

PARUL UNIVERSITY
FACULTY OF PHARMACY
B. Pharm. Summer 2018-19 Examination

Semester: 2
Subject Code: BP203T
Subject Name: Biochemistry

Date: 06/04/2019
Time: 02:00pm To 05:00pm
Total Marks: 75

Instructions:

1. Figures to the right indicate maximum marks.
2. Make suitable assumptions wherever necessary.

Q.1 Multiple Choice Questions (MCQs) (1 Mark Each)**(20)**

1. General formula of carbohydrate?
a) $C_n(H_2O)_n$
b) C_2nH_2On
c) $C_nH_2O_2n$
d) $C_nH_2nO_2n$
2. Energy absorbed by
a) Endothermic reaction
b) Exothermic reaction
c) Both (a) and (b)
d) None
3. Type II diabetes is characterized by
a) Lack of insulin
b) Insensitivity of insulin receptor
c) Both (a) and (b)
d) None
4. Choose a keto triose-
a) Glyceraldehyde
b) Dihydroxyacetone
c) Erythrose
d) Arabinose
5. What is phosphorylation?
a) Addition of oxygen
b) Addition of carbon
c) Addition of H_2O
d) None
6. Hypercholesterolemia is referred as?
a) Disorder of urea cycle
b) Metabolic disorder of lipid
c) Metabolic disorder of tyrosine
d) None
7. The sugar found in RNA is-
a) Erythrose
b) Ribulose
c) Deoxyribose
d) None
8. Uncoupler?
a) Dinitroresol
b) Pentachlorophenol
c) 2,4 Dinitrophenol
d) All
9. Free energy change (ΔG) is zero in
a) Endothermic reaction
b) Exothermic reaction
c) Both (a) and (b)
d) Equilibrium
10. The P:O ratio for the oxidation of $FADH_2$ is-
a) 1
b) 2
c) 3
d) 4
11. Which of the following is not needed for DNA transcription?
a) Ribosomes
b) Nucleotides
c) DNA
d) Enzymes
12. The enzyme which builds a mRNA strand complementary to the DNA transcription unit is called:
a) DNA polymerase
b) RNA polymerase
c) Helicase
d) DNA ligase
13. Removal of amino group from the amino acids as NH_3 is-
a) Deamination
b) Transamination
c) Decarboxylation
d) None
14. "Lock and Key" theory of enzyme action was proposed by
a) Fischer
b) Koshland
c) Kuhn
d) Arrhenius

15. Enzymes-
- | | |
|--|---|
| a) Do not require activation energy | b) Do not change requirement of activation energy |
| c) Increase requirement of activation energy | d) Lowest requirement of activation energy |
16. Which of the following ETC components accepts only one electron?
- | | |
|---------------|-----------------|
| a) Oxygen | b) FMN |
| c) Coenzyme Q | d) Cytochrome b |
17. The key regulatory enzyme of HMP shunt pathway is-
- | | |
|------------------------------|-----------------------------|
| a) Glucose 6-P dehydrogenase | b) Transaldolase |
| c) Transketolase | d) Gluconolactone hydrolase |
18. The simplest amino acid is-
- | | |
|------------|---------------|
| a) Proline | b) Methionine |
| c) Glycine | d) Serine |
19. Alkaptonuria disorder occurs due to the deficiency of enzyme?
- | | |
|--------------------------|-------------------------------|
| a) Homogentisate oxidase | b) Phenylalanine hydroxylase |
| c) Tyrosine transaminase | d) Dihydrobiopterin reductase |
20. Which of the following is wrong with respect to cellulose
- | | |
|----------------------------------|-------------------------|
| a) main constituent of cell wall | b) β 1-4 linkage |
| c) present only in plants | d) α 1-4 linkage |

Q.2 Long Answers (any 2 out of 3) (10 Mark Each)

(20)

1. What is the semi-conservative model of DNA replication?. Explain in DNA replication in detail.
2. Define carbohydrate. Explain glycolysis pathway with biological importance.
3. Enlist different type of lipid metabolism disorder. Explain any two in detail.

Q.3 Short Answers (any 7 out of 9) (5 Mark Each)

(35)

1. Define biomolecule. Write down the classification and biological role of carbohydrate.
2. Explain TCA cycle.
3. Define bioenergetics. Differentiate between endergonic and exergonic reaction.
4. Write a short note on transamination and deamination.
5. Give detail note on genetic code.
6. Write a brief about RNA synthesis.
7. Define biological oxidation. Write a short note on ETC.
8. Give detail note on various factors that effect on catalytic activity of enzyme.
9. Explain De Novo synthesis of fatty acids.