

2019

B.Sc.

1st Semester Examination
BIOTECHNOLOGY (Honours)
Paper - C 2-T

Full Marks : 40

Time : 2 Hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.
Illustrate the answers wherever necessary.*

1. Answer any five questions : 5×2
- (a) Define nucleoid. 2
 - (b) What is passive transport? 2
 - (c) What is the difference between carcinogen and clastogen? 2
 - (d) What is cadherin? 2
 - (e) Write down the significance of nuclear pore complex. 2

[Turn Over]

- (f) State the role of P53. 2
- (g) What are rough and smooth endoplasmic reticulum? 1+1
- (h) What is desmosome? 2
2. Answer any *four* questions : 4×5
- (a) Briefly discuss the vesicular transport of proteins in golgi apparatus. 5
- (b) What are the differences between simple and facilitated diffusion? Write down the function of sodium potassium pump. 2+3
- (c) Briefly discuss the fluid mosaic model of plasma membrane. 5
- (d) Write down the mechanism of action of transmembrane ATPase. 5
- (e) What is glycosylation of protein? Why lysosomes are called suicidal bags? Which cell organelle is called powerhouse of cell? 2+2+1
- (f) What is apoptosis? Specify the factors that trigger apoptosis. 2+3

3. Answer any *one* question : 1×10

(a) What is tonoplast? Discuss the role of cyclin and MPF in regulation of eukaryotic cell cycle. Write down the role of motor proteins in microtubule assembly and disassembly. What is pinocytosis?

1+4+3+2

(b) Write down the features of stem cells. Classify stem cells on the basis of potency. Mention some clinical applications of stem cells.

2+6+2
