HDR-160322001030400 Seat No. _____

B. Sc. (Sem. III) (CBCS) Examination

November / December – 2017

BI-304 : Immunology & Immunotechnology

(New Course)

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

Instructions : (1) All Questions are Compulsory.
(2) Figures on right side indicates marks.
(3) Draw the figure wherever necessary.
(4) Write answers of all the questions in main answer sheet.

1 (a) Objective questions : **4**

(1) Mother's Milk to baby is _____ type of immunity.

(2) Sinusoids are present in _____ pulp.

(3) Two examples of granulocytes

(4) Anamnestic is power of _____

(b) Answer in brief : (any **one**) **2**

(1) Define immunity

(2) Enlist all cells of immune system

(c) Answer in detail : (any **one**) **3**

(1) Differentiate humoral and cell mediated immune response

(2) Draw detailed structure of thymus

(d) Write a note on : (any **one**) **5**

(1) Types of immunity

(2) Hematopoiesis and types of immunological cells.

2 (a) Objective questions : **4**

(1) Enlist major types of antigen antibody-reactions

(2) Hapten + _____ = Antigen

(3) In allergic response mainly _____ immunoglobulin is present.

(4) Which antibody has pentameric structure?

(b) Answer in brief : (any **one**) **2**

(1) What is immunological tolerance?

(2) Define precipitation reaction.

(c) Answer in detail : (any **one**) **3**

(1) Write details of structure of antigen

(2) Explain whole blood agglutination test with example

(d) Write a note on : (any **one**) **5**

(1) Write a note on immunoregulation

(2) Explain structure and types of immunoglobulin with their functions.

3 (a) Objective questions : **4**

(1) T cell maturation occurs in _____

(2) Bone marrow produces and matures _____ cells.

(3) Full form of MHC.

(4) Self-altered cells are triggered by which MHC class?

(b) Answer in brief : (any **one**) **2**

(1) What is cluster of differentiation?

(2) Draw structure of MHC class II

(c) Answer in detail : (any **one**) **3**

(1) T cell activation

(2) Differentiate MHC class I and Class II.

(d) Write a note on : (any **one**) **5**

(1) Write a note on T cell receptors

(2) Give details of B cell maturation and activation.

4 (a) Objective questions : **4**

(1) Enlist types of hypersensitivity

(2) Autograft

(3) Loss of discrimination in immune system leads to diseases

(4) Complement pathway initiates with activation of Protein

(b) Answer in brief : (any **one**) **2**

(1) Define hypersensitivity

(2) What is HLA?

(c) Answer in detail : (any **one**) **3**

(1) Explain hypersensitivity type III

(2) What is graft versus host rejection?

(d) Write a note on : (any **one**) **5**

(1) Explain classical pathway of complement system.

(2) Write a note on autoimmune disorders.

5 (a) Objective questions : **4**

(1) Polio salk vaccine is a type of _____ vaccine

(2) Give name of malarial parasite.

(3) Widal test is used to detect which disease?

(4) Hela cell line is a type of _____ cells

(b) Answer in brief : (any **one**) **2**

(1) What are attenuated Vaccines?

(2) Write symptoms of rabies

(c) Answer in detail : (Any **one**) **3**

(1) Define serology and haematology

(2) Write a note on AIDS

(d) Write a note on : (any **one**) **5**

(1) Explain hybridoma technique

(2) Write a detailed note on Advance vaccine