

**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE**

**End Semester Examination – Summer 2022**

**Course: B. Pharmacy**

**Sem: II**

**Subject Name: Biochemistry**

**Subject Code: BP203T**

**Max Marks: 75**

**Date:05/09/2022**

**Duration: 3.45 Hr.**

**Instructions –**

- 1. All questions are compulsory**
- 2. Answers to MCQs should be written in full sentences**
- 3. Draw diagrams / figures wherever necessary**
- 4. Figures to right indicate full marks**

**Q. 1. Multiple Choice Questions (MCQs) = 20 x 1 = 20 (All the questions are compulsory)**

- \_\_\_\_\_enzymes that catalyze the transfer of functional groups.
  - Transferases
  - Hydrolases
  - Oxidoreductase
  - Lysases
- The two monosaccharides differ from each other in their configuration around a single specific carbon atom, they are referred to as \_\_\_\_\_ of each other.
  - Tautomer
  - Epimer
  - Enantiomer
  - Anomer
- Polysaccharides are \_\_\_\_\_.
  - Oils
  - Proteins
  - Fats
  - Polymers
- Which one of the following amino acids contains imino group?
  - Tryptophan
  - Tyrosine
  - Proline
  - Leucine
- The cyclopentanoperhydrophenanthrene ring is present in \_\_\_\_\_.
  - Cholesterol
  - Cetyl alcohol
  - Melatonin
  - All of the above
- A positive Benedict's test is NOT given by \_\_\_\_\_?
  - Lactose
  - Sucrose

- c) Maltose                      d) Glucose
- vii. The conversion of alanine to glucose is termed as \_\_\_\_\_.
- a) Glycolysis                      b) Transformation  
c) Glycogenesis                      d) Gluconeogenesis
- viii. Pentose phosphate pathway generating two important products \_\_\_\_\_.
- a) Pentose sugar and NADPH                      b) Pentose sugar and NADH  
c) Pentose sugars and erythrose sugars                      d) Pentose sugars and sedoheptulose
- ix. The enzyme \_\_\_\_\_ deficiency is associated with resistance to malaria.
- a) Glucose-6-Phosphate dehydrogenase                      b) Glucose-6-Phosphate hydrogenase  
c) Glucose-5-Phosphate dehydrogenase                      d) Glucose-5-Phosphate hydrogenase
- x. Obesity is accumulation of \_\_\_\_\_ in the body.
- a) Water                      b) NaCl  
c) Fat                      d) Protein
- xi. Waxes contain higher alcohols named as \_\_\_\_\_.
- a) Methyl                      b) Ethyl  
c) Heptyl                      d) Cetyl
- xii. The Enzyme \_\_\_\_\_ is responsible for black urine disease.
- a) Homogentisate oxidase                      b) Phenyl alanine hydroxylase  
c) Tyrosine transaminase                      d) Carboxylase
- xiii. The transfer of an amino (NH<sub>2</sub>) group from an amino acid to a keto acid is known as \_\_\_\_\_.
- a) Transformation                      b) Transition  
c) Transamination                      d) Deamination
- xiv. In RNA, the complementary base of adenine is \_\_\_\_\_
- a) Cytosine                      b) Uracil  
c) Guanine                      d) Thymine
- xv. All are the codons stop the signal in protein synthesis except \_\_\_\_\_.
- a) UAA                      b) UAG  
c) UAC                      d) UGA
- xvi. The enzyme primase in association with single-stranded binding proteins forms a complex and produces \_\_\_\_\_.

- a) RNA primer                      b) RNA polymer  
 c) DNA primer                      d) DNA polymer
- xvii. Enzymes lose the catalytic activity at temperature above 70 °C due to \_\_\_\_\_.  
 a) Deregulation                      b) Disturbance  
 c) Distortion                      d) Denaturation
- xviii. The reaction given by two or more peptide linkages is \_\_\_\_\_.  
 a) Biuret test                      b) Ninhydrin test  
 c) Xanthoproteic test                      d) Pauley's test
- xix. The enzyme \_\_\_\_\_ is used in the treatment of leukemias.  
 a) Asparaginase                      b) Streptokinase  
 c) Fructokinase                      d) Hydrogenase
- xx. The functional unit of enzyme is known as \_\_\_\_\_.  
 a) Apoenzyme                      b) Coenzyme  
 c) Holoenzyme                      d) Monomeric enzyme

**Q. 2. Long Answers = 2 x 10 = 20 (Answer 2 out of 3)**

- i. Explain in detail  $\beta$ -oxidation of palmitic acid along with the energetics.
- ii. Define enzyme inhibitors and discuss the different types of enzyme inhibitors.
- iii. Describe the TCA cycle and explain the reaction involved in it with energetics.

**Q. 3. Short Answers = 7 x 5 = 35 (Answer 7 out of 9)**

- i. Draw the following Structures  
 a) Glucose b) Tryptophan c) Tyrosine d) Adenine e) Dihydroxy acetone
- ii. Describe the classification of proteins based on their chemical nature with suitable example.
- iii. Define the glycolysis and explain the pathway for glycolysis.
- iv. Give brief account on biological significance and biosynthesis of adrenaline and nor-adrenaline.
- v. Explain in detail pathway of ornithine cycle.
- vi. Write a note on formation and utilization ketone bodies
- vii. Differentiate between DNA & RNA. Enlist the enzyme involve in DNA replication.
- viii. Define transcription and translation and discuss the inhibitors of protein synthesis.
- ix. Define and Classify enzyme as per IUB system with example.

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