Enrollment No: _____ Exam Seat No:_____

C.U.SHAH UNIVERSITY

Winter Examination-2018

Subject Name: Immunology

Subject Code: 4SC05IMM1 **Branch: B.Sc. (Microbiology)**

Semester: 5 **Date: 03/12/2018** **Time : 10:30 To 01:30** **Marks : 70**

Instructions:

(1) Use of Programmable calculator & any other electronic instrument is prohibited.
(2) Instructions written on main answer book are strictly to be obeyed.
(3) Draw neat diagrams and figures (if necessary) at right places.
(4) Assume suitable data if needed.

Q-1 **Attempt the following questions:** **(14)**

a) Define antigen
b) Define Immunogen
c) Define hapten
d) Define epitope
e) Define agglutination
f) Define idiotypic antibody
g) Expand MALT
h) Expand SCID
i) Expand MHC
j) Bone marrow is a primary lymphoid organ. True/ False
k) Immunoglobulin G can cross placenta. True/ False
l) Immunoglobulin A is a pentavalent antibody. True/ False
m) ELISA is based on interaction of ……and ……
n) Eosinophil cells are secreted when a person is …….

Attempt any four questions from Q-2 to Q-8

Q-2 **Attempt all questions** **(14)**

a) Describe the cytosolic and endocytic pathways for antigen processing and presentation **(7)**

b) Differentiate between tumor cell and a cancer cell. Discuss the various therapies available for treatment of cancer **(7)**

Q-3 **Attempt all questions** **(14)**

a) Compare classical and alternative pathways of complement system **(7)**

b) Explain the mechanism of B cell activation, maturation and its differentiation with the help a labeled diagram. Discuss VDJ rearrangement. **(7)**

Q-4 **Attempt all questions** **(14)**

a) Write the general properties and functions of antibodies **(7)**

b) What are the hallmarks of immediate hypersensitivity? What causes these reactions? **(7)**

Q-5 **Attempt all questions** **(14)**

a) Differentiate between polyclonal and monoclonal antibodies. How they are produced? **(7)**

b) Write a short note on the contributions of Edward Jenner and Robert Koch to the field of immunology **(7)**

Q-6 **Attempt all questions** **(14)**

a) Differentiate between humoral and cell mediated adaptive immune response **(7)**

b) What are MHC molecules? Describe with the aid of diagram, the sequence of events by which class I and class II MHC molecules acquire Antigens for display. **(7)**

Q-7 **Attempt all questions** **(14)**

a) Discuss the role of Bone Marrow, Thymus and Spleen as organs of immune system **(7)**

b) Discuss the following immuneodeficient diseases: **(7)**

i) DiGeorge syndrome
ii) Chediak- Higashi syndrome,
iii) Leukocyte adhesion deficiency
iv) CGD

Q-8 **Attempt all questions** **(14)**

a) Write a short note on Immunoelectron microscopy and Immunofluoresence **(7)**

b) Explain the working principle of Western blotting **(7)**