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First Year B.Sc (Zoology Major)
ZOO11102 : Fundamentals of Cytology and Genetics
(Semester I)

Program: BScGen03
Program Specific: Zoology
Course Type: Mandatory Major
Paper: II

Credits: 2
Time: 2 Hours
Max. Marks: 30
SET: A

Instructions to the candidate:

- 1) All questions are compulsory.
- 2) Figures to the right indicate marks.
- 3) Draw a well labelled diagram wherever necessary.

Q.1. Answer in one sentence:

05

1. Define cell.
2. Explain phagocytosis.
3. What is oxidative phosphorylation?
4. Give one example of sex-linked inheritance.
5. Define nucleoplasm.

Q.2. Attempt any five of the following:

10

1. Comment on environmental sex determination.
2. Enumerate functions of cell membrane.
3. Differentiate between Euchromatin and Heterochromatin.
4. Explain incomplete dominance with example.
5. Sketch and label prokaryotic cell.
6. Explain function of peroxisome.
7. Comment on importance of genetics.

Q.3. Attempt any two of the following:

10

1. Comment on cell signaling and its function.
2. Describe structure and function of endoplasmic reticulum.
3. Explain structural chromosomal aberrations with examples.
4. Enlist functions of nucleus.

Q.4. Attempt any one of the following:

05

1. Explain mitosis in detail.
2. Describe Mendel's Dihybrid cross with Punnett square.
