

B.Sc. Sem-I (Old)  
**BIO-01 - Biotechnology Paper-I (Cell and Cell Organelles)**

P. Pages : 2

Time : Three Hours



GUG/S/19/1220

Max. Marks : 50

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1. Give the differences between Prokaryotic and Eukaryotic cells with it's structures. 10

**OR**

Discuss in detail structure chemical composition and functions of plasma membrane. 10

2. What is cell division ? Discuss the various stages of Meiosis. 10

**OR**

Give the detail account of Microtubules. 10

3. a) Give brief account of cell theory. 2½

b) Discuss structure and functions of Mitochondria. 2½

c) Explain Ciliar cell locomotion. 2½

d) Different phases of cell cycle. 2½

**OR**

a) Give the classification of cell on the basis of cell shape and cell size. 2½

b) Discuss structure & functions of chloroplast. 2½

c) Write about Actin Filament. 2½

d) Explain cell synchronization. 2½

4. a) Draw structure of Typical plant cell. 2½

b) Discuss about Golgi apparatus, it's subunit & it's functions. 2½

c) Explain intermediate filament keratin. 2½

d) Explain cell differentiation in Animals. 2½

**OR**

a) Draw structure of Nerve cell. 2½

b) Discuss about vacuoles & it's functions. 2½

c) Explain tubulin synthesis. 2½

d) Describe cell senescence.

2½

5. Solve **any ten**.

10

a) Write the discovery of Theodor Schwann.

b) Define cell

c) What is true Nucleus

d) What is plasmodesmata

e) What is Granules

f) What is Glycan backbone.

g) What is flagella

h) What is Neurofilament.

i) Modification in Tubulin.

j) What is cytokinesis ?

k) What is p<sup>53</sup> ?

l) Define crossing over.

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