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6 SEM TDC ZOO M 3

2018

(May)

ZOOLOGY

(Major)

Course : 603

(Molecular Biology and Immunology)

Full Marks : 48

Pass Marks : 19/14

Time : 2 hours

*The figures in the margin indicate full marks
for the questions*

1. (a) Fill in the blanks : 1×5=5

(i) The diameter of the DNA helix in
Watson and Crick model is ____ Å.

(ii) Replication of DNA takes place from
____ direction.

(iii) In an operon, RNA polymerase
binds on ____ gene.

(iv) Allergy is the ____ reaction of the immune system.

(v) Immunodiffusion is a ____ test.

(b) Write short notes on any *two* of the following : $3\frac{1}{2} \times 2 = 7$

(i) Properties of genetic code

(ii) Wobble hypothesis

(iii) Initiation of protein synthesis

2. What is genome organization? Show the genome organization in both prokaryotes and eukaryotes. $2 + 3\frac{1}{2} + 3\frac{1}{2} = 9$

Or

Prove that "DNA is genetic material". 9

3. What is recombination? Discuss the different types of recombination. $2 + 7 = 9$

Or

What is transposon? How does it work? $2 + 7 = 9$

4. Discuss the primary and secondary lymphoid organs. Write in brief the antigen-antibody reaction. $5 + 4 = 9$

Or

What is immune system? Write about the cells and organs involved in immunity. $2 + 7 = 9$

(3)

5. What do you mean by vaccine? Write about the different types of vaccine and process of vaccination. 3+6=9

Or

Write short notes on the following : 3×3=9

- (a) Monoclonal and polyclonal antibodies
- (b) Adjuvant and haptens
- (c) RIA and ELISA
