discovered the nucleus?
11. 6. Name the fiber made of keratin?
12. 7. Who discovered the endoplasmic reticulum?
13. 8. What is glycolysis?
14. 9. What is the cell's suicide bag called?
15. 10. What is a microtubule?
16. Sec. B: Choose any 1 question. Each question carries a mark weight of 15.
17. UNIT-I
18. 1. Describe the structure and function of mitochondria. 2. What is active transport? Explain the mechanism of active transport with a suitable example. 3. Write an essay on ribosomes. 4. Briefly explain the cellular reticulum.
19.
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21. ZOOLOGY (SEM-IV) QLP-II (UNIT-II)
22. Sec. A: Choose any 3 questions. Each question carries a mark weight of 2.
23. 1. What is the matrix? 2. What is the cell-cell junction? 3. What is heterochromatin in euchromatin? 4. What is the gap junction? 5. What are the metaphases of the cell cycle? 6. What is mitosis? 7. What is the prophase I of meiosis? 8. What is the importance of meiosis? 9. State the main characteristic of the metaphase stage of mitosis. 10. Name the scientist who discovered the Lamprecht chromosome.
24. Sec. B: Choose any one question. Each question carries 15 marks.
25.
26. UNIT-II
27. 1. Briefly explain the nucleosome model. 2. Explain the cell-cell junction.
28.
29. R.K. Vigyan (P.G.) Mahavidyalay, Kalwar, Jaipur
30. ZOOLOGY (SEM-IV) QLP-III (UNIT-III)
31. Sec. A: Choose any three questions. Each question carries 2 marks. 1. What is mutation? 2. What is polyploidy? 3. What is the cause of Klinefelter? 4. On which part of the chromosome does gene exchange decrease? 5. What are alleles? 6. What are the symptoms of Down syndrome? 7. What is the ratio of complementary genes in the F2 generation? 8. When does gene exchange occur? 9. What is the cause of sowing in pea plants? 10. What is the phenotypic ratio of dispersal cross?
32. Sec. B: Choose any 1 question. Each question carries 15 marks. UNIT-III
33. 1. Write notes on the following (i) Down syndrome (ii) Klinefelter syndrome 2. Write notes on the following (i) Hemophilia and phenylketonuria (ii) Color blindness 3. Explain the structure of chromosomes and mitochondrial and plastid inheritance.
34.

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ZOOLOGY (SEM-IV) QLP-IV (UNIT-IV)

Sec. A Choose any 3 questions. Mark weighting of each question is 2.

1. What is meant by modified DNA? 2. What process led to the birth of Dolly? 3. How are clones obtained? 4. How many types of cloning are there? 5. What is an important aspect of in-vivo cloning? 6. What is vinegar? 7. How many major types of alcoholic beverages are there? 8. What is the conversion of starch to sugar in beer production called? 9. What is the alcohol content in beer and wine? 10. What is the role of bacteria in dairy production?

Sec. B: Choose any one question. Each question carries 15 marks.

UNIT-IV

1. Discuss what are stem cells and their types and uses. 2. Write notes on (i) wine (ii) beer. 3. Write notes on (i) vinegar (ii) dairy products (iii) food preservation. 4. Describe the importance of transgenic animal technology in biotechnology.