

**P-509****B. Sc. (Biotechnology) Part - II Examination, 2019****BIOTECHNOLOGY****Paper : VIII****(Immunology)**Time : Three Hours ][ Maximum Marks : 75 ]

**Note :** Attempt all questions from **Section-A** ( Objective type questions), seven questions from **Section-B** (Short answer type questions) and two questions from **Section-C** (Long/Essay type questions).

**SECTION - A****[ Marks : 1 × 10 = 10 ]**

**1.** The study of resistance to disease is called :

- |  |                   |
|--|-------------------|
| (a) Geology  | (b) Geography     |
| <input checked="" type="checkbox"/> (c) Immunology | (d) None of these |

**2.** Functions of WBC is to :

- |   |
|---|
| (a) Carry nutrients   |
| (b) Transport oxygen  |
| (c) Transport carbon dioxide  |
| <input checked="" type="checkbox"/> (d) Protect the body against diseases |

- 3.** For the first six months of its life, a child depends on antibodies : 6
- Receiving in food
  - Obtained from its mother
  - Produced from its immune system cells
  - Acquired from the environment
- 4.** Cells involved in immune mechanisms are :
- |                  |                 |
|------------------|-----------------|
| (a) Erythrocytes | (b) Lymphocytes |
| (c) Thrombocytes | (d) Eosinophils |
- 5.** The opposite to innate immunity is : 6
- |                      |                       |
|----------------------|-----------------------|
| (a) Passive Immunity | (b) Phagocytosis      |
| (c) T cell Immunity  | (d) Acquired Immunity |
- 6.** An antigen is : 6
- |                         |                                     |
|-------------------------|-------------------------------------|
| (a) Result of antibody  | (b) Stimulus for antibody formation |
| (c) Residue of Antibody | (d) Opposite to an antibody         |
- 7.** Oral vaccine prevents the attack of : 6
- |             |             |
|-------------|-------------|
| (a) Cholera | (b) Typhoid |
| (c) Tetanus | (d) Polio   |
- B.** Vaccines are : 6
- Curative medicines
  - Monoclonal Antibodies
  - Treated bacteria or viruses or one of their protein
  - MHC (Major Histocompatibility complex) protein

9. Who discovered the vaccine for small pox?

(a) Edward Jenner

(b) Alfred Russ

(c) Rogers

(d) Thimble

10. An autoimmune disease is:

~~(A)~~ Hæmophilia

(b) Allergy

(c) AIDS

~~(D)~~ Myasthenia gravis

## SECTION - B

[Marks : 5 = 7]

1. Differentiate between innate and specific immunity.

2. Discuss the role of various cells, which fights against foreign particles.

3. What is non-specific immunity and explain their attributes in brief.

4. Write about two autoimmune diseases with examples.

5. Discuss about vaccine and vaccination.

6. Write about immuno-electrophoresis technique and its uses.

7. Write down the role of T cell.

8. Write about iso types and allotypes.

9. Define immune system and immunity.

10. What is Antigen and Antigenicity?

**SECTION – C**

[ Marks :  $15 \times 2 = 30$  ]

1. Write a detailed note on antibodies in targeting therapeutic agents.
  2. Explain in detail humoral immunity.
  3. Explain in detail Genetic basis of creation of antibody diversity.
  4. Give historical perspective of immune system and explain innate and specific immunity.
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