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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.

(2)

(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".

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. $2 + 7 = 9$

8P/825

(Continued)

(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 : $3 \times 3 = 9$

(a) Monoclonal and polyclonal antibodies

(b) Adjuvant and haptens

(c) RIA and ELISA

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