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**1st Prof.-MBBS—
Biochemistry-II**

2021

BIOCHEMISTRY

Paper – II

Full Marks : 100

Time : 3 hours

Answer all questions

The figures in the right-hand margin indicate marks

**Answer Section-A and Section-B in
separate answer booklets**

Strike off blank pages

Mention the number of additional answer sheets used

SECTION – A

[Marks : 50]

- 1. Name the members of ketone bodies. Discuss
the synthesis and utilization of ketone bodies.**

3 + 4 + 3

(Turn Over)

(2)

2. Write short notes on any five : 5 × 5

(i) Two causes with example of metabolic acidosis

(ii) Nucleotide Excision repair of DNA

(iii) Why Creatinine is used to measure clearance test and its importance

(iv) Important derivatives of arginine

(v) Cyclic AMP and its importance

(vi) Functions of iron in the body.

3. A 55-year old male known heavy smoker brought to emergency department with chest pain radiating to left shoulder and neck, ECG showed elevated ST segment. Serum CK-MB level has increased. 1 + 2 + 2

(a) What is the most probable cause of chest pain ?

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(Continued)

(3)

(b) Mention two non-enzymatic biomarker elevated in this condition.

(c) Explain the mechanism of little rascol molecule as a risk factor for chest pain.

4. Fill in the blanks : 1 × 10

(a) FIGLU test is done to know the deficiency of _____.

(b) Active form of Cobalamin is _____.

(c) End product of odd chain fatty acid in beta oxidation is _____.

(d) Iodine deficiency leads to a condition called _____.

(e) KF ring in eye is due to deficiency of a protein _____.

(f) Hormone responsible for sleep-wake cycle is _____.

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(Turn Over)

(4)

- (g) Normal blood PH is _____ to _____.
- (h) Enzyme marker for obstructive liver disease is _____.
- (i) Formula with unit for the calculation of creatinine clearance test is _____.
- (j) Formula for calculation of BMI _____.

SECTION – B

[Marks : 50]

- 5. Discuss the process of replication of DNA in eukaryotes. Give the diagrammatic representation of roll of telomerase in DNA replication. 6 + 4
- 6. Write short notes on any five : 5 × 5
 - (i) Silent features of Genetic code
 - (ii) Hyperuricemia in Type-1 glycogen storage disease

(5)

- (iii) Reverse cholesterol transport and its importance
- (iv) Regulatory step of haem synthesis and why anaemia occurs in vitamin B6 deficiency.
- (v) Methods of conversion of Protooncogenes to oncogenes.
- (vi) Importance of mitochondrial DNA.

- 7. A 45-year old man visited the hospital complaining of anxiety and more sweating from body. On questioning there is history of heat intolerance and feeling increased heart beat. The patient had loss of weight. There was moderate enlargement of the thyroid gland. 1 + 1 + 1 + 2
 - (a) What is the most probable cause ?
 - (b) Which one laboratory tests will you advise first ?

(6)

- (c) What is the cause of loss of weight in this patient ?
 - (d) What is the most common cause of this condition and measurement of which antibody may help to know this condition ?
8. Answer in *one or two* words : 1 × 10
- (a) What type of acid base disorder seen in prolonged starvation ?
 - (b) Name the phospholipid act as a lung surfactant.
 - (c) What is the cause of Maple syrup urine disease ?
 - (d) What is the full form of PCR.
 - (e) Name the tumour marker used to diagnose prostatic cancer.
 - (f) Which protein maintains blood colloidal osmotic pressure ?

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(Continued)

(7)

- (g) Give one example of vit C dependent post translational modification.
 - (h) Give an example of passive transport across cell membrane.
 - (i) What is the normal serum potassium level ?
 - (j) Human papilloma virus is mainly associated with which cancer ?
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NA—200