2017

Total Pages—3 **B.Sc-CBCS/IS/BOT/H/C2T/17**

2017

BOTANY

[Honours]

(CBCS)

[First Semester]

PAPER –C2T

Full Marks : 40

Time : 2 hours

Answer **all** questions

The figures in the right hand margin indicate 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* of the following : 2 × 5

(*a*) Expand MUFA and PUFA.

(*b*) Cite the cell cycle check points and state their significance.

(Turn Over)

(c) What are exergonic and endergonic reactions ?

(d) Give an example of disaccharide and a polysaccharide.

(e) Contrast the ionic and covalent bonds.

(f) What is buffer solution ? Give an example.

(g) Define prosthetic groups and cofactors.

(h) State the significance of G_0 phase.

2. Answer any *four* of the following : 5 × 4

(a) Describe the chemical nature of phospho glycerides with examples. 5

(b) Briefly state the chemical structure and function of ATP. 5

(c) Write a note on the classification of enzyme. 5

(d) Explain the facilitated transport and contrast it with the active transport. 3 + 2

(e) Comment on the structural properties of Z DNA. Mention the helical parameters of it. 3 + 2

(f) Briefly describe the fluid mosaic model of plasma membrane. 5

3. Answer any *one* question of the following : 10 × 1

(a) Define acidic and basic amino acids with examples. Illustrate the primary, secondary, tertiary and quaternary structures of protein. 2 + 8

(b) Give a brief account of the ultrastructure of nuclear envelope and nuclear lamina. Describe the nuclear pore complex and state its function. 3 + 7

2018

Total Pages—3 C/18/BSc/1st Sem/BOTH/C2T

2018

CBCS

1st Semester

BOTANY

PAPER—C2T

(Honours)

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

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Illustrate the answers wherever necessary.

Biomolecules and Cell Biology

Answer *all* questions

1. Answer any *five* questions : 5×2

(a) Name a bond between metal and nonmetal due to transfer of electron. Give an example.

(Turn Over)

(b) Define pH.

(c) State the basic structure of fatty acid.

(d) Define redox potential with an example.

(e) Distinguish between cofactor and coenzyme with respective examples.

(f) Write any two important biological roles of protein.

(g) Write the differences between endocytosis and exocytosis.

(h) What are cdks in cell cycle ?

2. Answer any *four* questions : 4×5

(a) Describe different levels of organization of protein upto quarternary structure with sketches.

(b) Illustrate nuclear pore complex with suitable drawing and description.

(c) Explain Michaelis-Menten equation.

(d) Compare B and Z types of DNA.

(e) Briefly describe the components and organization of plasma membrane.

(f) Describe ultrastructural features and functions of Mitochondria.

3. Answer any *one* question : 1×10

(a) Outline the different phases of eukaryotic cell cycle.

Comment on the cell-cycle checkpoints and regulation. 5 + 5

(b) Describe microtubule, microfilament and intermediary filament.

Distinguish between active and facilitated transport through plasma membrane. 5 + 5

2019

UG/1st Sem/BOT(H)/T/19

2019

B.Sc.

1st Semester Examination

BOTANY (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* of the following : 2×5=10

(a) Write the significance of chemical bonds?

(b) Define Oligosaccharides. Cite an example.

(c) What is Golgi apparatus?

(d) What is buffer solution?

(e) Write the Michaelis-Menten equation.

(f) Define endosymbiotic theory.

[Turn Over]

(g) What does it mean by induced fit theory?

(h) Mention the function of protein kinase.

2. Answer any *four* of the following : 5×4=20

(a) Schematically represent the triglyceride structure and state its function. What is ester? 2+1+2

(b) Write the chemical structure of cell wall and mention function of plant cell wall. 2½+2½

(c) Describe the regulation of cell-cycle check point. 5

(d) Write a note on the structure and function of nucleotides. 3+2

(e) Briefly describe the fluid mosaic model of plasma membrane. 5

(f) What is ER? Mention its types and function? 2+1+2

3. Answer any *one* of the following : 10×1=10

(a) (i) Describe in brief the different types of membrane transport found in living organism. 6+4

(ii) Write the molecular organisation of chromatine.

(b) Classify enzymes with examples on the basis of modern concept. What are allosteric enzymes? 8+2
