

2020

BIOCHEMISTRY — HONOURS

Fifth Paper

(Module - X)

Full Marks : 50

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

Answer **question no. 1** and **any two** more questions, taking **one** from each **Unit**.

1. Answer the following questions : 2×5
- (a) What is the clinical significance of acid phosphatase?
 - (b) Differentiate between meiosis I and meiosis II.
 - (c) What is albinism?
 - (d) Name one disease associated with defect in heme synthesis mentioning the defect that causes the disease.
 - (e) Why sickle cell patients are resistant to malaria?

Unit - I

2. (a) (i) What is anion porter? Give an example.
(ii) Discuss briefly voltage-gated channel and ligand-gated channel. Give examples of each.
- (b) Cite the names and functions of one integral and one peripheral protein in erythrocyte membrane.
- (c) What are the mechanisms by which cytosolic calcium level is increased?
- (d) Draw a schematic diagram of cell cycle. (3+4)+(3+3)+4+3
3. (a) Draw the diagram of mitotic metaphase with proper labelling. Discuss the characteristics of this phase.
- (b) What is CCK? What is its function?
- (c) Discuss the basic characteristics of S-phase of cell cycle.
- (d) Explain autocrine and endocrine signalling with one example of each.
- (e) Name one hormone which acts through cAMP as second messenger. Briefly describe its function. (3+3)+(2+2)+4+(2+2)+2

Please Turn Over

Unit - II

4. (a) What is diabetes mellitus? How does it affect lipid metabolism?
(b) Name the abnormal hemoglobin variants. Mention the significance of two of them.
(c) What is the importance of CPK? Explain briefly how vitamin K and Ca^{2+} regulate blood clotting.
(4+3)+(4+3)+(3+3)
5. (a) What is the function of cholinesterase?
(b) Discuss the clinical significance of LDH isozymes. Mention their names.
(c) What are the parameters of lipid profile? Why is the assessment of lipid profile important clinically?
(d) What is the significance of fibrinogen?
(e) What are the biochemical parameters of liver function test? 3+(3+2)+(4+3)+2+3
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