



Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/Int.Ph.D(Mol-Bio)/SEM-3/PHMB-302/2010-11  
2010-11**

**IMMUNOTECHNOLOGY**

Time Allotted : 3 Hours

Full Marks : 70

*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**

**( Objective Type Questions )**

1. Expand any *ten* of the following abbreviations :  $10 \times 1 = 10$

i) PBMC

ii) ISCOMS

iii) ADCC

iv) IVIG

v) HAT

vi) HAMA

vii) GVHD



- viii) LAK
- ix) RAST
- x) TIL
- xi) HGPRT
- xii) MDP
- xiii) LTT.

**GROUP – B**  
**( Short Answer Type Questions )**

Answer any *three* of the following. 3 × 5 = 15

2. Narrate proposed mechanisms of the therapeutic effects of immunoglobulin for intravenous administration.
3. State long term preventive therapy against angioedema resulting from C1-inhibitor deficiency.
4. How is scale-up of suspension culture done ? Briefly describe different procedures for scale-up in monolayer. 2 + 3
5. Narrate immunological mechanisms of specific immunotherapy against allergies. What is the therapeutic potential of IL-10 ?  $2\frac{1}{2} + 2\frac{1}{2}$
6. Elaborate different types of immune mediated inflammation indicating roles of various cytokines.



**GROUP – C**

**( Long Answer Type Questions )**

Answer any *three* of the following.

$3 \times 10 = 30$

7. How can you classify different vaccines ? Describe various new generation vaccines with examples. What is adjuvant ? Name some adjuvants narrating their mode of action.  
 $2 + 3 + 1 + 4$
8. State different physical properties of interferon. How does interferon exert its antiviral effect ? Describe briefly various biological activities of interferon.  
 $2 + 3 + 5$
9. Briefly describe various anti-inflammatory and immunosuppressive drugs with their mechanism of action.
10. What is the principle of production of monoclonal antibody ? Describe the procedure of monoclonal antibody production. How does monoclonal antibody differ from polyclonal antibody ?  
 $3 + 5 + 2$
11. How can you prepare polyclonal antibodies with different types of antigens ? How can you purify antibodies from serum ?  
 $3 + 7$

**GROUP – D**

12. Write short notes on any *five* of the following.  $5 \times 3$
- a) IL-2 fusion toxins
- b) T cell lines

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- c) Th1 vs Th2
- d) Venom immunotherapy
- e) LAK therapy
- f) Xenotransplantation
- g) Lymphoproliferation assay
- h) *In vitro* cytokine assay.

