

**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 :  $1 \times 2 = 2$

(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 :  $3 \times 3 = 9$

(i) Forms of DNA

(ii) Codon dictionary

(iii) Inflammation in body

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

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.  $3 + 8 = 11$

3. What do you mean by IPHM? Describe briefly the interaction of plants with bacteria, virus and fungi.  $2 + 3 + 3 + 3 = 11$

Or

Define acquired immunity and explain the mechanism of antigen-antibody interactions in hosts.  $2 + 9 = 11$



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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