No. of Printed Pages : 3

Sem-V-Zool-CC-11
(Reg&Back)

2020-21

Time - 3 hours

Full Marks - 60

*Answer **both groups** as per instructions.*
Figures in the right hand margin indicate marks.
Candidates are required to answer
in their own words as far as practicable.
Draw labelled diagrams wherever necessary.

GROUP - A

1. Write notes on any five of the following in two or three important sentences each. [2 × 5

   (a) Preformation Theory

   (b) Monospermy and Polyspermy

   (c) Blastulation

   (d) Egg membrane

   (e) Epimorphosis

   (f) Endocrine function of placenta

   (g) Teratogenic agent

P.T.O.

GROUP - B

*Answer **ALL** questions.*

2. Describe mechanism of pattern formation and differentiation in embryology. [10

OR

Write notes on the following : [5 × 2

(a) Differential gene expression

(b) Cytoplasmic determinants

3. What is an organizer ? Discuss types and characteristic features of organizer. [10

OR

Write notes on the following : [5 × 2

(a) Oogenesis

(b) Planes and significance of cleavage

4. Discuss extra embryonic membranes in birds and their functions. [10

OR

Write notes on the following : [5 × 2

(a) Placentation in man

(b) Fate of germ layers

5. Define regeneration. Discuss various types of regeneration in animals. [10

OR

Write notes on the following : [5 × 2

(a) Hormonal regulation in amphibian metamorphosis

(b) Changes in amphibian metamorphosis

6. Discuss the method of in-vitro fertilization. Describe its significance and success rate. [10

OR

Write notes on the following : [5 × 2

(a) Amniocentesis

(b) Six principles of teratology

No. of Printed Pages : 3

Sem-V-Zool-CC-12
(Reg&Back)

2020-21

Time - 3 hours

Full Marks - 60

*Answer **both groups** as per instructions.*
Figures in the right hand margin indicate marks.
Candidates are required to answer
in their own words as far as practicable.
Draw labelled diagrams wherever necessary.

GROUP - A

1. Answer any five of the following questions in two or three sentences each. [2 × 5

   (a) What is meant by DNA denaturation ?

   (b) What is linking number ?

   (c) What are Okazaki fragments ?

   (d) What is poly adenylation ?

   (e) What is meant by degeneracy of genetic code ?

   (f) What are split genes ?

   (g) What is genetic imprinting ?

P.T.O.

GROUP - B

*Answer **ALL** questions.*

2. Explain the replication mechanism of ds DNA. [10

OR

Write notes on the following : [5 × 2

(a) Cot curves

(b) DNA topoisomerases

3. Explain the mechanism of transcription in eukaryotes. [10

OR

Write notes on the following : [5 × 2

(a) Transcription unit

(b) Transcription factors

4. Discuss the mechanism of translation in prokaryotes. [10

OR

Write notes on the following : [5 × 2

(a) Inhibitors of protein synthesis

(b) Wobble hypothesis

5. Write an essay on RNA splicing. [10

OR

Write notes on the following : [5 × 2

(a) Exon shuffling

(b) RNA editing

6. Discuss the principles of transcriptional regulation in prokaryotes with examples. [10

OR

Write notes on the following : [5 × 2

(a) Repressors

(b) Gene silencing

No. of Printed Pages : 3

Sem-V-Zool-DSE-1
(Reg&Back)

2020-21

Time - 3 hours

Full Marks - 60

*Answer **both groups** as per instructions.*
Figures in the right hand margin indicate marks.
Candidates are required to answer
in their own words as far as practicable.
Draw labelled diagrams wherever necessary.

GROUP - A

1. Write notes on any five of the following in two or three sentences each. [2 × 5

   (a) Bee pasturage

   (b) Beneficial products of honey bee

   (c) Black boxing in sericulture

   (d) Pebrine

   (e) Brood stock management

   (f) Pearl producing bivalves

   (g) Pheromones

P.T.O.

GROUP - B

*Answer **ALL** questions.*

2. Give an account of diseases of honey bee. [10

OR

Write notes on the following : [5 × 2

(a) Langstroth's hive

(b) Physico-chemical analysis of honey

3. Describe the rearing process of silkworm. [10

OR

Write notes on the following : [5 × 2

(a) Silk reeling techniques

(b) Bacterial flacherie

4. Write an essay on induced breeding. [10

OR

Write notes on the following : [5 × 2

(a) Management of nursery pond

(b) Fishery by-products

5. Describe the culture methods of air-breathing fishes. [10

OR

Write notes on the following : [5 × 2

(a) Culture of fresh water prawn

(b) Pearl formation

6. Explain different kinds of innate behaviours. [10

OR

Write notes on the following : [5 × 2

(a) Intelligence

(b) Lunar rhythms

No. of Printed Pages : 3

Sem-V-Zool-DSE-2
(Reg&Back)

2020-21

Time - 3 hours

Full Marks - 60

*Answer **both groups** as per instructions.*
Figures in the right hand margin indicate marks.
Candidates are required to answer
in their own words as far as practicable.
Draw labelled diagrams wherever necessary.

GROUP - A

1. Write notes on any five of the following in two or three sentences each. [2 × 5

   (a) Concept of Biotechnology

   (b) Restriction enzyme

   (c) Expression vectors

   (d) RAPD

   (e) Bio-reactor

   (f) DNA micro-injection

   (g) Ex-vivo

P.T.O.

GROUP - B

*Answer **ALL** questions.*

2. Write the scope and importance of Biotechnology. [10

OR

Write notes on the following : [5 × 2

(a) Biotechnology in agriculture

(b) Biotechnology in medicine

3. Explain different steps of DNA finger printing. [10

OR

Write notes on the following : [5 × 2

(a) Southern blotting

(b) DNA libraries

4. Discuss growth kinetics of microbes. [10

OR

Write notes on the following : [5 × 2

(a) Fermentation

(b) Down stream processing

5. Describe methods of production of transgenic animals. [10

OR

Write notes on the following : [5 × 2

(a) Retroviral method

(b) Applications of transgenic animals

6. Give an account of gene therapy. [10

OR

Write notes on the following : [5 × 2

(a) Recombinant insulin

(b) Cloned genes in mammalian cell