

COMMON QUARTERLY EXAM-2022

Standard XII

Reg.No.

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BOTANY

Time : 3.00 hrs

Marks : 70

PART - I

Note: i) Answer all the questions.

ii) Choose the most Suitable answer from the given four alternatives and write the option code and the Corresponding answer. 15 x 1 = 15

- The extreme tip of the pollen tube appears hemispherical and transparent, is called as:
 - Synergid
 - Obturator
 - Cap block,
 - Microspore
- Assertion : Sporopollenin preserves pollen is fossil deposits
Reason : Sporopollenin is resistant to physical and biological decomposition.
 - Assertion is true; reason is false
 - Assertion is false; reason is true
 - Both Assertion and reason are not true
 - Both Assertion and reason are true
- Coelenterata is found in.
 - Paddy
 - Bean
 - Pea
 - Tridax
- _____ reported a lethal gene in snapdragon.
 - E. Baur
 - Gregor Mendel
 - N. Batson
 - Nilsson - Ehle
- The Epistatic effect, in which the dihybrid cross 9 : 3 : 3 : 1 between AaBb, Aabb is modified as
 - Dominance of one allele in another allele of both loci,
 - Interaction between two alleles of both loci,
 - Dominance of one allele to another allele of same loci
 - Interaction between two alleles of same loci
- _____ is responsible for the production of Anthocyanin pigment.
 - Amino acid
 - Nucleic acid
 - Proteins
 - Fat
- Which one of the following pairs of codons is correctly matched with their function or the signal for the particular amino acid.
 - UUA, UCA - Leucine
 - GUU, GCU - Alanine
 - UAG, UGA - stop
 - AUG, ACG - Start / methionine.
- Crossing over occurs during _____ Stage of meiosis
 - Pachytene
 - Tetrad
 - Metaphase - I
 - Metaphase - II
- DNA dependent RNA polymerase catalyzes transcription in one strand of the DNA, which is called _____
 - Alpha strand
 - Anti strand
 - Template strand
 - Coding strand
- Match the Following.

Column A	Column B
1. Totipotency	A. Reversion of mature cells into meristem
2. Dedifferentiation	B. Biochemical and structural changes of cells.
3. Explant	C. Properties of living cells develop into entire plant.
4. Differentiation	D. Selected plant tissue transferred to culture medium.

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|----|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| a) | C | A | D | B |
| b) | A | C | B | D |
| c) | B | A | D | C |
| d) | D | B | C | A |

(2)

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11. An antibiotic gene in a vector usually helps in the selection of
 - a) Competent cells
 - b) Transformed cells
 - c) Recombinant cells
 - d) None of the Above
12. In tomato, _____ is help in delaying the ripening process
 - a) polyhydroxyalkanoates
 - b) Polyhydroxybutrates
 - c) polygalacturonase
 - d) glutamine synthetase
13. Single cell protein is produced from _____ Fungi
 - a) Spirulina
 - b) Chlamydomonas
 - c) Chlorella
 - d) Agaricus compestris
14. Somatic embryogenesis is reported in which plant
 - a) Oryza sativa
 - b) Catharanthus roseul
 - c) Cinchona
 - d) Digitalis purpurea
15. _____ is used as solidifying agent in media preparation.
 - a) Ethanol
 - b) mercuric chloride
 - c) Agar
 - d) Sodium

PART - II

II. Answer any Six of the following. Question No:24 is Compulsory.

6 x 2 = 12

16. The tapetum is dual in origin? Give reason?
17. Distinguish mound layering and air layering?
18. What is cryopreservation?
19. Name the chemicals used in gene transfer?
20. What is PCR?
21. Describe transposons?
22. Write the purpose of Tailing?
23. Define pleiotrophy?
24. Give the names of the scientists who rediscovered Mendalism?

PART - III

III. Answer Six of the following Question No 33 is Compulsory.

6 x 3 = 18

25. List out the names of nuclei in an eight nucleated embryo sac?
26. If the F_2 generation progeny, 787 of 1064 plants are tall and 277 of 1064 were dwarf. From this result Find out which type of cross is this? write the phenotype and genotype ratio.
27. List out the Importance of crossing over?
28. Differentiate upstream and Downstream process of Bioreactor?
29. What are the three fundamental principles of Tissue culture?
30. Write the Applications of Somatic Embryogenesis?
31. Draw and Label the parts of polyembryony. Embryo sac?
32. What is Atavism? Give example?
33. What do you know about the word PBR332?

PART - IV

5 x 5 = 25

IV. Answer all Questions:-

34. Draw and Explain Dicot seed structure? [Or]
Discuss the steps involved in Microsporogenesis?
35. Bring out the inheritance of chloroplast gene with an example. [Or]
Name the seven contrasting traits of Mendels?
36. Explain the DNA replication in Eukaryotes? [Or]
Mention the name of man-made cereal? How it is formed?
37. Write the steps involved in Recombinant DNA Technology? [Or]
Mention the Application of Biotechnology?
38. Write the protocol for Artificial seed Preparation? [Or]
Explain Sterilization technique involved in plant tissue culture.
