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Your Roll No . . . .

**5180**

**B.Sc. Prog. / II**  
**LS-203 : CELL BIOLOGY,**  
**BIOCHEMISTRY AND IMMUNOLOGY**  
**(NC – Admissions of 2008 and onwards)**

**Time : 3 Hours**

**Maximum Marks : 75**

*(Write your Roll No on the top immediately on receipt of this question paper )*

Answer **five** questions in **all**, including  
Q No. 1 which is compulsory

1. (a) Expand the following abbreviations :
- |            |           |          |
|------------|-----------|----------|
| (i) NADP   | (ii) GLC  |          |
| (iii) PAGE | (iv) PFK  |          |
| (v) GALT   | (vi) SCID | <b>3</b> |
- (b) Differentiate between the following terms :
- |   |           |
|---|-----------|
| (i) Glucogenic amino acid and ketogenic amino acid                    |           |
| (ii) Oxidative phosphorylation and substrate level of phosphorylation |           |
| (iii) Primary immune response and secondary immune response           |           |
| (iv) Catalase and Catheprins  |           |
| (v) Glyoxisome and Peroxisome   | <b>10</b> |

(c) Match the following :

<b>A</b>	<b>B</b>	
Coenzyme	RER	
Allosteric enzyme	Chloroplast	
Granum	Fatty acids	
$\beta$ -glucosidase	PFK	
Lipase	NAD	
Microsomes	Lysosome	<b>3</b>

(d) Mention the contributions of the following scientists :

- (i) Benda
  - (ii) E. Knoop
- 2**

(e) Say True/False

- (i) Removal of thymus in neonatal stage will not have any adverse effect
  - (ii) Mitochondria is a semiautonomous organell
  - (iii) Gluconeogenesis occurs in kidney cortex
  - (iv) Urea cycle takes place partly in cytoplasm and partly in mitochondria
- 2**

(f) Define the following terms

- (i) Immunogenecity
  - (ii) Turnover number of an enzyme
  - (iii) Anaplerotic reaction
  - (iv) Deamination
  - (v) Amphipathy
- 5**

(g) Mention the location of lymph nodes in human body

**2**

- 2 (a) How does  $C_{16}$  Palmitate gets catabolized to acetyl CoA ? **6**
- (b) Describe the effect of reversible inhibitors on an enzyme activity Give examples **6**
- 3 Describe the fine structure of Mitochondria and how does it help in ATP synthesis ? **12**
- 4 (a) Draw and label the structure of Golgi complex. **3**
- (b) How does golgi complex enrout primary lysosomes into cells ? **3**
- (c) Describe various polymorphic forms of lysosomes and how peroxisomes differ from lysosomes **6**
- 5 (a) Describe the role of following cells in immune responses
- (i) B cells
  - (ii) Neutrophils
  - (iii) T cells
  - (iv) Dendritic cells
  - (v) Eosinophils
  - (vi) Natural killer cells **6**
- (b) Define Allergy How does it develop in an individual ? Mention some allergic reactions **6**

- 6 (a) What is the role of  $\text{NADPH} + \text{H}^+$ ,  $\text{NADH} + \text{H}^+$ , and Ribose 5P in cells ? 3
- (b) How do Ribose 5P and  $\text{NADPH} + \text{H}^+$  are synthesized ? 5
- (c) Describe the process of clonal selection 4
7. Write short notes on any **three** of the following :
- (i) Transamination and Deamination.
- (ii) Ultrastructure of chloroplast
- (iii) Organ specific autoimmune diseases.
- (iv) Radio isotopes used in Biological systems.
- (v) Gel Electrophoresis. 4, 4, 4
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