

**B. PHARM.  
SECOND SEMESTER  
BIOCHEMISTRY  
BP-203T**

**SET  
B**

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs.

Full Marks: 75

Time: 30 min.

Marks: 20

**[ PART-A: Objective ]**

**1×20=20**

*Choose the correct answer from the following:*

- In biosynthesis of proteins the chain terminating codons are
  - UAA, UAG and UGA
  - UGG, UGU and AGU
  - GCG, GCA and GCU
  - AAU, AAG and GAU
- DNA rich in A-T pairs have
  - 2 Hydrogen bonds
  - 1 Hydrogen bond
  - 3 Hydrogen bonds
  - 4 Hydrogen bonds
- The metabolic currency of the cell is known as
  - ATP
  - ADP
  - CTP
  - UDP
- Histidine is converted to histamine through the process of
  - Transamination
  - Decarboxylation
  - Oxidative deamination
  - Urea cycle
- After termination of the synthesis of RNA molecule, the core enzymes separate from the DNA template. The core enzymes then recognize a promoter at which the synthesis of a new RNA molecule commences, with the assistance of
  - Rho ( $\rho$ ) factor
  - $\delta$  factor
  - $\beta$  factor
  - $\sigma$  factor
- Purine biosynthesis is inhibited by
  - Aminopterin
  - Tetracyclin
  - Methotrexate
  - Chloramphenicol
- The protein present in hair is
  - Keratin
  - Casein
  - Gelatin
  - Elastin
- .....is known as carrier of korb's cycle
  - Oxalo acetate
  - Ornithine
  - Carnitine
  - Citric Acid
- The nitrogenous base present in the RNA molecule is
  - Thymine
  - Uracil
  - Xanthine
  - Hypoxanthine

10. Alpha helix and beta pleated sheet was proposed by  
 a. Watson and Crick  
 b. King and Wooten  
 c. Peter Mitchell  
 d. Pauling and Corey
11. Which of the following is a saturated fatty acid is  
 a. Palmitic Acid  
 b. Oleic Acid  
 c. Linoleic Acid  
 d. Erucic Acid
12. The chief protein of cow's milk is  
 a. Albumin  
 b. Vitellin  
 c. Casein  
 d. Livetin
13. Sphingomyelins is  
 a. Phospholipids  
 b. Nitrolipids  
 c. Alcohols  
 d. None of these
14.  $\alpha$ -D-glucose +  $112^\circ \rightleftharpoons 52.5^\circ \rightleftharpoons 19^\circ \beta$ -D-glucose for glucose above represents  
 a. Optical isomerism  
 b. Muta Rotation  
 c. Epimerisation  
 d. D and L isomerism
15. Sucrose consists of  
 a. Glucose + glucose  
 b. Glucose + Fructose  
 c. Glucose + galactose  
 d. Fructose + galactose
16. Zymogen is a  
 a. Modulator  
 b. Enzyme Precursor  
 c. Hormone  
 d. Vitamin
17. Km value of enzyme is substrate concentration at  
 a.  $\frac{1}{2} V_{max}$   
 b.  $2 V_{max}$   
 c.  $4 V_{max}$   
 d.  $\frac{1}{3} V_{max}$
18. During glycolysis, Fructose 1, 6 diphosphate is decomposed by the enzyme  
 a. Enolase  
 b. Aldolase  
 c. Fructokinase  
 d. Diphosphofructose
19. The degradative Processes are categorized under the heading of  
 a. Catabolism  
 b. Metabolism  
 c. Anabolism  
 d. Amphoteric
20. A nucleoside consists of  
 a. Nitrogenous base  
 b. Purine or pyrimidine base + sugar  
 c. Purine or pyrimidine base + phosphorous  
 d. Purine + pyrimidine base + sugar + phosphorous

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**( PART-B : Descriptive )**

Time : 2 hrs. 30 min.

Marks : 35

*[ Answer any seven (7) questions ]*

1. Explain the double helical structure of DNA. 5
  
2. Give Structure and biological significance of ATP. Define Enthalpy and Gibb's Free Energy. Write the relation between entropy, Enthalpy and Gibb's Free Energy 2+2+1  
=5
  
3. Write in detail about urea cycle. 5
  
4. Write a short note on Diabetes Mellitus and Jaundice 2.5+2.5  
=5
  
5. Describe the process of DNA replication. 5
  
6. Derive Michaeli's Menten Equation 5
  
7. Write about formation and utilization of ketone bodies. 2.5+2.5  
=5
  
8. Define and Classify protein and nucleic acid with example 2.5+2.5  
=5
  
9. Define and classify Carbohydrates with suitable example in details. 1+4=5

**( PART-C: Long type questions )**

*[ Answer any two (2) questions ]*

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|---|--------------|
| 1. Define Glycolysis pathway. Write the steps involved in glycolysis pathway with energetic.                                      | 1+8+1<br>=10 |
| 2. Define Enzyme. Classify enzyme with suitable example according to IUB classification. Write the mechanism of action of enzyme. | 1+6+3<br>=10 |
| 3. Explain the process of $\beta$ -Oxidation of fatty acids with energetics. Considering palmitic acid as example.                | 10           |