



Name :

Roll No. :

Invigilator's Signature :

CS/M.Sc. (GE)/SEM-3/MSGEN (MBT)-305-B/2010-11

2010-11

IMMUNOTECHNOLOGY

Time Allotted : $1\frac{1}{2}$ Hours

Full Marks : 35

The figures in the margin indicate full marks.

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

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *five* of the following :

5 × 1 = 5

i) T-cell epitope will encounter all *except*

- | | |
|--------|-------------|
| a) MHC | b) Antibody |
| c) TCR | d) APC. |

ii) Superantigen activates

- | | |
|-----------|-------------|
| a) B-cell | b) T-cell |
| c) APC | d) NK-cell. |

iii) Antibodies that impart neonatal immunity are

- | | |
|--------|---------|
| a) IgG | b) IgM |
| c) IgD | d) IgA. |

- ## GROUP – B

Answer any *three* of the following. $3 \times 5 = 15$

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4. Describe four distinct roles played by Fc receptors. In what ways is signal transduction from Fc receptors similar to signal transduction from the B-cell receptor ?
5. Give three examples of non-professional APCs. When are these cells most likely to function in antigen presentation ? 3 + 2
6. What happens when proliferation of activated TH cells occurs in the cytoplasm from the resting inactive form TH cells ?

GROUP – C

(Long Answer Type Questions)

Answer any *one* of the following. 1 × 15 = 15

7. Describe the unique mechanisms each of the following pathogens has for escaping the immune response : 5 + 5 + 5
 - a) African trypanosomes
 - b) *Plasmodium* species
 - c) Influenza virus.
8. What are the advantages and disadvantages of using attenuated organisms as vaccines ? Explain the phenomenon of herd immunity. How does this phenomenon relate to the appearance of certain epidemics ? Explain the relationship between the incubation period of a pathogen and the approach needed to achieve effective active immunization. 5 + 3 + 2 + 5

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