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SEAT No. :

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**[5315] - 137**

**S.Y. B.Sc.**

**BIOTECHNOLOGY - I (Vocational)**

**VOC-Biotech-211 : cell & Molecular Biology and Microbial Genetics  
(2013 Pattern) (Semester-I) (Paper-I)**

*Time : 2 Hours]*

*[Max. Marks : 40*

*Instructions to the candidates:*

- 1) All questions are compulsory.*
- 2) All questions carry equal marks.*
- 3) Neat diagrams must be drawn wherever necessary.*
- 4) Figures to the right indicate full marks.*

**Q1)** Answer each of the following in 1-2 lines:

**[10]**

- a) Define: Endocrine signaling.
- b) What is active transport?
- c) State the role of gap junction.
- d) What is fibronectin protein?
- e) Define nucleotide excision repair.
- f) What is transduction?
- g) How F<sup>-</sup> strain is formed during conjugation?
- h) What are nucleosomes.
- i) Comment on transformation.
- j) Enlist two examples of cell signalling.

**Q2)** Write short notes on any two of the following:

**[10]**

- a) Griffith experiment.
- b) Protein targetting.
- c) Subcellular fractionation of cells.

**P.T.O.**

**Q3)** Attempt any two of the following: **[10]**

- a) Describe insertional sequences with suitable example.
- b) Explain structure and function of nucleus.
- c) Compare gene structure in prokaryotes and eukaryotes.

**Q4)** Explain the process of transcription in prokaryotes in detail. **[10]**

OR

Explain the process of replication in prokaryotes in detail.

