

REV-01
DPII/54/27/32

2024/05

**D.PHARM.
SECOND YEAR
BIOCHEMISTRY & CLINICAL PATHOLOGY
ER20-23T**
(USE OMR FOR OBJECTIVE PART)

**SET
A**

Duration : 3 hrs.

Full Marks : 80

(PART-A: Objective)

Choose the correct answer from the following:

1×20=20

- The two main components of starch
 - Glucose and fructose
 - Amylose and amylopectin
 - Glycogen and cellulose
 - None of the above
- Which test is used to distinguished between monosaccharide and disaccharide
 - Barfoed's Test
 - Benedict's Test
 - Seliwanoff's Test
 - Molisch's Test
- The first amino acid produced during protein synthesis is
 - Arginine
 - Formylated arginine
 - Formyl methionine
 - Methionine
- A keto-sugar can be detected by
 - Fehling's Test
 - Benedict's Test
 - Seliwanoff's Test
 - Aniline acetate Test
- Which of the following is an essential amino acid?
 - Phenylalanine
 - Tyrosine
 - Alanine
 - Both b & c
- Creatinuria is caused due to the deficiency of vitamin?
 - A
 - E
 - D
 - K
- Which of the following is not a function of iron?
 - Oxygen transport
 - Immune function
 - Brain function
 - Gene regulation
- Folate deficiency causes
 - Microcytic anemia
 - Hemolytic anemia
 - Iron deficiency anemia
 - Megaloblastic anemia
- Which nitrogen base is not found in DNA
 - Thyamine
 - Uracil
 - Cytosine
 - Guanine
- Anti-oxidant activity is present in
 - B-carotene
 - Retinol
 - Retinoic acid
 - All of the these

11. The double helix structure of DNA can be developed through?
 - a. Scanning electron microscopy
 - b. X-ray crystallography
 - c. Ultra-centrifugation
 - d. Compound microscope
12. The catalytic efficiency of two different enzymes can be compared by
 - a. Formation of product
 - b. Km value
 - c. Molecular size of the enzymes
 - d. At normal body temperature
13. What is the normal rate of GFR?
 - a. 120-125 ml/min
 - b. 120-130ml/min
 - c. 120 ml/min
 - d. 125 ml/min
14. Which of the following enzymes is a sensitive marker of alcoholic liver diseases?
 - a. Alanine transaminase
 - b. Aspartate transaminase
 - c. Gamma glutamyl transferase
 - d. Alkaline phosphate
15. Which of the following statements is known as the rate limiting step in glycolysis?
 - a. Enolase
 - b. Phosphofructokinase
 - c. Phosphohexose isomerase
 - d. Glyceraldehyde-3 phosphate dehydrogenase
16. Ketone bodies are by products of metabolism of ?
 - a. Carbohydrate
 - b. Protein
 - c. Fat
 - d. All of the above
17. Fatty acid metabolism occurs in
 - a. Cytosol
 - b. Mitochondrial matrix
 - c. Endoplasmic reticulum
 - d. All of the above
18. Van den bergh reaction is useful in understanding?
 - a. Jaundice
 - b. Kidney function test
 - c. Urine physical examination
 - d. None
19. What is the net gain of ATP during the conversion of glucose to pyruvate?
 - a. 2 ATP
 - b. 4ATP
 - c. 6ATP
 - d. 32 ATP
20. Which of the following is the correct sequence of electron acceptors in ETC for production of ATP
 - a. Cyt b, c, a, a3
 - b. Cyt a, a, b, c
 - c. Cyt c, b, a, a3
 - d. Cyt b, c, a3, a

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(PART-B: Short Answers)

[Answer any ten (10) from the following]

[3x10=30]

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| 1. Discuss the secondary structure of protein with example? | 3 |
| 2. What is Barfoed's Test tells us about and write its significance and principle? | 1+2=3 |
| 3. Define the following with example: i) triglycerides ii) saponification. iii) rancidity | 1+1+1=3 |
| 4. What is red biotechnology? Write the application of biotechnology | 1+2=3 |
| 5. Define minerals and classify them | 1+2=3 |
| 6. Write the difference between nucleoside and nucleotide. | 3 |
| 7. Discuss the Van den Bergh reaction of liver function test? | 3 |
| 8. What is metabolism and write the difference catabolism and anabolism? | 1+2=3 |
| 9. Write in brief about the salient point of glycolysis? | 3 |
| 10. Write the different abnormal cells of erythrocytes cells and their significance? | 3 |
| 11. What is electron transport chain and write its function? | 1+2=3 |

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(PART-C : Long Answers)

[Answer any six (6) from the following]

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| 1. Explain the classification of amino acid based on chemical nature and nutritional requirement | [5x6=30]
5 |
| 2. Write down the chemical properties of carbohydrates and its biological role | 3+2=5 |
| 3. Explain the various factor affecting enzyme activity. | 5 |
| 4. Describe the Watson crick structure of DNA and write its two functions? | 4+1=5 |
| 5. Explain the kreb cycle of carbohydrate metabolism. | 5 |
| 6. Explain in brief about the ketogenesis metabolic pathway. | 5 |
| 7. Explain the beta-oxidation of fatty acid metabolic pathway. | 5 |

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