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

CLASS: B.TECH **SEMESTER : V**
BRANCH: BIOTECHNOLOGY **SESSION : MO/2023**

SUBJECT: BE213 PHARMACEUTICAL BIOTECHNOLOGY

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.**

			CO	BL
Q.1(a)	'Nature removes junk DNA before transcription, after transcription and during post translational modification', justify.	[5]	1	5
Q.1(b)	What is 'direct drug design'? Sketch steps of structure based drug design and explain it.	[5]	1	3
Q.2(a)	What is gene testing? Propose two methods with steps to identify the diseases genes.	[5]	2	6
Q.2(b)	Discuss the role of PCR in disease diagnosis. Construct a method to identify SNP in a gene of a person.	[5]	2	6
Q.3(a)	What do you mean by oncogenes? Sketch out how the proto-oncogenes are activated?	[5]	2	3
Q.3(b)	What do you mean by gene therapy? What are their major objectives? Compare various approaches of gene therapy.	[5]	2	5
Q.4(a)	Assemble various consequences of microbial presence during pharmaceutical formulations.	[5]	3	6
Q.4(b)	What are excipients? With respect to tablet preparation, illustrate the roles of diluents, binders, disintegrants and glidants.	[5]	3	3
Q.5(a)	Assemble steps about the biosynthetic production of insulin by genetically engineered E. coli? Present your answer with the help of suitable diagram.	[5]	4	6
Q.5(b)	Demonstrate the pathway to construct the Hepatitis B antigen. Also construct the suitable vector and microorganism for its production by r-DNA technique.	[5]	4	6

::::::28/11/2023::::::M