2022/07

B. PHARM
SECOND SEMESTER
BIOCHEMISTRY
BP203T

(USE SEPARATE ANSWER SCRIPTS FOR OBJECTIVE & DESCRIPTIVE)

Duration: 3 hrs. Full Marks: 75

[PART-A: Objective]

Time: 20 min. Marks: 20

Choose the correct answer from the following: ***1×20=20***

1. What is the anaerobic product of glycolysis?
   a. Pyruvate b. Lctate
   c. ATP d. CO_2
2. Which enzyme catalyses the conversion of Glucose-6-phosphate to Frutose-6-phosphate?
   a. Hexokinase b. Phosphohexose isomerase
   c. Phosphofructokinase d. Phosphoglycerate mutase
3. How many ATP synthesised in glycolysis?
   a. 6 b. 7
   c. 8 d. 9
4. Which of the following enzyme is responsible for phosphorylation?
   a. Phosphatase b. Kinase
   c. Isomerase d. Biphosphate
5. Which of the following is aromatic amino acid?
   a. Cystine b Phenylalanine
   c. Asparagine d Alanine
6. Which of the following is basic amino acid?
   a. Alanine b. Arginine
   c. Valine d. Serine
7. How much amount of Nitrogen is present in protein?
   a. 13-16 % b. 13- 19%
   c. 13-18% d. 13-17%
8. Which pyrimidine base is absent in RNA?
   a. Uracil b. Thymine
   c. Cytosine d. Both a and b
9. If a monosaccharide contain four carbon atom , it is called-
   a. Triose b. Tetrose
   c. Heptose d. hexose
10. Which functional group is present in aldose?
    a. Ketone b. Aldehyde
    c. Carboxylic acid d. Alcohol

11. All of the following statements about lipids are true, except
    a. They are esters of fatty acid
    b. They have poor solubility in water
    c. They are source of energy
    d. They are polyhydroxy aldehydes

12. An example of saturated fatty acid is-
    a. Oleic acid
    b. Linoleic acid
    c. Both a & b
    d. Palmitic acid

13. Which precursor is used for the biosynthesis of bile acids, steroid hormones and vitamin D?
    a. Mevalonate
    b. Triacylglycerol
    c. Both a & b
    d. Cholesterol

14. Fatty acid biosynthesis occurs in-
    a. Inner mitochondrial membrane
    b. Mitochondrial matrix
    c. Both a & b
    d. Cytosol

15. Which of the shuttle use for the transfer of activated Acyl CoA from cytosol to mitochondria?
    a. Glycerol phosphate shuttle
    b Malate shuttle
    c. Aspartate shuttle
    d Carnitine shuttle

16. Which of the following is an example of isomerise?
    a. Aldolase
    b. Succinate
    c. Hexokinase
    d. Phosphohexose

17. Which enzyme is responsible for conversion of acetyl CoA to malonyl CoA?
    a. Acetyl hydroxylase
    b Acetyl carboxylase
    c. Acetyl CoA hydroxylase
    d Acetyl CoA carboxylase

18. Which enzyme is responsible for conversion of phenylalanine to tyrosine?
    a. Fumarase
    b. Phosphorylase
    c. Tyrosine hydroxylase
    d. Phenylalanine hydroxylase

19. Which of the following is the precursor for synthesis of catecholamines?
    a. Valine
    b. Threonine
    c. Serine
    d. Tyrosine

20. Catecholamines are-
    a. Hydroxy phenyl ring
    b. Phenyl ring
    c. Trihydroxy phenyl ring
    d. Dihydroxy phenyl ring

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(PART-B : Descriptive)

Time: 1 hr. 40 minutes | Marks : 35

[*Answer any seven (7)*]

1. Describe gluconeogenesis pathway with structure — 5
2. What are carbohydrates? Write the classification of carbohydrates with suitable example? Write the significance of carbohydrates? — 1+2+2=5
3. Write a note on nucleic acid? — 5
4. Describe the Urea cycle with diagram? — 5
5. Define enzymes? Write the IUB classification of enzymes? Write a brief note on reversible inhibition of enzymes ? — 1+2+2=5
6. Describe the process of ketogenesis with reactions? — 5
7. Write a brief note on electron transport chain(ETC)? — 5
8. Describe the process of deamination ? — 5
9. Define catecholamines? Draw the structural reactions involved in biosynthesis of catecholamines? — 1+4=5

Time : 1 Hr. | Marks : 20

[*Answer any two (2)*]

1. Describe citric acid cycle with diagram. — 10
2. Define amino acid. Write the structural classification of amino acids. — 2+8=10
3. Describe the β-oxidation of fatty acid. — 10

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