B.Sc. MICROBIOLOGY
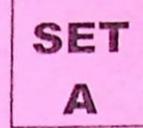**FIRST SEMESTER**
CELL BIOLOGY
BMB-103
[USE OMR SHEET FOR OBJECTIVE PART]

SET A

Duration: 1hr. 30 mins.   Full Marks: 35

(**Objective**)

Time: 15 mins.   Marks: 10

Choose the correct answer from the following: 1×10=10

1. Oxysomes of F0-F1 particles take place on:
   a. Chloroplast surface
   b. Inner mitochondrial membrane
   c. Thylakoid
   d. Mitochondrial surface

2. Sarcoplasmic reticulum is associated with:
   a. Hormone synthesis
   b. Protein synthesis
   c. Release of calcium ions from muscle contractions
   d. None of the above

3. Which of the following cell organelles is involved in the storage of food, and other nutrients, required for a cell to survive?
   a. Vacuoles
   b. Lysosome
   c. Mitochondria
   d. Cell membrane

4. How many sex chromosomes are present in a human being?
   a. 2
   b. 3
   c. 1
   d. 4

5. Endoplasmic reticulum membrane which is associated with ribosomes is called.........
   a. ER lumen
   b. Endosome
   c. Smooth endoplasmic reticulum
   d. Rough endoplasmic reticulum

6. Which scientist was the first to explain that new cells arise from pre-existing cells?
   a. Antony Von Leeuwenhoek
   b. Matthias Schleiden
   c. Rudolph Virchow
   d. Theodore Schwann

7. The term chromosome was coined by.................
   a. Sutton
   b. Boveri
   c. Waldeyer
   d. Hoffmeister

8. Which of the following cell organelles is absent in animal cells and present in a plant cell?
   a. Cell wall
   b. Cytoplasm
   c. Vacuoles
   d. Mitochondria

9. Cis and the trans face of the organelle:
   a. Ribosomes
   b. Golgi body
   c. Mitochondria
   d. Lysosome

10. Which of the following organelles is called the "suicidal bags" of the cell?
    a. Cytoplasm
    b. Endoplasmic reticulum
    c. Mitochondria
    d. Lysosomes

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(Descriptive)

Time : 1 hr. 15 mins.   Marks : 25

[Answer question no.1 & any two (2) from the rest]

1. What is Cell Theory? Write the three postulates of Cell Theory.   2+3=5

2. Differentiate between: 5×2=10
   a) Prokaryotic Cell and Eukaryotic Cell
   b) Rough ER and Smooth ER

3. What is the Cell Cycle? Describe the different stages of Mitosis.   2+8=10

4. Describe the structure and functions of the Endoplasmic Reticulum.   •   5+5=10

5. Write short notes on: 5+5=10
   a) Lysosomes
   b) Vacuoles

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