

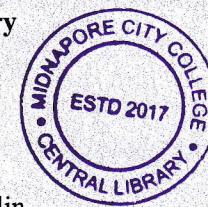
**The West Bengal University of Health Sciences  
2nd BMLT February - March, 2023 Examination**

Subject: Advanced Biochemistry

Time: 3 hrs

Full Marks: 100

*Attempt all questions*



20 x 1

1. Tick the correct answer :
  - a) The hormone which stimulates glycogenesis is :  
i) Glucagon.      ii) Epinephrine.      iii) Insulin.      iv) ADH.
  - b) Rate limiting enzyme of glycolysis is :  
i) Hexokinase.      ii) Transferase.      iii) Phosphofructokinase.      iv) Mutase.
  - c) Transfer of an amino group from an amino acid to a keto acid is called :  
i) Deamination.      ii) Transmethylation.      iii) Phosphorylation.      iv) Transamination.
  - d) Urea cycle occurs in :  
i) Kidney.      ii) Liver.      iii) Heart.      iv) Pancreas.
  - e) Example of group I hormone is :  
i) FSH.      ii) ACTH.      iii) GH.      iv) Calcitriol.
  - f) Cushing's syndrome is due to :  
i) Hyperactivity of thyroid gland.      ii) Hypoactivity of adrenal cortex.  
iii) Hyperactivity of adrenal cortex.      iv) Hypoactivity of pancreas.
  - g) MSUP is due to deficiency of :  
i) Phenylalanine hydroxylase.      ii) Branched chain  $\alpha$ -keto acid dehydrogenase.  
iii) Homogentisate oxidase.      iv) Tyrosinase.
  - h) Inhibitor of  $\alpha$ -ketoglutarate dehydrogenase is :  
i) Glucose.      ii) Citrate.      iii) Arsenite.      iv) Lactose.
  - i) Number of isozymes of LDH is :  
i) 3.      ii) 5.      iii) 4.      iv) 2.
  - j) Precursor of prostaglandin synthesis is:  
i) Linolenic acid.      ii) Linoleic acid.      iii) Arachidonic acid.      iv) Palmitic acid.
  - k) Hyponatremia is due to :  
i) Low level of serum potassium.      ii) High level of serum calcium.  
iii) High level of serum potassium.      iv) Low level of serum sodium.
  - l) Rate limiting enzyme of Urea cycle is :  
i) Arginase.      ii) Argininosuccinate Synthase.      iii) CPSI.      iv) Aconitase.
  - m) ACP is a diagnostic marker of :  
i) Pancreatic Cancer.      ii) Prostate cancer.      iii) Renal disease.      iv) Heart disease.
  - n) The active form of methionine is called :  
i) SAM.      ii) PAPS.      iii) NAG.      iv) NAM.
  - o) Ketonuria is :  
i) Presence of ketone body in blood.      ii) Presence of urea in urine.  
iii) Presence of ketone body in urine.      iv) Absence of keto acid in urine.
  - p) Coenzyme of transamination reaction is :  
i) NAD.      ii) PLP.      iii) FAD.      iv) CoA.
  - q) Competitive inhibitor of HMG CoA reductase is :  
i) Arsenite.      ii) Fluroacetate.      iii) Lovastatin.      iv) Mevalonate.

- r) Type I Diabetes mellitus is due to :  
 i) Destruction of oxytic cells.  
 iii) Destruction of  $\alpha$  cells.  
 ii) Destruction of parietal cells.  
 iv) Destruction of  $\beta$  cells.

s) Lipoprotein which is involved in the development of atherosclerosis is :  
 i) VLDL.      ii) HDL.      iii) LDL.      iv) IDL.

t) Cholesterol is estimated by :  
 i) Kinetic method. ii) CHOD/PAP method.      iii) GOD-POD method. iv) IFCC method.

2. Answer the following questions : 5 x

a) Mention any two differences between IDDM and NIDDM.  
 b) What is HbA1c?  
 c) Define Ketoacidosis.  
 d) Mention the importance of HMP Shunt.  
 e) Why LDL is called bad cholesterol?

3. Write short notes on **any six** of the following : 6 x

a) Estimation of glucose.  
 b) Disorders due to defective urea cycle.  
 c) Clinical importance of ALP.  
 d) Hypercholesterolemia.  
 e) Creatinine clearance test.  
 f) Hypoproteinemia and Hyperproteinemia.  
 g) LDL metabolism.  
 h) Phenylketonuria and Alkaptonuria.

4. Answer **any one** of the following : 1 x 1

a) Discuss the liver function test with clinical importance.  
 b) Describe the biosynthetic pathway of ovarian sex steroid hormones.

5. Answer **any two** of the following : 2+5-

a) What is Glycosuria? Write down the procedure of OGTT. Explain the pathway of glycogenolysis.  
 b) What is hyperkalemia? Write down the clinical significance of hyponatremia and hypokalemia. Mention the RDA, sources and biochemical functions of sodium.  
 c) What is Uremia? Write down the causes of abnormal digestion of protein. Write a short note on Creatininemia. Mention the functions of plasma lipoprotein. 2+5+1-