

**PGIIS-N 1544 B-2K13****M.Sc. IIIrd Semester (CBCS) Degree Examination****Zoology****(Biology of Reproduction)****Paper - HCT 3.1****(New)**

Time : 3 Hours

Maximum Marks : 80

*Instructions to Candidates:**Answer all questions and illustrate your answer wherever necessary.*

1. Answer the following in brief (8×2=16)
- Androgens
  - Cowper's gland
  - Follicular Astresia
  - Surrogate pregnancy
  - Oxytocin
  - Proeastrous
  - Gestation period
  - Luteogenesis.
2. a) Describe functional morphology of mammalian ovary. (16)
- OR**
- b) Explain the sequence of events and hormonal regulation during implantation.
3. a) Write detailed account on hormonal basis of sex differentiation. (16)
- OR**
- b) Write an essay on assisted reproductive technologies.
4. Write explanatory notes on any **two** of the following. (2×8=16)
- Foeto placental Unit
  - Menstrual cycle
  - OC pills.

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

(4×4=16)

- a) Lactation
  - b) Placental hormones
  - c) Seasonal reproduction
  - d) Cell adhesion molecules.
  - e) GIFT
  - f) Prostate gland.
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**PGIIS-N 1545 B-2K13****M.Sc. IIIrd Semester (CBCS) Degree Examination****Zoology****(Animal Physiology)****Paper - HCT 3.2****(New)**

Time : 3 Hours

Maximum Marks : 80

*Instructions:**Answer **all** questions and illustrate your **answer** wherever necessary.*

1. Answer the following in brief (8×2=16)
  - a) Hibernation
  - b) Problems of scaling
  - c) Inhibitors
  - d) Neuronal Circuits
  - e) Homeo Stasis
  - f) Co - enzymes
  - g) Air breathing fishes
  - h) Hormones.
2. a) Describe the methods of Respiration and comment on Transport of gases in blood.(16)  
**OR**  
b) Give a detail account on patterns of nitrogen excretion in animals with suitable examples.
3. a) Discuss types of enzymes and their physiological role. (16)  
**OR**  
b) Explain the structure of Neuron and transmission of nerves impulses across Synapses.
4. Write explanatory notes on any **two** of the following. (2×8=16)
  - a) Structure and movement of muscle
  - b) Aquatic environment
  - c) Methods of feeding and digestion.

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

(4×4=16)

- a) Metabolic rate
  - b) Respiration in eggs
  - c) Oxygen dissociation Curve
  - d) Freezing temperature adaptation
  - e) Neuro transmitters
  - f) Ribozymes.
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**PGIIS-N 1546 B-2K13****M.Sc. IIIrd Semester (CBCS) Degree Examination****Zoology****(Environmental Biology)****Paper - SCT 3.1****(New)**

Time :3 Hours

Maximum Marks : 80

***Instructions to Candidates:-***Answer **all** questions and illustrate your answer wherever necessary.

1. Answer the following in brief (8×2=16)
- a) Afrotropical realm
  - b) Asthano sphere
  - c) UCIL
  - d) Toxic Kinetics
  - e) Land slides
  - f) Non-symbiotic N<sub>2</sub> Fixers
  - g) Community respiration
  - h) Biological oxygen Demand.
2. a) Write in detail on various source of water pollution and its impact on aquatic ecosystem. (16)
- OR**
- b) Discuss the distribution, utilization patterns and management of minerals.
3. a) Explain the evolution and development of Ecosystems. (16)
- OR**
- b) “Anthropogenic activities are root cause for climate change”. Discuss.
4. Write explanatory notes on any **two** of the following. (2×8=16)
- a) Disaster Management
  - b) Biogeo chemical cycle
  - c) Layers of Atmosphere

5. Write short note on any **four** of the following

(4×4=16)

- a) Environmental ethics
  - b) Acid rain
  - c) Biological indicators
  - d) Land degradation
  - e) Energy resources
  - f) Hydrological cycle.
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**PGIIS-O 1544-A B-2K13****M.Sc. IIIrd Semester (Non-CBCS) Degree Examination****Zoology****(Comparative Endocrinology)****Paper - 3.1****(Old)**

Time : 3 Hours

Maximum Marks : 80

*Instructions to Candidates:**Answer all questions and illustrate your answer wherever necessary*

1. Answer the following in brief **(8×2=16)**
  - a) G-protein
  - b) Prostaglandins
  - c) Glucagons
  - d) Epidermal growth factor
  - d) Pheromones
  - e) Vitamin-D
  - f) Frontal Organ
  - h) Hyper parathyroidism
2. a) Explain comparative morphology of Adrenal gland and biological actions **(16)**

**or**

  - b) Explain chemistry and biological actions of oxytocin & vasopression **(16)**
3. a) Describe Hormones of GI Tract and add note on biological functions **(16)**

**or**

b) Explain morphology of pituitary gland and add a note on biological functions.(16)

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

a) Pineal gland

b) Hypothalamohypophysical complex

c) Chemical communication in animals

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

a) NGF

b) Biological rhythms

c) Neuro transmitters

d) Hormonal feed back

e) Insulin

f) Cyclic Amp.

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**PGIIS-O 1545-A B-2K13**  
**M.Sc. IIIrd Semester (Non-CBCS) Degree Examination**  
**Zoology**  
**(Biology of Reproduction)**  
**Paper - 3.2**  
**(Old)**

Time : 3 Hours

Maximum Marks : 80

*Instructions:**Answer **all** questions and illustrate your **answer** wherever necessary.*

1. Answer the following in brief **(8×2=16)**
- a) Mullerian ducts
  - b) Preparatory phase
  - c) Seminal vesicles
  - d) Cumulus oophorus
  - e) IVF
  - f) Relaxin
  - g) Corpus butem
  - h) Spermatid
2. a) Explain the hormonal basis of Sex differentiation. **(16)**
- OR**
- b) Describe functional morphology of a mammalian ovary.
3. a) Discuss endocrine physiology of implantation. **(16)**
- OR**
- b) Write essay on assisted reproductive technologies in vogue.
4. Write explanatory notes on any **two** of the following. **(4×4=16)**
- a) OC Pills
  - b) Prostate gland
  - c) Stem cell

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

(4×4=16)

- a) Growth factors
  - b) Milk rejection
  - c) Surrogate pregnancy
  - d) Menstrual cycle
  - e) Epidydimus
  - f) Folecular atresia.
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**PGIIS-O 1546-A B-2K13****M.Sc. IIIrd Semester (Non-CBCS) Degree Examination****Zoology****(Environmental Biology)****Paper - 3.3****(Old)**

Time : 3 Hours

Maximum Marks : 80

**Instructions to candidates:***Answer all questions and illustrate your answer wherever necessary.*

1. Answer the following in brief: (8×2=16)
- a) Hydrosphere.
  - b) Sedimentary
  - c) Biogeography
  - d) Population
  - e) Anthropogen
  - f) A forestration
  - g) Phosphorus cycle
  - h) Wind energy.
2. a) What is photo chemical smog? Explain its sources and control measures. (16)
- OR**
- b) Describe Noise pollution and comment on the factors influencing it. (16)
3. a) Write detailed account on the types and sources of aquatic polluter and their effect on aquatic fauna. (16)
- OR**
- b) Described in brief Energy flow in ecosystem. (16)

4. Write explanatory notes on any **two** of the following: (2×8=16)
- a) Water pollution.
  - b) Green house effect.
  - c) Biomagnification.
5. Write short note on any **four** of the following: (4×4=16)
- a) Solar energy
  - b) Social forestry.
  - c) Mineral resources.
  - d) Solid waste disposal.
  - e) Hydrology cycle
  - f) Biodegradation.
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**PGIIS-O 1547-A B-2K13****M.Sc. IIIrd Semester (Non-CBCS) Degree Examination****Zoology****(Animal Bio-technology)****Paper - 3.4****(Old)**

Time : 3 Hours

Maximum Marks : 80

*Instructions to Candidates:**Answer all questions and illustrate your answers wherever necessary*

1. Answer the following in brief (8×2=16)
- a) Enzymes
  - b) Pheromones
  - c) Catalyst
  - d) DNA
  - e) pH
  - f) Cell Culture
  - g) Growth hormone
  - h) Vaccines
2. a) Discuss the role of tissue culture in biomedical research (16)
- or**
- b) Give an account on medical applications of Karyological (16)
3. a) Present an account of prawn and pearl culture (16)

**or**

b) Describe an application of transgenic Animals and their model (16)

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

a) Scope of biotechnology

b) Micro injection method

c) Hybrid antibodies

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

a) Insemination

b) Growth Harmones

c) Vermicompost

d) Silk production

e) Biodegradation

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