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# VINAYAKA MISSION'S RESEARCH FOUNDATION, SALEM (Deemed to be University)

# B.Sc(ALLIED HEALTH SCIENCES) M.Sc(INTEGRATED PROGRAM IN CARDIAC TECHNOLOGY) DEGREE EXAMINATIONS - September 2021

#### First Year

#### **BIOCHEMISTRY**

Three Hours Maximum: 75 marks **SECTION - A**  $(10 \times 1 = 10)$ I. Choose the Best Answer: The following polysaccharide is composed of E-glycosidic bonds 1. b) Glycogen a) Starch d) Cellulose c) Dextrin The connecting link between HMP shunt and lipid synthesis is 2. b) NADPH a) Ribose c) Sedoheptulose 7-phosphate d) NADH The bonds in protein structure that are not broken on denaturation 3. a) Hydrogen bonds b) Peptide bonds c) Ionic bond d) Disulfide bonds One of the following is an amphipathic lipid 4. a) Phospholipids b) Fatty acid c) Bile salts d) All of the above 5. The two final products in the E-oxidation of odd chain fatty acids are a) Acetyl CoA and malonyl CoA b) Acetyl CoA and acetyl CoA c) Acetyl CoA and propionyl CoA d) Acetyl CoA and succinyl CoA 6. The backbone of nucleic acid structure is constructed by a) Peptide bonds b) Glycosidic bonds c) Phosphodiester bridges d) All of them 7. An enzyme of purine metabolism associated with immunodeficiency disease a) Adenosine deaminase b) Xanthine oxidase c) PRPP synthetase d) HGPRT In the feedback regulation, the end product binds at 8. a) Active site b) Allosteric site c) E-S complex d) None of these Folic acid antagonist(s) used in the treatment of cancer 9. a) Methotrexate b) Trimethoprim c) Sulfonamide d) All the three The metabolic (endogenous) water is derived by the oxidation of a) Carbohydrate b) Protein c) Fats d) All of them

### II. Write Short Answers on any FIVE of the following:

 $(5 \times 5 = 25)$ 

- 11. Cell and cell organelles
- 12. Write short notes on Polysaccharides and glycosides
- 13. Write an account of essential amino acids, zwitterion and peptide bonds
- 14. Discuss about sterols cholesterol
- 15. Describe uric acid and importance
- 16. Thiamine pyrophosphate
- 17. Phosphorus

# III. Write Short Essays on any TWO of the following:

 $(2 \times 10 = 20)$ 

- 18. Define polysaccharides and describe the structure of 3 homopolysaccharides
- 19. Write an account of classification of lipids with suitable examples
- 20. Classify vitamins and briefly discuss their functions and deficiency disorders
- 21. Give an account of the water distribution and its balance in the body

## IV. Write Essays on any ONE of the following:

 $(1 \times 20 = 20)$ 

- 22. Structure and functions of prokaryotic and Eukaryotic cell with their difference
- 23. Discuss the biochemical functions of vitamin C. Add a note on the therapeutic use of megadoses of this vitamin.

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