Total No. of Questions :5]

SEAT No. : ____

P1040

[Total No. of Pages :2

[5317] - 201

S.Y.B.Sc

BIOTECHNOLOGY

Bb - 221: Molecular Biology

(2013 Pattern) (Semester - II)

Time : 3 Hours] ***[Max. Marks :80***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Draw neat labelled diagram wherever necessary.***
3) ***Figures to the right indicate full marks.***

Q1) Answer in 2-3 Sentences: **[10 × 2 = 20]**

a) What is Z- form DNA?

b) Write the conclusions of Grifith experiment.

c) Define: Gene family.

d) What is heterochromatin?

e) What is genetic codes?

f) Role of helicases.

g) What is 'TATA box'?

h) What is silensor region?

i) Role of RNA Pol I.

j) Write two examples of inhibitors of transcription.

Q2) Write short notes on (any three) **[3 × 5 = 15]**

a) Chloroplast genome organisation.

b) Degeneracy of codons.

P.T.O.

c) Signal recognition particles (SRPs).

d) Histone proteins.

Q3) Answer the following (any three). **[3 × 5 = 15]**

a) Write a note on "Wobble Hypothesis".

b) Explain the structure of DNA polymerase III.

c) Give an account of post translational modification of profein.

d) Explain the process of protein transport to chloroplast.

Q4) Answer any one. **[1 × 15 = 15]**

a) Give a detail account of replication process in Eukaryotes.

OR

b) Explain in detail process of translation in prokaryotes.

Q5) a) Describe rho-indepent termination of transcription process in prokaryotes. **[8]**

b) Write a note on DNA damage and repair. **[7]**

OR

a) Explain Arabinose operon as a mean of trancriptional regulation in prokaryotes. **[8]**

b) Give a detail account of non- coding RNAs in Eukaryotes. **[7]**

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