

PE-280
(572) M.Sc. MICROBIOLOGY (SECOND SEMESTER)
Examination JUNE 2022
Compulsory/Optional
Group-
Paper-III

Name/Title of Paper- MICROBIAL GENETICS AND MOLECULAR BIOLOGY

Time: Three Hours

Maximum Marks-080

Minimum Passing Marks-029

नोट: दोनों खण्डों से निर्देशानुसार उत्तर दीजिए। प्रश्नों के अंक उनके दाहिनी ओर अंकित हैं।

Note: Answer From Both the Section as Directed. The Figures in the right-hand margin indicate marks.

Section-A

1- Answer the following question in one word/one sentence:

1x10=10

- a. Chloramphenicol is used to inhibits_____
- b. What do you mean by linking number?
- c. What is the function of Topoisomerase?
- d. What is the function of Helicase?
- e. What is vectors?
- f. Write the name stop codons.
- g. Which rRNA has peptidyl transferase activity?
- h. What is Diauxic growth curve?
- i. Lactose breaks down into which components?
- j. What is Klenow fragment?

2- Write short notes on following:

2x5=10

- a- Write short notes on Wobble hypothesis
- b- What is RNA splicing?
- c- Write the mechanism of action of puromycin.
- d- Discuss the different type of Transposons in brief.
- e- Write short notes on Conjugation

Section-B

Write descriptive answer of the following questions:

15x4=60

Unit-I

3- Write an essay on different type of vectors used in recombinant DNA technology.

Or

What is transduction? Describe different type of transduction and its mechanism.

Unit-II

4- What is the role of RNA polymerase in prokaryotic gene expression?

Or

What is replication? Write the mechanism of prokaryotic DNA replication.

Unit-III

5- What is transcription? Write the molecular mechanism of eukaryotic transcription.

Or

What is Genetic code? Write the role of HG Khorana in discovery of genetic code.

Unit-IV

6- What is gene regulation? With suitable example explain the concept of positive regulation in prokaryotes.

Or

What is operon concept? Describe Ara operon in details.