

001/20

**The West Bengal University of Health Sciences**  
**MBBS 1<sup>st</sup> Professional Examination, January 2020**

Subject: Biochemistry

Paper : I

Full Marks : 50

Time : 2 ½ hours

*Attempt all questions. The figures in the margin indicate full marks.*

**Group A**

1. a) Name the membrane phospholipids. Draw the structure of lecithin. Write the products formed by the action of different types phospholipases on lecithin. State the physiological role of lysophospholipids & fatty acids produced by the breakdown of lecithin. 3+1+4+4

or

- b) I) State at least one pathological condition which increases the activity of following enzyme in blood: 4  
ii) Lipase. ii) CPK-MB. iii) RBC glutathione reductase. iv) SGOT  
II) Explain with the help of enzyme velocity curve how following factors regulate the enzyme Activity: 8  
i) Concentration of enzyme. ii) Concentration of substrate. iii) PH. iv) Temperature.

**Group B**

2. Answer *any two* of the following:
- a) Write down the Henderson Hasselbalch equation. Explain the role of kidney in the maintenance of acid base balance in our body. 1+6
- b) Name the components of the electron transport chain with the help of a diagram. Explain how the electron flows from the  $\text{NADH}+\text{H}^+$  to the molecular oxygen through the different components of ETC. 2+5
- c) State different types of transport of molecule across biomembrane. Mention characteristics of Carrier Mediated Transport. Differentiate between Primary active transport with that of secondary active transport. 2+2+3

**Group C**

3. Write a brief account on *any four* of the following: 4 x 3
- a) Phospholipases.  
b) Peptide bond.  
c) RBC Group Antigen.  
d) Thin layer Chromatography.  
e) Glycosides.

**Group D**

4. Explain the following statements: 4 x 3
- a) DNA is alkali resistant, where as RNA is alkali labile. – *easily broken down*  
b) Methotrexate inhibits the formation of Tetrahydrofolate from folic acid.  
c)  $\text{F}_0\text{F}_1$  ATPase give rise to ATP synthesis in intact mitochondria.  
d) HbF has more affinity towards oxygen than HbA.