



Avinashilingam Institute for Home Science and Higher Education for Women
(Deemed to be University Estd. u/s 3 of UGC Act 1956, Category A by MHRD)
Re-accredited with A++ Grade by NAAC. CGPA 3.65/4, Category I by UGC
Coimbatore - 641 043, Tamil Nadu, India

Continuous Internal Assessment –II October 2024
V Semester

Class: III UG
Branch: Botany

Time: 2 Hours
Max. Marks: 60

21BBOC13 Genetics

Course Outcomes:

- CO1** :Understand the various functions of plants.
CO2: Gain knowledge about the various aspects of physiological processes in plants
CO3: Gain knowledge on biochemical and metabolic aspects of plants
CO4: To study the hormonal and induction patterns in plants
CO5: Understand the physiology behind flowering and fruiting
CO6: Knowledge on methods of data collection and the application of statistics in solving biological problems.

Part A

6x1=6

Choose the Correct Answer

- | | | |
|---|---|-------|
| 1 | Which among the following is the non-ionizing radiation?
a.X ray b. Gamma ray c. UV ray d. Alpha ray | CO3K1 |
| 2 | First identified gaseous mutagen is
a.Methyl methanesulfonate b. Ethyl methanesulfonate
c. Ethylene oxide d. Mustard gas | CO3K1 |
| 3 | When monoploidy occurs in gametes, then it is termed as
a.Haploidy b. Diploidy c. Triploidy d. Tetraploidy | CO4K1 |
| 4 | When ploidy involves only homologous chromosomes sets, then it is called as
a.Autoployploidy b. Allopolyploidy
c. Diploidy d. Tetraploidy | CO4K1 |
| 5 | Which among the following is the start codon in eukaryotes?
a. CAG b. UAG c. AUG d. UAA | CO5K1 |
| 6 | Viruses which infect bacteria and causes lysis are called as
a.Lysogenic virus b. Bacteriophages
c. Lipolytic virus d. Lysozymes | CO5K1 |

Part B

3x6=18

Answer ALL Questions

(Answer should not exceed 400 words or two pages)

- | | | |
|----|--|-------|
| 7a | Write a short note on physical factors which induce mutation.
OR | CO3K2 |
| 7b | Write a short note on biological factors which induce mutation. | CO3K2 |
| 8a | How does polyploidy be artificially induced?
OR | CO4K2 |
| 8b | Polyploidy is beneficial to human society-Justify | CO4K4 |
| 9a | Define the following;
i. Gene ii. Initiation codon iii. Termination codon
OR | CO5K2 |
| 9b | With neat diagrams explain the mode of reproduction in bacteriophage. | CO5K2 |

Part C

3x12=36

Answer ALL Questions

(Answer should not exceed 800 words or four pages)

- | | | |
|-----|--|-------|
| 10a | Define mutation. Explain the characteristics and types of mutation.
OR | CO3K2 |
| 10b | Write an essay on mutagens. | CO3K2 |
| 11a | Define aneuploidy. Explain the types of aneuploidy with suitable examples.
OR | CO4K2 |
| 11b | Define euploidy. Explain the types of euploidy with examples. | CO4K2 |
| 12a | Elaborately describe the identification of genetic material.
OR | CO5K2 |
| 12b | Describe one gene one enzyme concept | CO5K2 |