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6 SEM TDC ZOO M 3

2016

(May)

ZOOLOGY

(Major)

Course : 603

(Molecular Biology and Immunology)

Full Marks : 48
Pass Marks : 19

Time : 2 hours

The figures in the margin indicate full marks for the questions

Answer Question No. **1** and *any* **two** from the rest

1. *(a)* Fill in the blanks : 1×5=5

(i) An endocrine gland associated with immune system is _____.

(ii) When a single mRNA strand is transcribed by more than gene, it is known as _____.

(iii) The Okazaki fragments contain short pieces of DNA known as _____ strand.

(iv) B cells are distinguished from T cells by the presence of _____.

(v) zDNA was discovered by _____.

(b) Choose the correct answer : 1×3=3

(i) DNA replication is conservative/ non-conservative/semi-conservative.

(ii) Tears contain IgA/IgG/All of the above.

(iii) HIV infects all of the following except monocytes/T cells/B cells.

(c) Differentiate between the following (any *two*) : 3×2=6

(i) Transformation and Transduction

(ii) Leading strand and Lagging strand

(iii) Active immunity and Passive immunity

(d) Write short notes on the following (any *two*) : 5×2=10

(i) Helper (T_H) cells

(ii) Genetic code and its properties

(iii) Structural genes

2. What is the role of major histocompatibility complex (MHC)? Explain with schematic diagram MHC class I and class II molecules. 2+(5+5)=12

3. Explain the disorders associated with immunodeficiency and autoimmunity. Write the application of monoclonal antibodies. (4+4)+4=12

4. Establish with experiments using bacteria and bacteriophage that DNA is a genetic material. 6+6=12

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