2017/EVEN/09/28/BTY–202/298

PG Even Semester (CBCS) Exam., May—2017

BIOTECHNOLOGY

(2nd Semester)

Course No. : BTYCC–202

(Molecular Biology)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. *(a)* Discuss in detail the organization of the eukaryotic genome. 10

(b) Write a note on cot curve analysis. 4

OR

2. Discuss the following briefly : 3½×4=14

(a) Mitochondrial genome

(b) Satellite DNA

(c) Genome shuffling

(d) DNA reassociation kinetics

3. What is DNA replication? Write molecular mechanism involved in DNA replication of eukaryotes with special reference to replication models. 2+12=14

OR

4. Write about the factors involved in DNA damage. Discuss the processes of DNA repair in eukaryotes and prokaryotes. 4+10=14

5. *(a)* Discuss how DNA methylation can regulate gene expression. 7

(b) What is chromatin? Write how DNAase hypersensitivity test is used to study chromatin structure. 2+5=7

OR

6. Write the mechanism of regulation of transcription in eukaryotes with an emphasis on transcription factors. 14

7. What are the different components of protein synthesis? Discuss briefly the mechanism of protein synthesis. 4+10=14

OR

8. Write in details the mechanism of regulation of translation in prokaryotes. 14

9. Write the process of post-translational modification of protein. Add a note on protein transport and turnover. 9+5=14

OR

10. *(a)* Discuss the importance of rearrangement and amplification of DNA in genome. 10

(b) Write a note on repetitive sequences. 4

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