

M.Sc. Semester - 3 (CBCS) Examination

Oct/Nov. -2019– [OLD COURSE]

GENOME ORGANIZATION AND REGULATION OF GENE EXPRESSION (CORE)

Time: 2:30 Hours

Marks: 70

Instructions:

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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Q 1 ANSWER THE FOLLOWING (ANY SEVEN)**14**

1. What is LINE and SINE?
2. Explain in brief : Linker Histones
3. Give names of three operators in ara operon
4. Write the functions of products of Lac y and Lac a
5. What are mobilizable plasmids?
6. Define : Abortive transduction
7. What are F plasmids and Cryptic plasmids?
8. Give names of prion mediated neurodegenerative diseases.
9. What are tra and cro genes?
10. What is Tn3?

Q 2 ANSWER THE FOLLOWING (ANY TWO)**14**

1. Describe various histone like proteins of prokaryotes
2. Discuss in detail – Levels of genome organization
3. Explain archeal genome organization in detail

Q 3 ANSWER THE FOLLOWING

- A) Explain genetic logic behind the growth of E.coli in presence of monosachharide and disaccharide 05
- B) Explain the role of co repressor in trp operon 05
- C) Describe post transcriptional control mechanisms 04

OR

Q 3 ANSWER THE FOLLOWING

- A) Discuss Trp operon and attenuation 07
- B) Describe versatile roles of ara C protein 07

Q 4 ANSWER THE FOLLOWING (ANY TWO)**14**

1. Describe generalized and specialized transduction in detail.
2. In light of recent knowledge, explain types and roles of plasmids for prokaryotes.
3. Explain molecular basis of conjugation.

Q 5 ANSWER THE FOLLOWING (ANY TWO)**14**

1. Write a detailed note viroids and prions.
2. Discuss genetic control of lysogeny/lytic switch over.
3. Explain viral replication in detail.
4. Describe genetics of Streptomyces and yeast.
