

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

CLASS: MTECH
BRANCH: BT

SEMESTER : II
SESSION : SP/19

SUBJECT: BT429 CONCEPT IN NANOBIO TECHNOLOGY

TIME: 3.00 Hrs.

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

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