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1 SEM TDC BOTH (CBCS) C 2

2021

(Held in January/February, 2022)

BOTANY

(Core)

Paper : C-2

(**Biomolecules and Cell Biology**)

Full Marks : 53

Pass Marks : 21

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

1. (a) Fill in the blanks : 1+1+1=3

(i) Conjugated protein consists of amino acids and a _____.

(ii) The hydrolysis of fat by organisms is called _____.

(iii) The cells of the multicellular organisms are held together by _____.

(b) Choose the correct answer : $1+1=2$

- (i) Non-reducing commercial sugar is glucose/sucrose/fructose.
- (ii) Active transport in biological membrane utilizes sucrose/ATP energy/AMP/amino acid.

2. Write short notes on any *three* of the following : $4 \times 3 = 12$

- (a) Enzymes as biocatalyst
- (b) Function of messenger RNA
- (c) Lipid synthesis in ER
- (d) Role of microtubules

3. Describe the structure and functions of protein with example. $6+6=12$

Or

Write short notes on the following : $4+4+4=12$

- (a) Ramachandran plot
- (b) Functions of fatty acids
- (c) Significance of meiosis

4. Why are mitochondria and chloroplasts considered as semiautonomous cell organallae? Describe in detail the structure and functions of mitochondria. $4+8=12$

(3)

Or

Write explanatory notes on the following :

6+6=12

- (a) Endosymbiotic theory
- (b) Cell cycle

5. Write short notes on any *three* of the following :

4×3=12

- (a) Function of Golgi apparatus
- (b) Laws of thermodynamics
- (c) Role of enzymes
- (d) Phosphoglycerides
- (e) Properties of water

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