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

CLASS: M.TECH/PRE-PHD **SEMESTER : II/I**
BRANCH: BIOTECH **SESSION : SP/2024**

SUBJECT: BE602 ADVANCES IN NANOBIOTECHNOLOGY

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.

			CO	BL
Q.1(a)	"Nanometer is a magical point on dimension scale". Justify suitably?	[5]	CO1	BL5
Q.1(b)	Discuss the salient properties of Carbon nanotube and its method for fabrication with suitable representation?	[5]	CO1	L2
Q.2(a)	Enlist the major nanomaterials characterization techniques? Explain any one in detail?	[5]	CO2	BL1,2
Q.2(b)	Compare the advantages and disadvantages of biosynthesis method over conventional nanofabrication techniques	[5]	CO2	BL4
Q.3(a)	Define nanomotors? Discuss with suitable example about different known biomolecular nanomotors?	[5]	CO3	L1,L2
Q.3(b)	Define S Layers? Illustrate their unique structure, properties and function?	[5]	CO3	L1,L2
Q.4(a)	Define a nanobiosensor? Explain the principle, working and application of carbon nanotube nanobiosensor?	[5]	CO3	BL1,2
Q.4(b)	Define a biosensor? Explain the principle of a biosensor and salient characteristics of a biosensor?	[5]	CO3	BL1,2
Q.5(a)	“Nanotechnology has revolutionized the biomedical field”. Justify with supporting examples?	[5]	CO4	L5
Q.5(b)	Evaluate the nanotoxicological challenges with its impact on health and environment?	[5]	CO4	L4

::::::24/04/2024::::::E