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# BRAINWARE UNIVERSITY

## Term End Examination 2023
## Programme – B.Sc.(PA)-2020/B.Sc.(PA)-2021
## Course Name – Biochemistry and Hematology
## Course Code - BPA201
## ( 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) Identify the correct general formula of monosaccharides -

a) CnH2nOn b) C2nH2On
c) CnH2O2n d) CnH2nO2n

(ii) Indicate the correct optically inactive amino acid-

a) Glycine b) Serine
c) threonine d) valine

(iii) Write the true facts about blood transfusions:

a) Antigen 'D" determines Rh positivity b) Febrile reaction is due to HLA antigens
c) Anti-d is naturally occurring antibody d) Cryoprecipitate contains all coagulation factors

(iv) Report the correct option.At neutral pH, a mixture of amino acids in solution would be predominantly:

a) Dipolar ions b) Nonpolar molecules
c) Positive and monovalen d) Hydrophobic

(v) Indicate the correct option Enzymes, which are produced in inactive form in the living cells, are called -

a) Papain b) lysozymes
c) apoenzymes d) proenzymes

(vi) Choose the correct option. If mother is Rh- Negative, in second pregnancy indirect antibody test is used to detect ?

a) IgG antibody b) IgM antibody
c) Sensitized RBCs in mother blood d) Sensitized antibodies in mother serum

(vii) Choose the correct option. Hemolytic Disease of new born in manifested ?

a) Mother is Rh Positive, Baby is Rh Negative
b) Mother is Rh Positive, Baby is Rh Positive
c) Mother is Rh Negative, Baby is Rh Positive
d) Mother is Rh Negative, Baby is Rh Negative

(viii) Indicate the correct statement regarding Fischer's 'lock and key' model of the enzyme action -

a) The active site is complementary in shape to that of substance only after interaction
b) The active site is complementary in shape to that of substance
c) Substrates change conformation prior to active site interaction
d) The active site is flexible and adjusts to substrate

(ix) Indicate the correct option .Preformed Vitamin A is supplied by -

a) Milk, fat and liver
b) all yellow vegetables
c) all yellow fruits
d) leafy gren vegetables

(x) Choose the write answer.Gene expression is activation of a gene to produce a specific

a) protein
b) tRNA
c) amino acid
d) DNA

(xi) Predict the correct option .Richest source of Vitamin D is-

a) Fish liver oils
b) Margarine
c) egg yolk
d) butter

(xii) Indicate the correct part of Antigen that reacts with the Antibody :

a) paratope
b) epitope
c) isotope
d) none of these

(xiii) Indicate the correct one.ABO blood grouping is an example of which reaction:

a) precipitation
b) agglutination
c) opsonisation
d) nutralisation

(xiv) Choose the correct answer. The pH of blood is

a) 5.6
b) 2.4
c) 8.4
d) 7.4

(xv) Report the correct one :Other than transfusion, when is it necessary to take the rh factor in consideration?

a) catherization
b) Spleen rupture
c) pregnance
d) blood transfusion

## Group-B

(Short Answer Type Questions) 3 x 5=15

2. Describe the term mutarotation. (3)
3. Describe the structure of DNA double helix. (3)
4. Classify the enzymes (3)
5. Show the anticoagulants used to collect blood for transfusion. (3)
6. Explain Beer Lambert's law . (3)

**OR** (3)

Explain Erythroblastosis fetalis

## Group-C

(Long Answer Type Questions) 5 x 6=30

7. Discuss how will you determine blood sugar on colorimeter. (5)
8. Describe polysaccharides with examples. (5)
9. Describe the structure of DNA double helix. (5)

10. Illustrate the functions of prostaglandins. (5)
11. Appraise the process of the absorption , transport and storage of Vit-B12. (5)
12. Formulate the methods of blood collection for transfusion therapy . (5)

**OR**

How do you manage a Rh negative mother before and after 1st pregnancy (5)

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