Total No. of Printed Pages—3

6 SEM TDC BOT M 3

2018

(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

(b) Fill in the blanks : 1×2=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 : 3×3=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

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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