

T.Y.B.SC. SEM – V (2014 COURSE) : WINTER - 2017
SUBJECT: MICROBIOLOGY: GENETICS OF PROKARYOTES

Day : **Wednesday**
Date : **01/11/2017**

Time: **03.00 PM TO 05.00 PM**
Max. Marks: 40

W-2017-0661

N.B.:

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Draw neat and labelled diagram **WHEREVER** necessary.
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Q.1 Attempt **ANY TWO** of the following: **[10]**

- a) Lactose operon is inducible. Explain.
- b) Differentiate between Hfr and F¹ cells.
- c) Describe the role of phage P₂₂ in transduction.

Q.2 Attempt **ANY TWO** of the following: **[10]**

- a) Explain the process of transposition with the help of a suitable diagram.
- b) Explain the process of transformation in Gram positive bacteria.
- c) Describe the attenuation control in tryptophan operon.

Q.3 Attempt **ANY TWO** of the following: **[10]**

- a) Give the importance of four on four test.
- b) How are specialized transducing phage particles formed?
- c) How are Lac mutants useful in the study of operon regulation?

Q.4 Write short notes on **ANY FIVE** of the following: **[10]**

- a) F⁻ cells
- b) Reciprocal recombinants
- c) High MOI
- d) IS elements
- e) Competence
- f) Conjugative plasmid
- g) Donor conjugal synthesis

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