

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

**CLASS: MSc
BRANCH: BIOTECHNOLOGY**

**SEMESTER : III
SESSION : MO/2024**

SUBJECT: BT504 MOLECULAR GENETICS & PHARMACOGENOMICS

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.
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		CO	BL
Q.1(a)	Contrast the prokaryotic and eukaryotic genomes. Also compare proteins complexed with genomic DNA in prokaryotic and eukaryotic genomes.	[5] 1	4
Q.1(b)	Formulate steps to analyze the genomic DNA.	[5] 4	6
Q.2(a)	Formulate steps to identify single nucleotide polymorphisms in a single gene approach analysis.	[5] 3	6
Q.2(b)	Examine different parameters used to analyze SNPs in whole genome.	[5] 3	4
Q.3(a)	Design a method to develop receptor based drug by using a specific receptor involved in a disease.	[5] 1	6
Q.3(b)	Demonstrate features of pharmacophore? Derive a pharmacophore to develop new drug required for a disease P.	[5] 1	6
Q.4(a)	What do you mean by Multi Drug resistance gene? Relate polymorphism reported in MDR1 gene by using labelled diagram.	[5] 4	4
Q.4(b)	Describe features of human P glycoproteins. Organize P glycoproteins observed in absorption, transport and excretion performing organs.	[5] 4	4
Q.5(a)	Relate pharmacogenomic aspects of cancer with therapy of 6-mercaptopurine.	[5] 2	4
Q.5(b)	Demonstrate features of neurodegenerative disorders. Execute cytochrome 450 system to explain neurodegenerative disorders.	[5] 2	3

:22/11/2024:E