

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

**CLASS: M. Sc./PRE-PHD
BRANCH: BIOTECHNOLOGY**

**SEMESTER : I
SESSION : MO/2023**

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.

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		CO	BL
Q.1(a)	Critically evaluate the differences between prokaryotic and eukaryotic genome.	[5] 1	4
Q.1(b)	Discuss the importance of chromosome structure and function in genomics.	[5] 1	4
Q.2(a)	Critically assess the importance of candidate gene discovery and data mining in genomics.	[5] 3	5
Q.2(b)	Evaluate the usefulness of genome annotation in whole genome sequencing research.	[5] 2	5
Q.3(a)	Discuss the importance of various blotting techniques in genomics.	[5] 1	4
Q.3(b)	Make a pictorial sketch explaining the DNA microarray based differential gene expression study in leaf and root samples.	[5] 2	6
Q.4(a)	Write about the advances made in tomato genomics and its importance in tomato improvement.	[5] 4	4
Q.4(b)	Write about the advances made in rice genomics and its role in assuring the food security.	[5] 3	5
Q.5(a)	Evaluate the application of genomics in the development of value-added crops.	[5] 4	5
Q.5(b)	Justify that advances in genomics has helped in the drug discovery research.	[5] 4	5

:::::: 21/11/2023::::::E