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B.Sc. RNLK-/CIT/21

**2021**

**Physiology**

**[First Semester]**

**Paper - C1T**

*Full Marks : 40*

*Time : 2 hours*

*The figures in the right-hand margin indicate marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

*Illustrate the answers wherever necessary.*

- 1. Answer any five questions : 5×2=10**
- a) What are peroxisomes? 2
  - b) What are isozymes? 2
  - c) What are cytoskeletal elements? 2
  - d) What is an ion channel? Give an example. 1+1
  - e) Define a gap junction. 2

*(Turn Over)*

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- f) What is an apoenzyme? 2
- g) Write the difference between ribozymes and abzymes? 2
- h) Define membrane fluidity. 2

**2. Answer any four questions. 4×5=20**

- a) Mention the functions of lysosomes. Differentiate between Cofactor and prosthetic group.  $2\frac{1}{2}+2\frac{1}{2}$
- b) Differentiate between competitive & non-competitive inhibition with labelled diagram.  $2\frac{1}{2}+2\frac{1}{2}$
- c) What is active and passive transport? Differentiate between them.  $2\frac{1}{2}+2\frac{1}{2}$
- d) Write about the effect on substrate concentration and pH on enzyme action.  $2\frac{1}{2}+2\frac{1}{2}$
- e) What is allosteric modification? What do you understand by rate-limiting enzyme?  $2\frac{1}{2}+2\frac{1}{2}$
- f) Write about Lineweaver Burk equation. What is Michaelis constant? 3+2

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**3. Answer any one question. 10×1=10**

- a) Describe structure of plasma membrane with a labelled diagram. Write a note on Fluid mosaic model of plasma membrane. 5+5
  
- b) State the principle of electron microscope. Describe the electron microscopic structure of nucleolus with its function. 2+4+4