

UN - 213

V Semester B.Sc. Examination, November/December 2015  
(Semester Scheme) (F+R)

BIOTECHNOLOGY - VI

BTP 503 : Immunology and Animal Biotechnology  
(70 - 2013-14 and Onwards, 60 - Prior to 2013-14)

Time : 3 Hours

Max. Marks : 70/60

- Instructions:**
- 1) 70 marks for students of 2013-14 Onwards.
  - 2) 60 marks for repeater students prior to 2013-14.
  - 3) Section A, B, C, common to all.
  - 4) Section D for students of 2013-14 Onwards.
  - 5) Draw diagram wherever necessary.

SECTION - A

I. Write short notes on the following :

- 1) Haptens
- 2) Passive immunity
- 3) Peptide vaccine
- 4) Serum
- 5) Gene gun method.

(5×2=10)

SECTION - B

II. Answer any four of the following :

- 6) Write an account on the applications of transgenic sheep.
- 7) Discuss the factors affecting antigenicity.
- 8) Explain the technique of Rocket immuno electrophoresis. Add a note on its applications.
- 9) Write an account on enzymatic disaggregation of tissue.
- 10) Describe the Type III hypersensitive reaction with an example.

(4×5=20)

SECTION - C

III. Write any three of the following :

- 11) Explain the structure of IgM. Add a note on the immunoglobulin domains.
- 12) Explain the production of monoclonal antibodies. Add a note on its applications.

(3×10=30)



- 13) Write an account on recombinant vaccines. Discuss their advantages over conventional vaccines.
- 14) a) Describe the role of Thymidine kinase as a selectable marker.  
b) Write an account on the serum free media.
- 15) a) Describe the role of spleen as a secondary lymphoid organ.  
b) Explain single radial immunodiffusion. Add a note on its application.

## SECTION - D

(1×10=10)

IV. Answer the following :

- 16) The method of using electric current to introduce DNA into a cell is called :

- a) Electroplating
- b) Electrophoresis
- c) Electroporation
- d) Lipofection.

- 17) \_\_\_\_\_ immunoglobulin can cross the placenta.

- 18) What are epitopes ?

- 19) A gene that has been introduced into a multicellular organism is called :

- a) Transgene
- b) Cis gene
- c) Progene
- d) Post gene.

- 20)  $CD_4^+$  are surface receptors present on \_\_\_\_\_ cells.

- 21) What are transformed cell lines ?

- 22) \_\_\_\_\_ was awarded the Nobel prize for developing the technique of Radio immuno assay.

- 23) Appearance of a 'spur' in ODD indicates :

- a) Line of identity
- b) Line of partial identity
- c) Line of non identity
- d) None of the above

- 24) What are interleukins ?

- 25) \_\_\_\_\_ are the granulocytes with multilobed nucleus.