

D 11231

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Name.....

Reg. No.....

FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2016

(CUCBCSS-UG)

Microbiology

MBY 5B 11—IMMUNOLOGY

Time : Three Hours

Maximum : 80 Marks

I. Choose the correct answer :

1 The **immunodiffusion** technique used to analyze the identity of antigens is :

- (a) RID. _____ (c) **Immuno-electrophoresis.**
(b) ODD. _____ (d) Counter-current **immuno-electrophoresis.**

2 The serological test having highest sensitivity is :

- (a) **RIA.** _____ (c) **ELISA.** _____
(b) Agglutination test. _____ (d) Immunodiffusion test. _____

3 The **immunoglobulin** class predominantly induced by the thymus independent antigens is :

- (a) **IgA.** _____ (c) **IgG.** _____
(b) **IgM.** _____ (d) **IgE.** _____

4 The scientist described the process of **phagocytosis** is :

- (a) Robert Koch. _____ (c) Richard Porter. _____
(b) Edward **Jenner.** _____ (d) **Elie Metchnikoff.** _____

II. Fill in the blanks :

5 The central lightly stained region of secondary lymphoid follicle is called _____

6 Serum sickness is developed due to _____ hypersensitivity.

7 The endogenous antigens are processed by _____ pathway.

8 The lymphocytes exhibiting the characteristics of both **NK** cells and T cells are called _____

Turn over

III. Answer in one word :

- 9 Name the process involved in the clonal deletion of self-reactive lymphocytes in primary lymphoid organs.
- 10 The fixed macrophages present in connective tissue is called as ;
- 11 Name the scientist proposed the clonal selection theory of antibody production.
- 12 The graft transplanted between homozygous twins is called ;

(12 x = 6 marks)

Part B

*Answer **all** of the following in two to three sentences each.
Each question carries 2 marks.*

- 13 Tonsils.
- 14 Coomb's test.
- 15 Radial immunodiffusion.
- 16 Opsonization.
- 17 IDDM.
- 18 Allotypes.
- 19 Antigenic determinant.
- 20 MHC restriction.
- 21 Vaccines.
- 22 Mast cells.

(10 x 2 = 20 marks)

Part C

*Write short notes on any **six** of the following.
Each question carries 5 marks.*

- 23 Mechanisms of development of auto-immunity.
- 24 sIgA.
- 25 Complement activation in the absence of specific immunity.
- 26 Oncogenes.
- 27 Structure of lymph node.
- 28 Delayed type hypersensitivity.

29 Applications of immunofluorescence.

30 Factors influencing immunogenicity of an antigen.

(6 x 5 = 30 marks)

Part D

Write essays on any two of the following.

Each question carries 12 marks.

31 Discuss the role of immunity in allograft rejection. Describe the methods used for tissue typing.

32 Discuss the merits and demerits of polyclonal and monoclonal antibodies in vivo and in vitro.
Describe the steps involved in monoclonal antibody production.

33 Distinguish between innate and acquired immunity. Discuss the role of leukocytes in immunity.

(2 x 12 = 24 marks)