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Total No. of Questions : 09

B.Sc.(BT) (2014 to 2017) (Sem.-2)

GENETICS

Subject Code : BSBT-110

M.Code : 47014

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. Answer briefly :

- Define a gene.
- What is lethal mutation?
- What are autotrophs?
- Name any one genetic disease.
- What is polycistronic mRNA?
- What is splice variant?
- What is maternal inheritance? Where is it present?
- Give any two difference between the mRNA formed in prokaryotes and eukaryotes.
- What is sex linked inheritance?
- Who has proposed one gene one enzyme hypothesis?

SECTION-B

2. What is dosage compensation?
3. Explain Hardy Weinberg rule by citing an example.
4. Diagrammatically explain replica plating method for isolation of auxotrophs?
5. What is comparative genomics?
6. How transcription of gene is regulated in prokaryotes?

SECTION-C

7. Write short notes on **any two** :
 - a) Sex chromatin
 - b) Evolutionary genetics
 - c) Gene prediction
 - d) Triplet coding
8. Discuss about the genetics underlying cancer.
9. Discuss about the different types of chromosomal variation leading to mutation.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.