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SF-17011

(553) M.Sc. Zoology (Third Semester) Examination, Dec.-2023

Compulsory / Optional

Paper - III

IMMUNOLOGY AND DEVELOPMENTAL BIOLOGY

Time : Three Hours] *[Maximum Marks : 080*

[Minimum Passing Marks : 26

Note : Answer From both the Section as Directed. The figures in the right-hand margin indicate marks.

Section- A

1. Answer the following objective type type questions: 1×10=10

(i) Which type of immunity develops in the body after birth?

(ii) What is the first antibody produced in response to an antigenic threat?

(iii) Where does antigen binding sites are present?

(iv) What is adjuvant?

(v) What is the ratio of heavy chain and light chain in an antibody molecule?

(vi) What is antigenic drift?

(vii) What is first line of defense?

(viii) Name the part of processed antigen that binds to the MHC molecule and recognized by T cells.

(ix) Why do nerve cells never divide?

(x) What are blastomeres?

2. Answer the following short answer type questions: 2×5=10

(i) Differentiate between primary and secondary lymphoid organs.

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(ii) What are antibody isotypes? Describe their functions.

(iii) What are the main functions of the compliment system?

(iv) What do you mean by morphogenetic movements?

(v) Write a short notes on primitive streak.

Section- B

Answer the following long answer type questions: 15×4=60

3. Describe various cells of immune system.

OR

Are antigen and immunogen are similar? Write about the factors influencing immunogenicity of the pathogen.

4. What is the process of B cell maturation, activation & differentiation?

OR

Give a detail account of classes and subclasses of immunoglobulins.

5. Explore the differences between MHC class I and MHC class II proteins.

OR

What are different types of hypersensitivity reactions?

6. What is cleavage? Write a detail note on its various types and patterns.

OR

Explain the following terms in relation to morphogenesis :

(a) Palisading

(b) Invagination

(c) Evagination

(d) Cell death

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