

[This question paper contains 3 printed pages]

Your Roll No

6849

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M.Sc.-Ph.D. Bio-Medical Sciences / II Sem.

Paper MLS-112- IMMUNO-BIOLOGY

(Admissions of 2008 and before)

Time 3 Hours

Maximum Marks 75

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

All questions are compulsory

- 1 Describe briefly 20
- (a) Epitopes and paratopes
 - (b) TAP1 & TAP2
 - (c) Sandwich ELISA
 - (d) SCID mice
 - (e) Myasthenia gravis
 - (f) NK cells
 - (g) Mast cells
 - (h) B-1 B cells
 - (i) $\gamma\delta$ cells
 - (j) Self Tolerance

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- 2 (a) Explain diagrammatically the T S of Thymus What are the two primary roles of Thymus? What do nude mice and humans with DiGeorge syndrome have in common 6
- (b) Describe four distinct roles played by F_C receptors. 4
- (c) Draw Schematic diagram of a typical IgG molecules 4
- (d) Consider proteins that belong to the immunoglobulin superfamily What do all of these proteins have in common ? Describe two different Ig superfamily members that bind antigen Identify four different Ig superfamily members that donot bind antigen 6
- 3 (a) Explain why a V_H segment cannot join directly with a J_H segment in heavy chain gene rearrangement. 4
- (b) Explain the mechanism of class switching from IgM to IgE. 5
- (c) Explain the terms 6
- (i) Avidity
- (ii) Affinity
- (iii) Cross reactivity
- (iv) Radial immunodiffusion

- 4 Describe the mechanisms of antigen processing and presentation of exogenous and endogenous antigens 10
- 5 (a) Explain the general model of signal transduction mediated by most class I and class II receptors 5
- (b) Describe the early events involved in activation of T_H cell by antigen presenting cell 5