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

CLASS: MSc **SEMESTER : II**
BRANCH: BIOENGINEERING & BIOTECHNOLOGY **SESSION : SP/2025**

SUBJECT: BT407 GENOMICS

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)	Describe the characteristic features of prokaryotic genomes.	[5]	1	2
Q.1(b)	Discuss the significance of central dogma in the flow of genetic information.	[5]	2	2
Q.2(a)	Discuss the advantages of next generation sequencing technique over traditional Sanger sequencing technique.	[5]	2	2
Q.2(b)	Give a brief note on comparative genomics.	[5]	3	2
Q.3(a)	Compare the genomic libraries and cDNA libraries.	[5]	2	4
Q.3(b)	Give a brief account on the applications of polymerase chain reaction techniques.	[5]	2	2
Q.4(a)	Differentiate between structural and functional genomics.	[5]	3	4
Q.4(b)	Write a brief note on the human genome project.	[5]	2	2
Q.5(a)	Discuss the important factors that need to be considered when choosing a bacterial expression system for recombinant protein production.	[5]	4	3
Q.5(b)	Write a brief note on role of genomics in value addition of crops.	[5]	4	2

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