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(BIMT & BIPS)
Azara, Hatikrapara,
Gowahaat - 781017

1.4 (D)

Roll No. of candidate

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2020

D. Pharm 1st Year Final Examination

BIOCHEMISTRY AND CLINICAL PATHOLOGY

Full Marks – 80

Time – Three hours

The figures in the margin indicate full marks for the questions.

1. Choose the correct answer from the following: (20 × 1 = 20)
- (i) The average lifespan of RBC is:
- (a) 10 days
 - (b) 30 days
 - (c) 80 days
 - (d) 120 days
- (ii) Synthesis of glucose from amino acid is termed as:
- (a) Glycogenesis
 - (b) Gluconeogenesis
 - (c) Glycolysis
 - (d) Lipogenesis
- (iii) The enzyme required for glycolysis is:
- (a) Hexokinase,
 - (b) Phosphofructokinase,
 - (c) Pyruvate kinase
 - (d) All of the above
- (iv) Which one of the following is called as 'good cholesterol'?
- (a) HDL
 - (b) LDL
 - (c) VLDL
 - (d) All of the above

[Turn over

- (v) What is the main function of Lymphocytes?
- (a) To carry oxygen
 - (b) To provide immunity
 - (c) Helps in blood coagulation
 - (d) All of the above
- (vi) Rickets is a deficiency disease of:
- (a) Vitamin A
 - (b) Vitamin B1
 - (c) Vitamin D
 - (d) Vitamin C
- (vii) In enzyme kinetics V_{max} reflects:
- (a) Enzyme substrate complex
 - (b) Substrate concentration
 - (c) Half of Substrate concentration
 - (d) The amount of an active enzyme
- (viii) Which of the following is an example of fat soluble vitamin?
- (a) Vitamin A
 - (b) Vitamin K
 - (c) Vitamin D
 - (d) All of the above
- (ix) Which one of the following is a example of disaccharide:
- (a) Sucrose
 - (b) Glucose
 - (c) Fructose
 - (d) Cellulose
- (x) The number of milligrams of potassium hydroxide (KOH) required to saponify one gram of fat is called as:
- (a) Acid value
 - (b) Ester value
 - (c) Saponification value
 - (d) Iodine value
- (xi) Which of the following is responsible for blood clotting
- (a) Plasma
 - (b) Platelets
 - (c) Corpuscles
 - (d) Erythrocytes

(xii) Active form Vitamin D is

- (a) Ergocalciferol
- (b) Calcitriol
- (c) Cholecalciferol
- (d) All of above

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(xiii) Which of the following is an example of essential fatty acid

- (a) Palmitic acid
- (b) Linoleic acid
- (c) Oleic acid
- (d) All of the above

(xiv) Which of the following has no nucleus?

- (a) White blood cells
- (b) Red blood cells
- (c) Heart cells
- (d) Lung cells

(xv) 'Oliguria' is an abnormal condition of urine when urine becomes:

- (a) Very concentrated
- (b) Very diluted
- (c) Cloudy
- (d) Milky

(xvi) Deficiency disorder of Vitamin K is:

- (a) Anaemia
- (b) Beri-beri
- (c) Night blindness
- (d) Excess bleeding

(xvii) Mutarotation refers to change in

- (a) PH
- (b) Optical rotation
- (c) Conductance
- (d) Chemical properties

(xviii) Biuret test is done to detect:

- (a) Carbohydrate
- (b) Protein
- (c) Amino acid
- (d) Vitamins

(xix) **Thrombocytosis** is a condition where:

- (a) High level of platelets in the blood.
- (b) Low levels of platelets in the blood
- (c) High level of WBC in the blood.
- (d) Low levels of WBC in the blood

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(xx) Increase level of SGPT indicates:

- (a) Diabetes
- (b) Acute Pancreatitis
- (c) Liver cirrhosis
- (d) All of the above

2. Answer the following questions: (Any six)

(6 × 5 = 30)

(a) Match the following:

- | | |
|--------------------------|---------------------------|
| (i) Polyuria | (1) Marasmus |
| (ii) Vitamin C | (2) Megaloblastic anaemia |
| (iii) Protein deficiency | (3) Dilute urine |
| (iv) Folic acid | (4) Sugar in urine |
| (v) Glycosuria | (5) Scurvy |

(b) Briefly discuss the source, biochemical functions and deficiency disease of Vitamin A and Vitamin D.

(c) Explain the various factors that affect enzyme kinetics.

(d) Discuss about different stages of β oxidation of fatty acid.

(e) What are essential and non-essential amino acids? Write down the properties of amino acids.

(f) Describe about structure and function of proteins.

(g) Write a note on the abnormal constituents of urine and their significance in diseases.

(h) Discuss in details about various abnormalities of leucocytes.

3. Answer the following questions: (Any three)

(3 × 10 = 30)

(a) Discuss different qualitative tests for carbohydrate. Write a short note on disorders related to carbohydrate metabolism.

(b) Give the classification of enzymes. Briefly explain the enzyme kinetics.

(c) Schematically represent the TCA cycle (Krebs cycle) and explain its importance in human.

(d) Classify lipids. Write a note on disease related to lipid metabolism.

(e) Write short note on:

- (i) Diseases associated with Erythrocytes.
- (ii) Urea cycle