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PGIIS- 1544 B-18
M.Sc. III Semester Degree Examination
ZOOLOGY
(Biology of Reproduction)
Paper - HCT 3.1

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

- 1) Answer all questions.
- 2) Illustrate your answer wherever necessary.

1. Answer the following in brief. (8×2=16)
 - a) Mullarian ducts.
 - b) Spermatid.
 - c) Seminal vesicles.
 - d) Cumulus oophorus.
 - e) Corpus luteum.
 - f) Relaxin
 - g) IVF.
 - h) Cowper's gland.
2. a) Explain histoarchitecture of testis and add a note on spermatogenesis and its importance. (16)

(OR)

 - b) Describe biological actions of androgens.
3. a) Describe histophysiology of placenta and add a note on its endocrine functions. (16)

(OR)

 - b) Give a detailed account of implantation and its hormonal regulation.
4. Write explanatory notes on any **TWO** of the following. (2×8=16)
 - a) Biochemistry of Semen.
 - b) Histoarchitecture of ovary.
 - c) Folliculogenesis.
5. Write short notes on any **FOUR** of the following. (4×4=16)
 - i) Leydig cells.
 - ii) Accessory sex glands.
 - iii) Ovulation.
 - iv) IUD.
 - v) Tube transfer.
 - vi) Lactation.

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PGIIS- 1546 B-18
M.Sc. III Semester Degree Examination
ZOOLOGY
(Environmental Biology)
Paper - SCT 3.1

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

- 1) Answer all questions.
- 2) Illustrate your answer wherever necessary.

1. Answer the following in brief. (8×2=16)
 - a) Pyramid of biomass.
 - b) Decomposer.
 - c) Grazing food chain.
 - d) Micro consumers.
 - e) Natality.
 - f) Algal blooms.
 - g) Fragmentation.
 - h) Eutrophication.

2. a) Explain structure and functions of the ecosystem. (16)
(OR)
b) Give a detail account on sources of air pollution and comment on its control measures.

3. a) Describe various natural resources and their management. (16)
(OR)
b) Describe applications of vermitechnology in treatment of waste.

4. Write explanatory notes on any **TWO** of the following. (2×8=16)
 - a) Soil Pollution.
 - b) Energy Flow.
 - c) Bio Remediation.

5. Write short notes on any **FOUR** of the following. (4×4=16)
 - i) Climate change.
 - ii) Gross primary productivity.
 - iii) Population growth.
 - iv) Mortality.
 - v) Soil erosion.
 - vi) Lc_{50} .

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PGIIS- 1547 B-18
M.Sc. III - Semester Degree Examination
ZOOLOGY
(Human Physiology)
Paper - OET 3.1

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

- 1) Answer all questions.
- 2) Illustrate your answers wherever necessary.

1. Answer the following in brief.

(8×2=16)

- a) Glycocalyx.
- b) Cytosol.
- c) Straited Muscle.
- d) Sarcolemma.
- e) Myosin.
- f) Ingestion.
- g) Elimination.
- h) Amebeiosis.

2. a) Explain in detail on functional morphology of the gastrointestinal tract.

(16)

(OR)

b) Describe physiology of digestion and absorption.

3. a) Describe structure and functional differentiation of brain.

(16)

(OR)

b) Explain in detail on sensory and motor systems.

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

- a) Deviated mental functions.
- b) Anatomy and physiology of smooth muscle.
- c) Mental reasoning.

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

- i) Voluntary muscles.
 - ii) Vitamins.
 - iii) Over nutrition.
 - iv) Motor systems.
 - v) Blood transfusion.
 - vi) Physiology of dream.
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PGIIS- 1545 B-18
M.Sc. III Semester Degree Examination
ZOOLOGY
(Animal Physiology)
Paper - HCT 3.2

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

- 1) *Answer all questions.*
- 2) *Illustrate your answer wherever necessary.*

1. Answer the following. (8×2=16)
 - a) Respiratory alkalosis.
 - b) Urea.
 - c) Respiratory pigments.
 - d) Coagulation.
 - e) Uric acid.
 - f) Muscular dystrophy.
 - g) Neuromuscular junction.
 - h) Ionic channels.

2. a) Describe cardiac physiology and add a note on diseases associated with heart. (16)

(OR)

b) Explain neuroendocrine regulation of gastro-intestinal movements and secretions.

3. a) Describe role of hormones in renal physiology. (16)

(OR)

b) Explain functional anatomy of mammalian kidney and add a note on formation of urine.

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(4)

4. Write explanatory notes on any **TWO** of the following.

(2×8=16)

- a) Physiology of Urine formation.
- b) Basic concepts of nerve impulse.
- c) Regulation of blood P^H.

5. Write short notes on any **FOUR** of the following.

(4×4=16)

- i) Blood coagulation.
 - ii) Exchange of gases.
 - iii) Non-Striated muscle.
 - iv) Nerve impulse.
 - v) Sodium pump.
 - vi) Respiratory quotient.
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