

Registration no:

Total Number of Pages: 02

B.Tech
PCBT4301

5th Semester Regular / Back Examination 2016-17
IMMUNOLOGY AND IMMUNOTECHNOLOGY
BRANCH: BIOTECH

Time: 3 Hours

Max Marks: 70

Q.CODE: Y127

Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.

Q1 Answer the following questions: (2 x 10)

- a) What is an inflammatory immune response ?
- b) Why the lag phase of the secondary immune response is shorter than the primary response. Give reasons?
- c) Cancer cells often have reduced amounts of cell surface proteins, including class I MHC antigens. Which of the cells of the immune system can exploit this property to kill cancer cells?
- d) In order to initiate an adaptive immune response, antigenic peptide must be presented to antigen-specific T cells. Which cell presents this antigen to T cells?
- e) Which substance will not stimulate an immune response unless they are bound to a larger molecule?
- f) B cells mature in the..... while T cells mature in the.....?
- g) A living microbe with reduced virulence that is used for vaccination is called?
- h) What do you mean by SCID?
- i) B cells that produce and release large amounts of antibody are called.....?
- j) What are super antigens? How do they differ from conventional antigens?

Q2 Write short notes on

- a) Clonal selection theory (5)
- b) Gene rearrangement of light chain and Heavy chain (5)

Q3 What do you mean by dysfunction of the immune system? How the dysfunction is modulated in human? (2+8)

Q4 What are autoimmune disorders? Discuss the causes of some of the autoimmune diseases studied by you? (10)

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- Q5** Difference between
- a) Monoclonal and polyclonal antibody? (5)
 - b) Humoral and cell mediated immunity? (5)
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- Q6** a) Major classes , types and function of MHC class–I and class-II molecule. (5)
- b) Organs of the immune system. (5)
- Q7** a) Explain the classical pathway of complement activation? (5)
- b) What do you mean by antibody affinity? How it differ from antigen avidity. (5)
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- Q8** Write short notes on (any two) (5 x 2)
- a) DNA vaccine
 - b) Passive immunity
 - c) Characteristics of an antigen
 - d) Immunological Tolerance
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