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6 SEM TDC BOT M 3

2017

(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) DNA segment in between two exons which is not translatable

   (ii) Unit of function in gene

   (iii) Ability of an organism to resist diseases

(b) Fill in the blanks : 1×

(i) Coding strand of DNA is called ___ strand.

(ii) The gene coding for a protein is known as ___ gene.

(c) Write short notes on the following : 3×

(i) Forms of DNA

(ii) Codon dictionary

(iii) Inflamation in body

2. What is promoter? Describe, with diagrams, the molecular mechanism of transcription in prokaryotes. 2+9=

Or

Put forward your concept on gene regulation and illustrate the process of regulation of gene expression in prokaryotes with the help of lac operon model. 3+8=

3. What do you mean by IPHM? Describe briefly the interaction of plants with bacteria, virus and fungi. 2+3+3+3=

Or

Define acquired immunity and explain the mechanism of antigen-antibody interactions in hosts. 2+9=

(Continued

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

(a) Transformation in bacteria

(b) Codon and anticodon

(c) TATA box

(d) Flor's hypothesis

(e) R-genes in plants

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