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**PG3S-424-A-23**  
**M.Sc. III (CBCS) 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 answers wherever necessary.*

Answer the following in brief.

**(8×2=16)**

1. a) Sex differentiation  
b) Wolffian ducts  
c) Androgen  
d) Acrosin  
e) Let-down reflex  
f) Menopause  
g) Minipill  
h) Reproductive toxicity
2. a) Explain in detail the mechanism of sex determination with suitable examples. **(16)**  

**(OR)**

b) Enumerate the hormonal regulation of spermatogenesis. Write in detail about the cycle and wave of seminiferous epithelium.
3. a) Write an essay on formation, structure and functions of corpus luteum. **(16)**  

**(OR)**

b) Give an account of mechanism of action of chemical contraceptives for females and the different types of chemical contraceptives available. What is the pearl index and how does it help to evaluate contraceptives?

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

- a) Structure and functions of Leydig cell.
- b) Hormonal regulation of menstrual cycle
- c) Impact of heavy metals on the male reproductive system

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

- a) Biochemistry of semen
- b) Lactation hormones
- c) Implications of environmental toxicants on ovarian follicles
- d) Immunocontraceptives
- e) Hormonal control of lactation
- f) Differentiation of external genitalia

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**PG3S-426-A-23**  
**M.Sc. III Semester Degree Examination**  
**ZOOLOGY**  
**Environmental Biology**  
**Paper -SCT- 3.1**

**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)**

- I.**
- a) Decomposer.
  - b) Edge ecology.
  - c) Aerobic.
  - d) Autotrophs.
  - e) Red data book.
  - f) Pollutant.
  - g) CFC.
  - h) Habitat destruction.

- II.** Explain the flow of energy in ecosystem.

**(16)**

**(OR)**

Explain the impact of pollution on bioindicator species.

- III.** Discuss the available and possible solutions of renewable energy resources.

**(16)**

**(OR)**

Explain the waste water anaerobic treatment technologies.

- IV.** Write an explanatory note on *Any Two* of the following.

**(2×8=16)**

- a) Causes and Changes of biodiversity.
- b) Aquatic ecosystem
- c) Acute and chronic toxicity.

- V.** Write short notes on *any Four* of the following.

**(4×4=16)**

- a) Uses of vermitechnology.
- b) Toxins.
- c) Climate change.
- d) Effects of soil pollution.
- e) Environmental laws.
- f) Population growth curves.

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**PG3S-427-A-23**  
**M.Sc. III Semester Degree Examination**  
**ZOOLOGY**  
**Human Physiology**  
**Paper : OET- 3.1**

**Time : 3 Hours**

**Maximum Marks : 80**

**Instructions to Candidates:**

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

**(5×16=80)**

Answer the following in brief:

**(8×2=16)**

1.
  - a) Homeostasis
  - b) Cardiac muscles
  - c) Balanced diet
  - d) Hyperacidity
  - e) Blood capillaries
  - f) Hematopoiesis
  - g) Neuronal circuits
  - h) Reflex
2.
  - a) Describe the general plan of human body. **(16)**

**(OR)**

  - b) Describe the GI disorders.
3.
  - a) Explain the regulation of blood circulation **(16)**

**(OR)**

  - b) Illustrate the structural and functional differentiations of human brain.

4. Write explanatory notes on *Any Two* of the following:

(2×8=16)

- a) Malnutrition
- b) MI
- c) Physiology of dream

5. Write short notes *any Four* of the following.

(4×4=16)

- a) Brain waves
  - b) Cardiac arrest
  - c) Vitamins
  - d) CNS
  - e) Obesity
  - f) Artificial Blood
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