

M.Sc. F.Y. (Zoology) (CBCS Pattern) Sem-I  
**PSCZOOT03 - Cell Biology and Genetics Paper-III**

P. Pages : 1

Time : Three Hours



**GUG/W/22/11177**

Max. Marks : 80

- Notes :
1. All questions are compulsory to solve.
  2. All questions carry equal marks.
  3. Draw well labelled figures wherever necessary.

1. Describe structural organization and functions of mitochondria. **16**

**OR**

Write notes on: **16**

- a) Models of biological membrane
- b) Mitosis

2. Explain signal transduction pathways and their regulation. **16**

**OR**

Write notes on: **16**

- a) Hormones and their receptors
- b) Virus induced cancer

3. Give an account of Gene mutation types, causes and detection. **16**

**OR**

Write notes on: **16**

- a) Mono and dihybrid inheritance
- b) Crossing over

4. Write an essay on cytoplasmic inheritance and inheritance of mitochondrial genes. **16**

**OR**

Write notes on: **16**

- a) Recombination in Bacteria
- b) Genetic disorders.

5. Write 4 or 5 lines on the followings: **16**

- i) Microfilaments
- ii) Integrins
- iii) Analysis of Variation
- iv) Inversion

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