

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

**CLASS: M.Sc
BRANCH: BIOTECH**

**SEMESTER :
SESSION : MO/2025**

SUBJECT: BT429 CONCEPT OF NANOBIO TECHNOLOGY

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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		CO	BL
Q.1(a)	"Nanoscale is a magical point on dimension scale". Explain Why?	[5] CO1	L5
Q.1(b)	List the different Top-Down approaches for nanofabrication? Explain any one in detail.	[5] CO2	L1,2
Q.2(a)	Classify nanomaterials based on dimensionality? Briefly explain each category.	[5] CO1	L2
Q.2(b)	"Fullerens are advanced allotropes of carbon". Justify? Describe a method for its production?	[5] CO1	L2,5
Q.3(a)	Support with suitable explanation how nanoscale characterization has revolutionized Nanotechnology?	[5] CO2	L5
Q.3(b)	Differentiate between SEM and TEM with proper schematics?	[5] CO2	L4
Q.4(a)	Discuss about Information driven nanoassembly with suitable examples?	[5] CO3	L2
Q.4(b)	Describe the concept of "nanobiomachines in action"? Support with natural and man-made examples.	[5] CO3	L2
Q.5(a)	Describe the principle, working and applications of optical nanobiosensor?	[5] CO4	L2
Q.5(b)	Analyze the impact of nanotechnology on society and industry?	[5] CO4	L4

:02/05/2025:E