

Winter Semester Examination - December - 2018

Semester: I

Subject with Subject Code: Biochemistry (BP203T)

Marks: 75

Duration: 3hrs

Instructions: 0 All questions are compulsory

ID Figures to the right indicate full marks

iii) Draw the diagrams or flow charts wherever necessary.

Q.No. 1 Multiple Choice Questions:

(20 x 1= 20)

- a) The power house of the cell is called as _____
- a) Nucleus b) Cell membrane
c) Mitochondria d) Lysosomes
- b) The general formula of monosaccharides is _____
- a) $C_nH_{2n}O_r$ b) $C_{2n}.H_2O_n$
c) $C_nH_2O_{2n}$ d) $C_nH_{2n}O_{2n}$ /•.
- c) Which of the following is a non-reducing sugar?
- a) Glucose b) Maltose
c) Lactose d) Sucrose
- (1) The sugar found in RNA is _____
- a) Ribose b) Deoxyribose
c) Pentose d) Erythrose
- e) A positive Benedict's test is **NOT** given by _____
- a] Sucrose b) Lactose
c] Maltose d) Glucose
- f) Glucose-6-phosphatase is deficient in _____
- a) Von Gierke's disease b) Pompe's disease
c) Cori's disease d) McArdle's disease
- g) Under anaerobic conditions the glycolysis of one mole of glucose yields ____ moles of ATP.
- a) One b) Two
c) Eight d) Thirty
- 11) Glycogen is converted to glucose-1-phosphate by _____
- a) UDPG transferase b) Branching enzyme
c) Phosphorylase d) Phosphatase

- i) Which of the following is not an enzyme involved in glycolysis?
- | | |
|---------------|--------------------|
| a) Enolase | b) Aldolase |
| c) Hexokinase | d) Glucose oxidase |
- j) Sulphur containing amino acid is _____
- | | |
|---------------|---------------|
| a) Methionine | b) Leucine |
| c) Valine | d) Asparagine |
- k) Phospholipids contains _____ group.
- | | |
|-----------|--------------|
| a) Amino | b) Hydroxyl |
| c) Acetyl | d) Phosphate |
- l) _____ is **NOT** the factor affecting the enzyme activity.
- | | |
|------------------|-------------|
| a) Concentration | b) pH |
| c) Temperature | d) Molarity |
- m) The main site for oxidative deamination are _____
- | | |
|------------------------|--------------------|
| a) Liver & Kidney | b) Skin & Pancreas |
| c) Intestine & stomach | d) Lung & Skin |
- n) The carbohydrate reserved in human body is _____
- | | |
|-------------|------------|
| a) Starch | b) Glucose |
| c) Glycogen | d) Insulin |
- o) RNA is converted to protein by _____
- | | |
|------------------|----------------|
| a) Transcription | b) Translation |
| c) Lipase | d) Kinase |
- p) Which nitrogenous base is not found in structure of RNA?
- | | |
|------------|-------------|
| a) Thymine | b) Uracil |
| c) Guanine | d) Cytosine |
- q) Which of the following is an essential amino acid?
- | | |
|------------|--------------|
| a) Valine | b) Glycine |
| c) Alanine | d) Histidine |
- r) The cellular organelles called "suicide bags" are _____
- | | |
|-------------------|--------------|
| a) Lysosomes | b) Ribosomes |
| c) Golgi's bodies | d) Nucleolus |
- s) Degree of unsaturation of fats and oils is denoted by _____
- | | |
|-----------------------|------------------|
| a) Iodine Number | b) Acid Number |
| c) Phenol Coefficient | d) Acetyl Number |

t) Million reaction is specific for the amino acid.

a) Valine

b) Tyrosine

c) Phenylalanine

d) Arginine

Q.No. 2 Attempt any SEVEN of the following:

(7 x 5 = 35)

- a) Explain Urea cycle in detail.
- b) Describe factors affecting enzyme activity,
- c) Write chemistry and biological significance of cholesterol.
- (l) What is oxidative phosphorylation? **Explain any one mechanism** of oxidative phosphorylation in detail.
- e) Define Lipids. Give its classification and add a note on Complex lipids,
- f) Write a **note high energy compounds**.
- g) Define **Amino** acid. Give its classification and write a note oxidative deamination.
- h) Write a note on DNA replication.
- i) What is diabetes mellitus? Explain types and treatment for diabetes mellitus.

Q.No. 3 Attempt any TWO of the following:

(2 x 10 = 20)

- a) How oxidation of lipids takes place? Write in detail about β -oxidation **with** example and energetic.
- b) What is **glycolysis**? Explain reaction involved in glycolysis with generation of ATP.
- c) What is **carbohydrate**? Give its classification, chemical nature and **biological role** in detail.

*** End ***