# BRAINWARE UNIVERSITY

**Term End Examination 2023**
**Programme – B.Sc.(OTT)-2021**
**Course Name – Biochemistry**
**Course Code - BOTT202**
**( Semester II )**

**Full Marks : 60** **Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

## Group-A
(Multiple Choice Type Question) 1 x 15=15

1. *Choose the correct alternative from the following :*

(i) Vitamin B12 is associated with
a) Iron b) Cobalt
c) Platinum d) Copper

(ii) Wilson disease is correlated with excess storage of
a) Fe b) Zn
c) Cu d) I

(iii) Choose the carcinogen associated with cigarette smoke
a) Benzo-pyrene b) glyphosate
c) 4-nitro-quinolone oxide d) All of these

(iv) A disease that cannot be predicted by increased creatinin kinase level is
a) injuries b) intramuscular injections
c) macroamylsemia d) vigorous exercise

(v) Write the pH of gastric juice
a) 1.5-3.0 b) 5.0-6.8
c) 7.0-9.0 d) 6.0-8.0

(vi) Sandwitch ELISA is used to examine
a) Antigen b) conjugated antigen
c) conjugated antibody d) Antibody

(vii) Identify the disease caused due to riboflavin deficiency
a) pellagra b) mental detoriation
c) cheilosis d) dermatitis

(viii) Associate the exact disease with folate deficiency

a) Pernicious anemia
b) megaloblastic anemia
c) macrocytic anemia
d) hemolytic anemia

(ix) Write the hormone not involved in carbohydrate metabolism

a) glucagon
b) ACTH
c) vasopressin
d) insulin

(x) Trace the derivative of phenylalanine

a) histamine
b) dopamine
c) tyrosine
d) thyroxine

(xi) An example of sulphur containg amino acid is

a) 3-amnio butanoic acid
b) 2- amino 3-methyl butanoic acid
c) 2-amino 3-thiobutanoic acid
d) 2-amino 3- mercaptopropanoic acid

(xii) Select a cell where lysosome is absent

a) Muscle cells
b) RBC
c) Hepatocytes
d) Animal cells

(xiii) Identify the barrier to water soluble substances among the given options

a) Phospholipids
b) nucleus
c) DNA
d) All of these

(xiv) Predict a mechanism for bulk transport across cell membrane

a) Phagocytosis
b) Pinocytosis
c) None of these
d) Both of these

(xv) C- reactive protein , a plasma protein is elevated during inflammation and infections . C-reactive protein is an example of

a) Transport proteins
b) Clotting proteins .
c) Plasma enzymes
d) Acute phase protein

## Group-B

(Short Answer Type Questions) 3 x 5=15

2. Chemical carcinogen initiates cancer-Infer the statement (3)
3. Discuss the properties and function of transmembrane protein (3)
4. Differentiate between DNA and RNA (3)
5. Deficiency of vitamin A causes night blindness.Infer the statement focusing on clinical symptoms of that disease (3)
6. A lab technician added DNA sample in ELISA plate.He did not get any absorbance value.Criticize the result (3)

**OR**

A lab technician added RNA sample in ELISA plate.He did not get any absorbance value.Criticize the result (3)

## Group-C

(Long Answer Type Questions) 5 x 6=30

7. Explain the basic structure of immunoglobulin with suitable diagram (5)
8. Describe the structure and function of Mitochondria (5)
9. Differentiate between diffusion and osmosis (5)
10. Discuss the symptoms for hyperglycemia (5)
11. An hormone assay is performed by ELISA and RIA separately.Differentiate the procedure and result. (5)

12. A researcher forgot to add secondary antibody when he is performing sandwitch ELISA.He did not get any OD.Analyze the result (5)

**OR**

A researcher forgot to add sample when he is performing sandwitch ELISA.He did not get any OD.Analyze the result (5)

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