

This question paper contains **2** printed pages]

BR—157—2016

FACULTY OF SCIENCE

M.Sc. (Second Semester) EXAMINATION

OCTOBER/NOVEMBER, 2016

(CBCS Pattern)

BIOTECHNOLOGY

Paper (BI-VII)

(Immunotechnology)

(Saturday, 19-11-2016)

Time : 10.00 a.m. to 1.00 p.m.

Time—3 Hours

Maximum Marks—75

N.B. :— (i) All questions are compulsory.

(iii) Draw well labelled diagrams wherever necessary.

1. Explain in brief humoral and cell mediated immunity. 15

Or

(a) Define antibody. Describe types of antibodies. 8

(b) Give an account on hapten and write down general properties of antigen. 7

2. Explain in detail complement activation pathways. 15

Or

(a) Describe delayed type of hypersensitivity. 8

(b) Write down structure and properties of BCR and TCR. 7

3. Describe types of graft and mechanisms involved in graft rejection. 15

Or

(a) Explain in brief multiple sclerosis and write about treatment of autoimmune diseases. 8

(b) Explain autoimmune disease Hashimoto's thyroiditis. 7

P.T.O.

4. Describe primary immunodeficiency diseases with suitable examples. 15

Or

(a) Explain western blotting technique. 8

(b) Describe in brief hybridoma technology. 7

5. Write short notes on (any *three*) : 3×5=15

(a) Hypersensitivity

(b) Autoimmune anemia

(c) T-Cell

(d) ELISA

(e) Recombinant vaccine.