

6/H-63 (viii) (Syllabus-2015)

2 0 1 9

(April)

ZOOLOGY

(Honours)

EIGHTH PAPER

**(Developmental Biology, Environmental Biology
and Biotechnology)**

Marks : 56

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

Answer Question No. 1 and any four from the rest

1. Write in brief on any three of the following :

4×3=12

- (a) Concept of organizer**
- (b) Types of placenta in mammals**
- (c) Carbon cycle**
- (d) Greenhouse effect**
- (e) Transformation**

(2)

2. Describe the process of gastrulation in chick up to formation of the three germinal layers. Provide suitable diagrams. $9+2=11$

3. Give an account of the organogenesis of the vertebrate eye and provide diagrams. $9+2=11$

4. (a) Describe the salient features of an aquatic ecosystem. $5\frac{1}{2}$

(b) Discuss the ecological succession in a hydrosphere. $5\frac{1}{2}$

5. (a) Discuss the *ex situ* conservation of wildlife. $5\frac{1}{2}$

(b) Give the salient features of a grassland biome. $5\frac{1}{2}$

6. What is DNA fingerprinting? Write down the steps involved in DNA fingerprinting. What are its applications? $2+6+3=11$

7. Write short notes on any two of the following : $5\frac{1}{2}\times 2=11$

(a) Invagination

(b) Foetal membranes in mammals

(c) Biosphere reserves

(d) Radioactive pollution

D9/1783

(Continued)

(3)

8. (a) Discuss the applications of recombinant DNA technology. $5\frac{1}{2}$

(b) What is cDNA library? How is it prepared? $2+3\frac{1}{2}=5\frac{1}{2}$

D9—2100/1783

6/H-63 (viii) (Syllabus-2015)

2 0 1 9

(April)

ZOOLOGY

(Honours)

SEVENTH PAPER

**(Biochemistry, Animal Physiology and
Endocrinology)**

Marks : 56

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

Answer Question No. 1 and any four from the rest

1. Answer any three of the following : 4×3=12

- (a) Explain the mechanism of buffer action in blood.**
- (b) Explain the effect of substrate concentration on enzyme activity with the help of Michaelis-Menten curve.**
- (c) Explain briefly the long-term regulation of blood pressure.**

(2)

- (d) Explain the different types of pheromones with examples and also mention their functions.
- (e) Discuss the follicular phase of menstrual cycle.
2. (a) Define irreversible and reversible processes of enzyme inhibition. Explain with suitable examples the different types of enzyme inhibition. 8
- (b) Discuss the importance of diffusion and osmotic pressure in living organism. 3
3. Define glycogenesis and glycogenolysis. Explain the different steps of glycogenolysis mentioning enzymes and coenzymes involved in each step. 3+8=11
4. Define cardiac cycle. Describe the various phases of cardiac cycle. 2+9=11
5. Mention various types of coagulation factors that are involved in blood coagulation. Describe the extrinsic and intrinsic schemes of blood coagulation. 5+6=11
6. (a) Distinguish between endocrine and paracrine hormones. 4
- (b) Give an account of gastrointestinal hormones and their functions. 7

D9/1782

(Continued)

(3)

7. (a) Describe the roles of hormones involved in the process of spermatogenesis and oogenesis. 6
- (b) Discuss the modes of contraception in males and females. 5
8. Write notes on any two of the following : 5½×2=11
- (a) Respiratory chain complexes
- (b) Advantages and disadvantages of *in vitro* fertilization
- (c) Transamination reaction

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D9—2100/1782

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