

Roll No.

Total Pages : 2

GSE/M-20
BOTANY
(Genetics-II)

1488

Time : Three Hours]

[Maximum Marks : 40

Note : Attempt *five* questions in all, selecting *two* questions from each unit. Question No. 1 is compulsory (short answer type). All questions carry equal marks.

Compulsory Question

1. Answer the following :
 - (a) Name the structural components of genetic material.
 - (b) What do you mean by palindromic sequences?
 - (c) Define Law of purity of gametes.
 - (d) Define Codominance.
 - (e) Differentiate between genetic and somatic mutations.
 - (f) What are "jumping genes"?
 - (g) What are conjugated proteins?
 - (h) Define plasmagenes. (8×1=8)

UNIT-I

2. (a) Describe physical properties of DNA. (5)
 - (b) Write a note on repetitive DNA. (3)

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3. Describe in detail various properties of Genetic code. (8)
4. (a) What is the importance of Mendelism? Give its drawbacks and reasons of Mendel's success. (4)
(b) Describe incomplete dominance with at least *one* example. (4)
5. (a) What are supplementary genes? Explain with an example. (4)
(b) Write a note on duplicate genes. (4)

UNIT-II

6. Describe the following :
 - (i) Physical mutagens. (5)
 - (ii) Transposons. (3)
 7. Write upon :
 - (i) RNA polymerase enzyme. (2)
 - (ii) Translation. (6)
 8. Explain primary and secondary structure of proteins.
How proteins are classified? (8)
 9. Write notes on :
 - (i) Structure of lac operon. (3)
 - (ii) Plasmids and their significance. (5)
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