

**2021**

**BIOCHEMISTRY — HONOURS**

**Fourth Paper**

**(Module - 7)**

**Full Marks : 50**

*The figures in the margin indicate full marks.*

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

Answer **question no. 1** and **any three** questions taking  
**one** each from **Unit-I, Unit-II** and **Unit-III**.

**1.** Answer **any ten** questions :

2×10

- (a) Differentiate between epithelial cells and endothelial cells.
- (b) What is polysome?
- (c) What is the function of tubulin?
- (d) What is flagella? What is its function?
- (e) What is GFR?
- (f) State two biological function of Calcium.
- (g) What is lyophilization?
- (h) Differentiate between SER and RER.
- (i) What is Kwashiorkor disease?
- (j) Define PER.
- (k) Write down two toxic effects of lead.
- (l) Compare the size of a bacteria and protozoa.
- (m) Why does mitochondria carry genome?
- (n) Differentiate between nutrient broth and nutrient agar.
- (o) Define BMR.

**Unit - I**

- 2.** (a) What is endosymbiont theory?  
(b) How is liposome formed? What is the utility of liposome?  
(c) Schematically explain the secretory pathway of a cell involving ER, and Golgi apparatus.

3+(2+1)+4

**Please Turn Over**

3. (a) Explain fluid Mosaic model of biological membrane with a neat diagram.  
(b) Write down the composition of cell wall.  
(c) What is the function of peroxisome?  
(d) Write down one function each for chloroplast, lysosome, mitochondria. 4+2+1+3

**Unit-II**

4. (a) Differentiate between gram positive and gram negative bacteria.  
(b) What is spore? What is the significance of spore formation?  
(c) Explain the phases of growth of a bacteria with a neat diagram and proper labelling.  
(d) What is meant by resistance to antibiotics? 2+2+4+2
5. (a) Write down the mode of action of Penicillin.  
(b) What is the principle of autoclave?  
(c) What is the use of UV radiation? When is it applicable?  
(d) What is probiotic therapy? 3+2+3+2

**Unit-III**

6. (a) Differentiate between acidosis and alkalosis.  
(b) Define selective reabsorption.  
(c) Define NPU, RQ and BV. 2+2+(2×3)
7. (a) What is Diabetes Insipidus?  
(b) Write down one biological function of each manganese, potassium, molybdenum, zinc, phosphorus.  
(c) What is electrolyte imbalance?  
(d) What is the toxic effect of arsenic? 2+5+2+1
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