

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

CLASS: MSC
BRANCH: BIOTECH.

SEMESTER : I
SESSION : MO/19

SUBJECT: BT401- MOLECULAR CELL BIOLOGY

TIME: 3:00 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 handbook/Graph paper etc. to be supplied to the candidates in the examination hall.
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- Q.1(a) Give the ultra-structure of Golgi complex and also mention their functions. [5]
Q.1(b) Explain the organization of a mitochondria with suitable diagram. [5]
- Q.2(a) Explain the structure of DNA mentioning their differences with RNA. [5]
Q.2(b) Define centrifugation. Explain the principle of centrifugation with proper equation. [5]
- Q.3(a) What do you understand by cell junction? Describe different types of cell junctions in brief. [5]
Q.3(b) Microtubules structure is said to be dynamic. Justify your answer with proper figures. [5]
- Q.4(a) What is signal transduction? What do you understand by signal crosstalk and signal integration? [5]
Q.4(b) Describe the structure and mechanism of action of G-linked protein receptors. [5]
- Q.5(a) What is cell cycle? Explain different phases of cell cycle and their check points. [5]
Q.5(b) Explain the mechanism of intracellular control of cell cycle with proper diagrams. [5]

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