

**SS/MBBS/BIO-II/6-19****First Professional MBBS Examination****2019****(June)****BIOCHEMISTRY****Paper-II****Full Marks: 50****Time: 2 hours****The figures in the margin indicate****full marks for the questions****Write the answers to the two Halves in separate books****Answer all questions****FIRST HALF**

1. What do you mean by oxidative phosphorylation? Write briefly on chemiosmotic hypothesis of ATP synthesis and explain how various inhibitors can arrest the process of oxidative phosphorylation. [ 1 + 4 + 3 = 8 ]

2. Write short notes on any three of the following : 4×3=12

(a) Glycogen primer

(b) von Gierke's disease

(c) Creatinine clearance test

(d) Phenylketonuria

3. A 35-year male patient was brought to the emergency ward with complains of excessive thirst, generalized weakness, frequent urination, blurred vision, fruity scented breath, mental confusion and history of weight loss. Report of the biochemical investigations of the patient are as follows :

Random plasma glucose level—300 mg/dL

pH of arterial blood—6.9

Ketone bodies — present in urine

HCO<sub>3</sub> — 10 mEq/L

- (a) What is your probable diagnosis? 1
- (b) Name the ketone body which does not respond to nitroprusside reaction. 1
- (c) What is the reason for decreased pH of arterial blood? 1
- (d) Explain briefly the biochemical basis for your provisional diagnosis. 2

### SECOND HALF

4. What do you mean by translation? Write briefly on molecular anatomy of tRNA and posttranslational modification. 2+3+3=8

5. Write short notes on any three of the following : 4×3=12

- (a) Orotic aciduria
- (b) Cell cycle
- (c) Biochemical changes in cancer cells
- (d) Principles of calorimetry

6. Justify the statements : 5

- (a) Rifampicin inhibits growth of Mycobacterium tuberculosis.
- (b) Mere increased serum concentration of PSA cannot confirm the diagnosis of carcinoma of prostate.
- (c) Mushroom poisoning impairs process of transcription.
- (d) Lead intoxication results in anaemia.

(e) Fluoride vial should be used for investigating plasma glucose level.

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SM9—1120/24

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