6 SEM TDC BOT M 3

2014

(May)

BOTANY

(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

1. *(a)* Write one-word substitution for the following : 1×3=3

(i) A triplet codon at recognition site of tRNA

(ii) A segment of DNA which codes for one polypeptide

(iii) Ability to resist diseases

(b) Fill in the gaps : 1×2=2

(i) Unwinding of DNA double helix is catalyzed by the enzyme ——.

(ii) A gene controlling cancer is called ——.

2. Write short accounts on : 3×3=9

(a) Forms of DNA

(b) Wobble hypothesis

(c) Hybridoma technology

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

Or

How is the regulation of gene expression maintained in organisms? Describe the *lac*-operon mechanism of regulation of gene expression in prokaryotes. 3+8=11

4. What do you mean by plant health management? Describe different approaches for plant health management. 2+9=11

Or

Give the structures of antigen and antibody. Explain the mechanism of antigen-antibody interactions in host. (2+2)+7=11

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

(a) Transduction

(b) Flor's hypothesis

(c) ELISA

(d) Breeding for disease resistance

(e) Transposon

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