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6 SEM TDC BOT M 3

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(May)

BOTANY

(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) Express in one word : 1×3=3

(i) Mobile fragments of DNA that move from one part of genome to another part

(ii) Fragments of DNA that synthesized on lagging strand during replication

(iii) A gene that codes for any RNA or protein products other than a regulator gene

(2)

(b) Fill in the blanks : $1 \times 2 = 2$

(i) Hybridoma cell is a hybrid of _____
and myeloma cells.

(ii) A molecule capable of inducing an
immune response in the host
organism is called _____.

(c) Write short accounts on the following :

$3 \times 3 = 9$

(i) Properties of genetic code

(ii) Types of DNA

(iii) Operon concept

2. What is transcription? Describe the
molecular mechanism of transcription in
prokaryotes. $2 + 9 = 11$

Or

What do you mean by gene expression?
Describe the mechanism of gene expression
in prokaryotes. $2 + 9 = 11$

3. What is B-cell? Describe the role of IgG, IgM
and IgA. $2 + 3 + 3 + 3 = 11$

Or

What is plant health management? Write
briefly the interaction of plant health with
bacteria, virus and fungi. $2 + 3 + 3 + 3 = 11$

(3)

4. Write explanatory notes on any *three* of the following : 4×3=12

- (a) Antigen and antibody
- (b) Breeding for disease resistance
- (c) Plasmids
- (d) Bacterial transduction
- (e) Acquired immunity

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