T.Y.B.SC. SEM – V (CBCS - 2016 Course) : SUMMER - 2019

SUBJECT : MICROBIOLOGY GENETICS OF PROKARYOTES

Day : Thursday
Date : 02/05/2019

S-2019-0871

Time : 11.00 A.M. To 02.00 P.M.
Max. Marks : 60

N.B.

1) All questions are **COMPULSORY.**
2) Figures to the **RIGHT** indicate **FULL** marks.

Q.1 Attempt **ANY TWO** of the following. **(12)**

a) Giving a suitable example, explain in brief transformation in Gram negative bacteria.
b) What are F^+ cells? Write the characteristics of F plasmid.
c) How transducing phages are formed? Give example and characteristics of transducing phages.

Q.2 Attempt **ANY TWO** of the following. **(12)**

a) Giving schematic diagram and write the working of trp operon in following cases.
   i) In presence of tryptophan
   ii) In absence tryptophan
b) Diagrammatically explain replicative transposition.
c) Draw the diagram to show the regulation of competence development in *Bacillus*.

Q.3 Attempt **ANY TWO** of the following. **(12)**

a) Draw the structure and write characteristics of self transmissible plasmid pKM101.
b) Write the role of cAMP in regulation of Lac operon.
c) Write the structure and mechanism of positive regulation in Arabinose operon.

Q.4 Write short notes on **ANY THREE** . **(12)**

a) Competence development
b) Transformation in nature
c) Operon
d) Different types of tranposible elements.

Q.5 Attempt **ANY FOUR** of the following. **(12)**

a) Write characteristics of tra genes of F plasmid
b) Draw the structure of trp opeon.
c) Define and give example of Activator in regulation of an operon
d) Write the significance of transduction.
e) Write three points of comparison between lysogeny and non-lysogeny
f) Diagrammatically explain Artificial transposition.

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