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R-3813-14

M. Sc. (Sem. IV) (Integrated Biotechnology) Examination

May / June – 2010

IBT-403 : Genetics

(New Course)

Time : **3** Hours] [Total Marks : **70**

R-3813

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **M. Sc. (Sem. 4) (Integrated Biotechnology)**

Name of the Subject :

☛ **IBT-403 : Genetics (New)**

☛ Subject Code No. : **3 8 1 3** ☛ Section No. (1, 2,.....) : **1**

Seat No. :

Student's Signature

(2) Figures to the right indicate full marks of the question.
(3) Draw neat and labeled diagrams wherever necessary.
(4) Both sections must be written in **separate** answer books.

1 Attempt the following : **5**
(1) What are intragenic and intergenic interactions ?
(2) Who proposed one gene enzyme hypothesis ?
(3) State differences between euthentics and euphenics.
(4) What is incomplete dominance ? Give an example.
(5) What is transversion ?

2 What is mutation ? Explain and describe its types. **10**

OR

2 Describe Mendal's laws. **10**

3 Explain :
(a) Generalized transduction **5**
(b) Bacterial Conjugation. **5**

OR

3 Comment on recombination, describe the various models. **10**

4 Short notes : (any **two**) **10**
(a) Transformation
(b) Epistasis
(c) Genetics variation.

R-3814

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Name of the Examination :

☛ **M. Sc. (Sem. 4) (Integrated Biotechnology)**

Name of the Subject :

☛ **IBT-403 : Genetics (New)**

☛ Subject Code No. : **3 8 1 4** ☛ Section No. (1, 2,.....) : **2**

Seat No. :

Student's Signature

(2) Figures to the right indicate full marks of the question.
(3) Draw neat and labeled diagrams wherever necessary.
(4) Both sections must be written in **separate** answer books.

5 Attempt the following : **5**

(1) What is capping ?

(2) Define spliceosome.

(3) What is degeneracy of genetic code ?

(4) What are 'A' and 'P' sites ?

(5) What is protein sorting ?

6 Describe at length transcription in eukaryotes. **10**

OR

6 Explain the mechanism of DNA replication. **10**

7 Compare and contrast translation in prokaryotes and eukaryotes. **10**

OR

7 Explain :

(a) 'Arabinose Operon' **5**

(b) Why allolactose is inducer rather than lactose ? **5**

8 Short notes on any **two** : **10**

(a) t-RNA

(b) Splicing and its signification

(c) Attenuation.
