

P. P. SAVANI UNIVERSITY
Third Semester of B.Sc. Examination
December-2021

10.12.2021, Friday

SSBT2090-Immunology-II
Time: 09:00 a.m. to 11:30 a.m.

Maximum Marks: 60

Instructions:

1. The question paper comprises of two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

Section-I (Total Marks - 30)

Q.1 Short Questions

1.1 Objectives

- 1.1a** Which of the following is the cause of autoimmune diseases?
- A Immune System begins to attack its cells and tissues
 - B Immune System starts producing cells and tissues
 - C Immune System fails completely
 - D Immune System produces WBCs in a huge number
- 1.1b** Commercially available ELISA kits are used for the detection of
- A rotavirus
 - B hepatitis B surface antigen
 - C anti-HIV antibodies
 - D all of these
- 1.1c** Precipitation reaction is relatively less sensitive for the detection of
- A antigens
 - B antibodies
 - C Complement
 - D antigen-antibody complexes
- 1.1d** After giving a vaccine you should always:
- A Observe the recipient for immediate adverse reactions (ADRs)
 - B Keep the recipient under longer observation in the surgery
 - C Keep accurate and accessible records of both the recipient and the vaccine given
 - D All the above
- 1.1e** Neutrophils, basophil, lymphocytes, eosinophil and monocytes are examples of _____
- A Physical barrier
 - B Cellular barriers
 - C Cytokine barriers
 - D Physiological barriers
- 1.1f** IgA and IgG antibodies provide which of the following kinds of immunity to the infant or foetus?
- A Natural Active Immunity
 - B Natural Passive Immunity
 - C Artificial Active Immunity

- D Artificial Passive Immunity
- 1.1g Which of the following is not an autoimmune disorder?
- A Rheumatoid Arthritis
 - B Multiple sclerosis
 - C Influenza
 - D Chronic Hepatitis
- 1.1h Vaccines against viruses are usually
- A Given at birth
 - B Expensive
 - C Either live-attenuated or killed
 - D Mainly polysaccharide
- 1.1i Immunoglobulins are made:
- A In a laboratory from deactivated viruses and bacteria
 - B From the plasma of a person in the acute phase of an infectious disease
 - C From the pooled plasma of blood donors
 - D From protein produced artificially in a laboratory
- 1.1j Which of the following is not an immune system disorder?
- A Allergies
 - B Immunodeficiency
 - C Genetic Disorders
 - D Autoimmune Diseases

1.2 Answer the Following: (MCQ/Short Question/Fill in the Blanks)

[05]

- 1.2a What is immunity?
- 1.2b Passive immunity is fast but lasts for a short duration. True/False
- 1.2c B-cells and T-cells are two types of cells involved in ____ immunity.
- 1.2d What are subunit vaccines?
- 1.2e Describe dendritic cells.

Q.2 Short Notes (Attempt any two)

[06]

- A Lymph nodes and the spleen.
- B Classify adjuvants based on the mechanism of action.
- C The factors on which Ag-Ab binding depends

Q.3 Explain in detail (Attempt any two)

[14]

- A What are the different types of vaccines developed by scientists?
- B Various autoimmune diseases.
- C The hematopoietic stem cells (HSC).

Section-II (Total Marks - 30)

Q.1 Short Questions

1.1 Objectives

[10]

[05]

- 1.1a Which of the following cells is involved in cell-mediated immunity?
- A T-cells
 - B B-cells
 - C Mast cells
 - D Both T and B cells
- 1.1b Which of the following is an autoimmune disease?
- A Addison's disease
 - B Syphilis
 - C Tuberculosis
 - D AIDS
- 1.1c The branch of biology involved in the study of immune systems in all organisms is called_____.
- A Botany
 - B Microbiology
 - C Immunology
 - D Biotechnology
- 1.1d In which of the following diseases the autoantigens are β -cells?
- A Myasthenia gravis
 - B Insulin-dependent diabetes
 - C Multiple sclerosis
 - D Chronic anemia
- 1.1e Which of the following immunity is obtained during a lifetime?
- A Innate immunity
 - B Active immunity
 - C Passive immunity
 - D Both (b) and (c)
- 1.1f Which of the following statements is true about Passive Immunity?
- A This immunity causes reactions
 - B This immunity develops immediately
 - C This immunity lasts only for a few weeks or months
 - D All of the above
- 1.1g Which of the following statements is incorrect regarding Rheumatoid arthritis?
- A It is an autoimmune disorder
 - B It occurs only in old people
 - C Inflammation of synovial fluid
 - D Diagnosed by the presence of rheumatoid factor
- 1.1h Cells Involved In Innate Immunity are_____.
- A Phagocytes
 - B Macrophages
 - C Natural Killer Cells
 - D All of the above

- 1.1i Agglutination reaction is more sensitive than precipitation for the detection of
- A antigens
 - B antibodies
 - C Complement
 - D antigen-antibody complexes

- 1.1j Active immunity is due to _____
- A Killer T-cells
 - B Memory cells
 - C Helper T-cells
 - D Suppressor T-cells

1.2 Answer the Following: (MCQ/Short Question/Fill in the Blanks) [05]

1.2a Define vaccine.

1.2b Active immunity is acquired immunity produced in an individual due to the inoculation of antiserum. True/False

1.2c Skin, body hair, cilia, eyelashes, the respiratory tract, and the gastrointestinal tract are examples of _____.

1.2d What are toxoid vaccines?

1.2e Describe Mast cells.

Q.2 Short Notes (Attempt any two)

- A What is the mechanism of the DNA vaccine? [06]
- B The genetic factors responsible for autoimmune diseases
- C Adjuvants

Q.3 Explain in detail (Attempt any two)

- A Describe the various autoimmune diseases. [14]
- B Describe the hematopoietic stem cells (HSC).
- C The function of secondary lymphoid organs