



'সমানো মন্ত্র: সমিতি: সমানী'

UNIVERSITY OF NORTH BENGAL

B.Sc. Honours 1st Semester Examination, 2022

CC2-PHYSIOLOGY

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks..

GROUP-A

1. Choose the correct answer (any **five**): 1×5 = 5
- (a) The enzyme which uses H_2O_2 as a substrate is:
(i) Catalase (ii) Malate Dehydrogenase
(iii) Phosphorylase (iv) Ascorbic oxidase
- (b) Second law of thermodynamics defines:
(i) Heat (ii) Work (iii) Enthalpy (iv) Entropy
- (c) Property of fluid that describes its internal resistance is known as:
(i) Viscosity (ii) Friction (iii) Resistance (iv) Internal energy
- (d) The resistance of human body is around:
(i) 5 ohms (ii) 25 ohms (iii) 250 ohms (iv) 1000 ohms
- (e) Which is predominant in normal healthy human:
(i) LDH-1 (ii) LDH-2 (iii) LDH-3 (iv) LDH-4
- (f) Liposomes consist of a bilayer of:
(i) Hydrophilic molecules (ii) Hydrophobic molecules
(iii) Both (i) and (ii) (iv) None
- (g) The unit of absorbed dose is:
(i) Rem (ii) Roentgen (iii) Gray (iv) Sievert
- (h) In TLC amino acids give colour with the reagent:
(i) Bromophenol (ii) Commassie Brilliant blue
(iii) Ninhydrin (iv) Ethidium Bromide
- (i) Which of the following enzyme is typically elevated in alcoholism?
(i) Serum ALP (ii) Serum SGOT
(iii) Serum SGPT (iv) Serum acid phosphatase
- (j) In chromatography, mass movement of the substances is due to:
(i) Diffusion (ii) Electrophoresis
(iii) Paper chromatography (iv) Osmosis

GROUP-B

Answer the following questions (any *three*)

5×3 = 15

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| 2. | Describe different types of bonds involved in protein denaturation. | 5 |
| 3. (a) | Define dipole, polarity and dipole movement. | 3 |
| (b) | What are polar and apolar molecules? | 2 |
| 4. | Explain different types of diffusion and add a note on various factors which influences diffusion. | 5 |
| 5. | Write an account on primary, secondary and tertiary structure of DNA. | 5 |
| 6. | Write notes on nuclear proteins and nucleosomes. | 5 |

GROUP-C

Answer the following questions (any *two*)

10×2 = 20

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| 7. (a) | State the limitations of Michaelis-Menten equation. | 3 |
| (b) | How substrate concentration affect the rates of enzyme-catalyzed reaction? | 3 |
| (c) | Why entropy decreases with increase in temperature? | 2 |
| (d) | Discuss the biological importance of colloids. | 2 |
| 8. (a) | Give an account of programmed cell death. How is it initiated? Give its physio-clinical significance. | 3+2+3 |
| (b) | What are caspases? | 2 |
| 9. (a) | Describe the characteristic feature of carrier mediated transport. | 6 |
| (b) | State the structural difference between prokaryotic and eukaryotic cell. | 4 |
| 10.(a) | Describe the fluid-mosaic model of cell membrane with diagram. | 5+3 |
| (b) | Mention the functions of RER. | 2 |

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