



**PL-4653**

Seat No. \_\_\_\_\_

**First Year M. B. B. S. Examination**

**July - 2018**

**Biochemistry : Paper - II**

*(Old Course)*

Time : 3 Hours]

[Total Marks : 50

- Instructions :** (1) Figures on right indicate full marks  
(2) Write Section 01 & 02 in separate answer sheets

**SECTION - I**

- 1** State true or false with justification on any **six** : **1×6=6**  
(Out of Eight)

- (a) Stress can leads to increase blood glucose level.
- (b) Alcoholism can leads to fatty liver.
- (c) HDL acts as a storage of transferable apoproteins.
- (d) Creatine Kinase is required for Creatinine formation.
- (e) Tyrosine is an essential amino acid.
- (f) Muscle glycogen cannot convert into glucose.
- (g) Diabetics take plenty of water.
- (h) Ammonia is toxic to brain.

- 2** (A) Read the following case report and answer the **5**

All five questions (No Options)

A 2 weeks old infant born of consanguine marriage developed convulsions. History revealed that the pregnancy and delivery were normal and the infant had been taking his feeds regularly. Mother had observed a peculiar mousy odor in child's urine. Urine  $\text{FeCl}_3$  test showed green colour. Plasma phenylalanine was 2.2 mmoles/l (Ref. range < 0.09 mmoles/l). Urinary Phenylpyruvate and phenyl lactate were present.

Questions :

- (1) What is the probable diagnosis and underline biochemical defect?
- (2) Explain the cause of convulsions.
- (3) What dietary advice should be given for such a child and why?
- (4) Why such children often have very fair skin?
- (5) How oral tetrahydrobiopterin supplementation may be beneficial in this case?

(B) Discuss the followings : (Two) (No Option) **3+2=5**

- (1) Galactosemia.
- (2) Glycogen synthesis.

**3** Write short notes on any **three** : (Out of Five) **3×3=9**

- (1) Fatty liver and lipotropic factors.
- (2) Risk factors for atherosclerosis.
- (3) Explain Urea cycle disorders.
- (4) Respiratory acidosis and alkalosis.
- (5) Metabolism of sulphur containing amino acids.

## SECTION - II

**4** Give your comments with Biochemical justification **1×6=6**  
on any **six** : (Out of Eight)

- (a) NAD and NADP are different.
- (b) G6PD deficiency leads to drug induced hemolytic anemia.
- (c) Non-oxidative phase of HMP pathway required for DNA formation.
- (d) HbAlc is not for diagnosis of diabetes mellitus.
- (e) Medium chain fatty acid do not require carnitine.
- (f) Propionate is glucogenic.
- (g) Fat is burned on the wick of carbohydrates.
- (h) Pancreatitis leads to fat malabsorption.

- 5 Discuss any **two** of the following : (Out of Three) **5×2=10**
- (A) Regulation of blood pH.
  - (B) Metabolism of Keton bodies.
  - (C) Plasma Lipids.
- 6 Write short notes on any **three** : (Out of Five) **3×3=9**
- (A) Oncogenes and Antioncogenes.
  - (B) Glycogen storage disease.
  - (C) Regulation of cholesterol synthesis.
  - (D) Maple syrup urine disease.
  - (E) Complication of Diabetes mellitus.
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