

**PARUL UNIVERSITY**  
**FACULTY OF PHARMACY**  
**D. Pharm., May-2019 Examination**

Year : 1

Subject Code: 08600104

Subject Name: Biochemistry and Clinical Pathology

Date: 06/05/2019

Time: 10.00 am to 1.00 pm

Total Marks: 80

**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. The synthesis of glucose from lactate, glycerol, or amino acids is called:
 

a) Glycogenolysis	c) Glycolysis
b) Lipolysis	d) Gluconeogenesis
2. The major source of plant carbohydrate is
 

a) Starch	c) Glycogen
b) Heparin	d) Saccharin
3. Which of the following promotes glucose and amino acid uptake by muscle?
 

a) Insulin	c) Adrenaline
b) Glycogen	d) Cortisol
4. Which of the following nucleotide bases is not found in RNA?
 

a) Thymine	c) Cytosine
b) Adenine	d) Uracil
5. Which of the following is not a dietary antioxidant?
 

a) Vitamin K	c) Lipoic Acid
b) Vitamin A	d) Vitamin C
6. Sulphur containing amino acid is
 

a) Methionine	c) Leucine
b) Valine	d) Aspartate
7. The protein present in hair is
 

a) Keratin	c) Elastin
b) Myosin	d) Collagen
8. Essential fatty acid:
 

a) Linoleic acid	c) Linolenic acid
b) Arachidonic acid	d) All these
9. Good lipoprotein name is
 

a) LDL	c) VLDL
b) HDL	d) IDL
10. Ketone bodies are synthesized in
 

a) Adipose tissue	c) Liver
b) Muscles	d) Brain
11. Vitamin essential for Transamination is
 

a) B <sub>6</sub>	c) B <sub>2</sub>
b) B <sub>1</sub>	d) B <sub>4</sub>
12. Vitamin used in the treatment of homocystinuria is
 

a) B <sub>12</sub>	c) B <sub>2</sub>
b) B <sub>1</sub>	d) B <sub>4</sub>
13. A Holoenzyme is
 

a) Functional unit	c) Apoenzyme
b) Coenzyme	d) All of these

14. Oxidation of one molecule of glucose yields
- |           |           |
|-----------|-----------|
| a) 24 ATP | c) 08 ATP |
| b) 12 ATP | d) 38 ATP |
15. An example of enzyme inhibition:
- |                            |                          |
|----------------------------|--------------------------|
| a) Reversible inhibition   | c) Allosteric inhibition |
| b) Irreversible inhibition | d) All of these          |
16. A component of the respiratory chain in mitochondria is
- |               |                                |
|---------------|--------------------------------|
| a) Coenzyme Q | c) Acetyl coenzyme             |
| b) Coenzyme A | d) Coenzyme containing thiamin |
17. Cobalt is essential component of
- |                    |                   |
|--------------------|-------------------|
| a) B <sub>12</sub> | c) B <sub>2</sub> |
| b) B <sub>1</sub>  | d) B <sub>4</sub> |
18. A purine nucleotide is
- |        |        |
|--------|--------|
| a) AMP | c) CMP |
| b) UMP | d) TMP |
19. Which test difference monosaccharide and disaccharide?
- |                       |                     |
|-----------------------|---------------------|
| a) Seliwanoff 's test | c) Barfoed 's test  |
| b) Iodine's test      | d) Benedict 's test |
20. Rothera test is positive for
- |            |                |
|------------|----------------|
| a) Acetone | c) Albumin     |
| b) Glucose | d) Cholesterol |

**Q.2 Long Answers (any 8 out of 10) (05 Mark Each)**

**(40)**

- Outline the steps involved in Urea cycle along with associated metabolic disorders.
- Discuss in detail Beta oxidation of fatty acid with its energetics.
- Discuss the factors affecting enzyme activity.
- Write structure formula, source, biochemical role and deficiency symptoms of Vitamin B<sub>12</sub> and A.
- Explain the biochemical functions and deficiency symptoms of Iron and Calcium.
- Write a note on abnormal constituents of urine and their significance.
- Explain lymphocytes, platelets and their role in health and diseases.
- Describe Kreb's cycle in detail and calculate its energetics.
- Discuss step involved in biosynthesis of cholesterol.
- Define carbohydrates. Give detail classification of carbohydrates with example.

**Q.3 Short Answers (2 Mark Each){ Answer any 10}**

**(20)**

- Define biochemistry and its importance.
- What is the biological significance of Phospholipids?
- Difference between essential and non essential amino acid.
- Define Iodine No. and Acid value.
- What is coenzyme? Write the importance of coenzyme.
- Compare and contrast of diabetes mellitus and diabetes insipidus.
- Write a note on Phenylketonuria.
- Discuss ketone body formation
- Discuss any two chemical properties of amino acids.
- Write a note on denaturation.
- Give type of anemia.
- Explain "Lock and key model".