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PGIIIS-859 A-21
M.Sc. III Semester Degree Examination
ZOOLOGY
Biology of Reproduction
Paper : HCT 3.1

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

1) *All questions carry* ***Equal*** *Marks.*
2) *Illustrate your answer wherever necessary*

Answer the following in brief. **(8×2=16)**

1. a) Delayed implantation.
b) Lueteogenesis.
c) Cowper's gland.
d) Sertoli cells.
e) IVF
f) Coagulatory gland.
g) Prostaglandins.
h) Surrogate pregnancy.

2. a) Describe histoarchitecture of ovary and its functions. **(16)**

(OR)

b) Explain in detail on biological actions of androgens.

3. a) Explain sequences of events during implantation. **(16)**

(OR)

b) Describe histophysiology and its endocrine functions.

4. Write an explanatory notes on any **TWO** of the following. **(2×8=16)**

a) Biochemistry of semen.

b) Sex determination.

c) Folliculogenesis.

5. Write short notes on any **FOUR** of the following. **(4×4=16)**

i) Spermatozoa.

ii) Follicular atresia.

iii) Gestational carrier.

iv) IUD.

v) Progesteron.

vi) Ovulation.

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PGIIIS-860 A-21
M.Sc. III Semester Degree Examination
ZOOLOGY
Animal Physiology
Paper : H.C.T 3.2

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

1) *All questions carry equal marks.*
2) *Illustrate your answers wherever necessary.*

Answer the following in brief. **(8×2=16)**

1. a) Henley's loop.
b) Pigments.
c) Uric acid.
d) Hibernation.
e) Alkalosis.
f) Homeostasis.
g) Cardiac muscles.
h) GABAERGIC Transmitters.

2. a) Explain in detail on functional aspects of Neural and hormonal control of breathing. **(16)**

(OR)

b) Describe cardiac physiology and emphasize on diseases associated with heart.

3. a) Explain basic concepts of nerve impulse with suitable examples. **(16)**

(OR)

b) Describe in detail on aging physiology.

4. Write explanatory notes on any **TWO** of the following. **(2×8=16)**

a) Digestion and absorption.

b) Role of hormones in rend physiology.

c) Muscle contraction.

5. Write short notes on any **FOUR** of the following. **(4×4=16)**

i) Resting potential.

ii) Respiratory acidosis.

iii) Glial cells.

iv) Muscle dytrophy.

v) Gastro secretions.

vi) Blood coagulation.

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4. Write explanatory notes on any **Two** of the following. **(2×8=16)**

a) Population and Ecology.

b) Soil pollution.

c) Bioaccumulation of toxic substance and risk assessment.

5. Write short notes on any **Four** of the following. **(4×4=16)**

i) Phosphorus cycle.

ii) Acid rain.

iii) Fog.

iv) Bio transformation.

v) Gross primary productivity.

vi) Secondary pollutants.

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4. Write explanatory note on any **Two** of the following. **(2×8=16)**

a) Homeostasis.

b) Malnutrition.

c) Blood transfusion.

5. Write short notes on any **Four** of the following. **(4×4=16)**

i) Blood flow.

ii) Over nutrition.

iii) Skeletal muscle.

iv) Sensory systems.

v) Artificial blood.

vi) Atherosclerosis.

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4. a) Explain the nitrogen cycle. Add a note on its importance in plants. **(8+7=15)**

   b) Give an account on the regulation of nitrogenase complex and nitrogen reductase.

5. a) Outline the reactions involved in the urea cycle and explain its regulation. **(8+7=15)**

   b) Discuss the biosynthesis and importance of NAD and FAD.

6. a) Explain '*de novo*' synthesis of pyrimidine nucleotides and its regulation. **(8+7=15)**

   b) Discuss the steps involved in the degradation of pyrimidines.

7. **Write notes on any Three of the following.** **(3×5=15)**

   a) Ketone bodies.

   b) Perxisomal oxidation of fatty acids.

   c) Inhibitors of nucleotide syntheses.

   d) Inborn errors of aromatic amino acid metabolism.