

Model Question Paper
Botany-Cell Biology and genetics-Part II
12th Standard

Biology

Reg.No. :

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I. Answer all the questions.
II. Use blue pen only.

Time : 01:00:00 Hrs

Total Marks : 65
5 x 1 = 5

Part-A

- 1) Biochemical mutants of _____ failed to synthesize certain amino acids
(a) Sorghum (b) Neurospora (c) Cicer arietinum (d) Cicer gigas
- 2) The Gametes of Drosophila melanogaster carry
(a) three chromosomes (b) four chromosomes (c) seven chromosomes (d) eight chromosomes
- 3) Nullisomy is represented by
(a) $2n - 1$ (b) $2n + 1$ (c) $2n + 2$ (d) $2n - 2$
- 4) RNA is universally present in all organisms except in _____.
(a) TMV (b) bacteria (c) algae (d) DNA viruses
- 5) mRNA is about _____ of the RNA content of the cell
(a) 10 - 20% (b) 5 - 10 % (c) 3 - 5 % (d) 20 - 30%

Part-B

- 6) Why has 'one gene one enzyme hypothesis' been modified into 'one gene one polypeptide hypothesis'?
- 7) Define genome.
- 8) State the Percentage of human genome performing various activities.
- 9) What is Linkage?
- 10) What is coupling ?

5 x 3 = 15

Part-C

- 11) Explain the coupling aspect in Lathyrus odoratus.
- 12) Explain the repulsive aspect in Lathyrus odoratus.
- 13) Write short notes on Recombination of Chromosomes.
- 14) Write short notes on gene mutation.
- 15) Write short notes on mutagenic agents.

5 x 5 = 25

Part-D

- 16) a) What is the significance of mutation?
b) Write short notes on inversion.
- 17) a) Write the significance of ploidy.
b) Illustrate allopolyploidy with an example.

2X10=20
