

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: BTECH
BRANCH: BT

SEMESTER : III
SESSION : MO/19

SUBJECT: BE202 CELL AND MOLECULAR BIOLOGY

TIME: 3 HOURS

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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- Q.1(a) Evaluate the complexity of Eukaryotic cell over prokaryotic cell. [5]
Q.1(b) Draw a fluid mosaic model of cell membrane and list the different kind of movement of components within bilayer. [5]
- Q.2(a) Describe about the different modes of cell-cell communications? [5]
Q.2(b) What is signal Amplification? How c-AMP is activated via GPCR? [5]
- Q.3(a) Describe with suitable diagram, the different level of chromatin packing? [5]
b) What are the stages of Mitosis cell cycle? How cell growth and Apoptosis play a vital role in shaping the growing embryo structure? [5]
- Q.4(a) How DNA get damaged? Explain different mechanisms to repair DNA. [5]
Q.4(b) Describe different transport mechanism across the membrane? [5]
- Q.5(a) What is signal sequence? A protein is engineered to have signal sequence Lys-Asp-Glu-COO⁻ what will be fate of the protein expressed inside the cell. [5]
Q.5(b) What kind of transport mechanism is there between cell organelles? Draw a simplified 'roadmap' of protein transport across the cell organelles? [5]

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