

CHAPTER TEST -1
BIO-BOTANY**Std / Dept : 12****Time Allowed : 40 MIN****Max. Marks : 20****5 * 1 = 5****MULTIPLE CHOICE QUESTION**

1. Choose the correct statement from the following
 - a) Gametes are involved in asexual reproduction
 - b) Bacteria reproduce asexually by budding
 - c) Conidia formation is a method of sexual reproduction
 - d) Yeast reproduce by budding
2. First cell of male gametophyte in angiosperm is
 - a) Microspore
 - b) Megaspore
 - c) Nucleus
 - d) Primary Endosperm Nucleus
3. A Plant called X possesses small flower with reduced perianth and versatile anther. The probable agent for pollination would be
 - a) water
 - b) air
 - c) butterflies
 - d) beetles
4. Assertion : Sporopollenin preserves pollen in fossil deposits.
Reason : Sporopollenin is resistant to physical and biological decomposition.
 - a) Assertion is true; reason is false
 - b) Assertion is false; reason is true
 - c) Both Assertion and reason are not true
 - d) Both Assertion and reason are true
5. Which of the following represent megagametophyte?
 - a) Ovule
 - b) Embryo sac
 - c) Nucellus
 - d) Endosperm

VERY SHORT ANSWER**2 * 2 = 4**

6. Define the term Diplospory.
7. What is layering?

SHORT ANSWER**2 * 3 = 6**

8. A detached leaf of Bryophyllum produces new plants. How?
9. What is polyembryony? How it can commercially exploited?

LONG ANSWER**1 * 5 = 5**

10. Give a detailed account on parthenocarpy. Add a note on its significance

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CHAPTER TEST - 2
BIO-BOTANY**Std / Dept : 12****Time Allowed : 40 MIN****Max. Marks : 20****MULTIPLE CHOICE QUESTION****5 * 1 = 5**

1. Fruit colour in squash is an example of
 - a) Recessive epistasis
 - b) Dominant epistasis
 - c) Complementary genes
 - d) Inhibitory genes
2. Test cross involves
 - a) Crossing between two genotypes with recessive trait
 - b) Crossing between two F1 hybrids
 - c) Crossing the F1 hybrid with a double recessive genotype
 - d) Crossing between two genotypes with dominant trait
3. Select the period for Mendel's hybridization experiments
 - a) 1856 - 1863
 - b) 1850 - 1870
 - c) 1857 - 1869
 - d) 1870 - 1877
4. Select the correct statement from the ones given below with respect to dihybrid cross
 - a) Tightly linked genes on the same chromosomes show very few combinations
 - b) Tightly linked genes on the same chromosomes show higher combinations
 - c) Genes far apart on the same chromosomes show very few recombinations
 - d) Genes loosely linked on the same chromosomes show similar recombinations as the tightly linked ones
5. The dominant epistasis ratio is
 - a) 9 : 3 : 3 : 1
 - b) 12 : 3 : 1
 - c) 9 : 3 : 4
 - d) 9 : 6 : 1

VERY SHORT ANSWER**2 * 2 = 4**

6. Define Genetics.
7. Give the names of the scientists who rediscovered Mendelism.

SHORT ANSWER**2 * 3 = 6**

8. Explain the law of dominance in monohybrid cross.
9. Name the seven contrasting traits of Mendel.

LONG ANSWER**1 * 5 = 5**

10. Differentiate continuous variation with discontinuous variation.

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CHAPTER TEST - 3 BIO-BOTANY

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Max. Marks : 20

MULTIPLE CHOICE QUESTION**5 * 1 = 5**

1. An allohexaploidy contains
 - a) Six different genomes
 - b) Six copies of three different genomes
 - c) Two copies of three different genomes
 - d) Six copies of one genome
2. Due to incomplete linkage in maize, the ratio of parental and recombinants are
 - a) 50 : 50
 - b) 7 : 1 : 1 : 7
 - c) 96.4 : 3.6
 - d) 1 : 7 : 7 : 1
3. Which of the following sentences are correct?
 1. The offspring exhibit only parental combinations due to incomplete linkage.
 2. The linked genes exhibit some crossing over in complete linkage.
 3. The separation of two linked genes are possible in incomplete linkage.
 4. Crossing over is absent in complete linkage.
 - a) 1 and 2
 - b) 2 and 3
 - c) 3 and 4
 - d) 1 and 4
4. Changing the codon AGC to AGA represents
 - a) missense mutation
 - b) nonsense mutation
 - c) frameshift mutation
 - d) deletion mutation
5. Assertion (A) : Gamma rays are generally use to induce mutation in wheat varieties.
Reason (R) : Because they carry lower energy to non-ionize electrons from atom.
 - a) A is correct. R is correct explanation of A.
 - b) A is correct. R is not correct explanation of A.
 - c) A is correct. R is wrong explanation of A.
 - d) A and R is wrong.

VERY SHORT ANSWER**2 * 2 = 4**

6. Draw the diagram of different types of aneuploidy.

7. 
From the above figure identify the type of mutation and explain it.

SHORT ANSWER**2 * 3 = 6**

8. What is gene mapping? Write its uses.
9. Write the salient features of Sutton and Boveri concept.

LONG ANSWER**1 * 5 = 5**

10. How sex is determined in monoecious plants. write their genes involved in it.

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CHAPTER TEST - 4
BIO-BOTANY**Std / Dept : 12****Time Allowed : 40 MIN****Max. Marks : 20****MULTIPLE CHOICE QUESTION****5 * 1 = 5**

1. Consider the following statements:
I. Recombinant DNA technology is popularly known as genetic engineering is a stream of biotechnology which deals with the manipulation of genetic materials by man invitro
II. pBR322 is the first artificial cloning vector developed in 1977 by Boliver and Rodriguez from E.coli plasmid
III. Restriction enzymes belongs to a class of enzymes called nucleases.
Choose the correct option regarding above statements.
a) I & II b) I & III c) II & III d) I, II & III
2. In which techniques Ethidium Bromide is used?
a) Southern Blotting techniques b) Western Blotting techniques
c) Polymerase Chain Reaction d) Agrose Gel Electroporosis
3. Plasmids are
a) circular protein molecules by bacteria b) required
c) tiny bacteria d) confer resistance to antibiotics
4. An analysis of chromosomal DNA using the southern hybridisation technique does not use
a) Electrophoresis b) Blotting
c) Autoradiography d) Polymerase Chain Reaction
5. Which one of the following is not correct statement?
a) Ti plasmid causes the bunchy top disease
b) Multiple cloning site is known as Polylinker
c) Non viral method transfection of Nucleic acid in cell
d) Polylactic acid is a kind of biodegradable and bioactive thermoplastic

VERY SHORT ANSWER**2 * 2 = 4**

6. What are the enzymes you can used to cut terminal end and internal phospho di ester bond of nucleotide sequence?
7. Name the chemicals used in gene transfer.

SHORT ANSWER**2 * 3 = 6**

8. What do you know about the word pBR322?
9. How do you use the biotechnology in modern practice?

LONG ANSWER**1 * 5 = 5**

10. Is their any possibilities to transfer a suitable desirable gene to host plant without vector? Justify your answer

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CHAPTER TEST - 5

BIO-BOTANY

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Max. Marks : 20

5 * 1 = 5

MULTIPLE CHOICE QUESTION

- Totipotency refers to
 - capacity to generate genetically identical plants.
 - capacity to generate a whole plant from any plant cell / explant.
 - capacity to generate hybrid protoplasts.
 - recovery of healthy plants from diseased plants.
- Match the following :

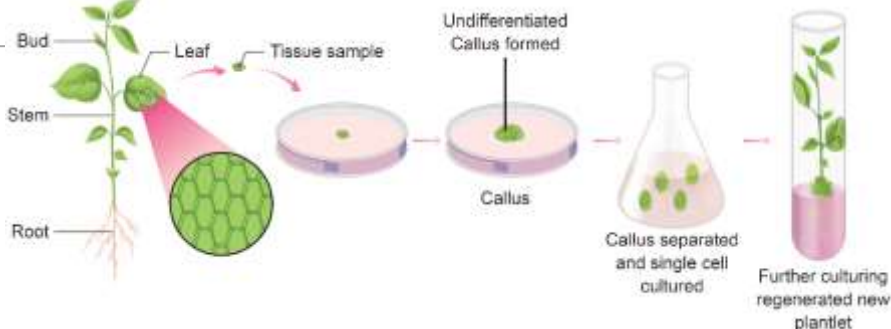
Column A	Column B
1. Totipotency	A. Reversion of mature cells into meristem
2. Dedifferentiation	B. Biochemical and structural changes of cells
3. Explant	C. Properties of living cells develops into entire plant
4. Differentiation	D. Selected plant tissue transferred to culture medium

 - 1-C, 2-A, 3-D, 4-B
 - 1-A, 2-C, 3-B, 4-D
 - 1-B, 2-A, 3-D, 4-C
 - 1-D, 2-B, 3-C, 4-A
- Which of the following statement is correct?
 - Agar is not extracted from marine algae such as seaweeds.
 - Callus undergoes differentiation and produces somatic embryoids
 - Surface sterilization of explants is done by using mercuric bromide
 - PH of the culture medium is 5.0 to 6.0
- Virus free plants are developed from
 - Organ culture
 - Meristem culture
 - Protoplast culture
 - Cell suspension culture
- Solidifying agent used in plant tissue culture is
 - Nicotinic acid
 - Cobaltous chloride
 - EDTA
 - Agar

VERY SHORT ANSWER

2 * 2 = 4

- What is the name of the process given below? Write its 4 types.



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7. Give the examples for micro propagation performed plants.

SHORT ANSWER

2 * 3 = 6

8. How will you avoid the growing of microbes in nutrient medium during culture process? What are the techniques used to remove the microbes?

9. Write the various steps involved in cell suspension culture.

LONG ANSWER

1 * 5 = 5

10. Explain the basic concepts involved in plant tissue culture.

CHAPTER TEST - 6 BIO-BOTANY

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MULTIPLE CHOICE QUESTION

5 * 1 = 5

- Ophrys an orchid resembling the female of an insect so as to be able to get pollinated is due to phenomenon of
 - Myrmecophily
 - Ecological equivalents
 - Mimicry
 - None of these
- Sticky glands of Boerhaavia and Cleome support
 - Anemochory
 - Zoochory
 - Autochory
 - Hydrochory
- A specific place in an ecosystem, where an organism lives and performs its functions is
 - habitat
 - niche
 - landscape
 - biome
- Ecology is the study of an individual species is called
 - Community ecology
 - Autecology
 - Species ecology
 - Synecology
 - i only
 - ii only
 - i and iv only
 - ii and iii only
- Identify the A, B, C and D in the given table.

Interaction	Effects on species X	Effects on species Y
Mutualism	A	(+)
B	(+)	(-)
Competition	(-)	C
D	(-)	0

- A-(+), B-Parasitism, C-(-), D-Amensalism
- A-(-), B-Mutualism, C-(+), D-Competition
- A-(+), B-Competition, C-(0), D-Mutualism
- A-(0), B-Amensalism, C-(+), D-Parasitism

VERY SHORT ANSWER

2 * 2 = 4

- What is Albedo effect and write their effects?
- The organic horizon is generally absent from agricultural soils because tilling, e.g., plowing, buries organic matter. Why is an organic horizon generally absent in desert soils?

SHORT ANSWER

2 * 3 = 6

- What is mutualism? Mention any two example where the organisms involved are commercially exploited in modern agriculture.
- How is rhytidome act as the structural defence by plants against fire?

LONG ANSWER

1 * 5 = 5

- What are the advantages of seed dispersal?

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CHAPTER TEST - 7
BIO-BOTANY

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Time Allowed : 40 MIN

Max. Marks : 20

MULTIPLE CHOICE QUESTION

5 * 1 = 5

1. Profundal zone is predominated by heterotrophs in a pond ecosystem, because of
a) with effective light penetration b) no effective light penetration
c) complete absence of light d) a and b
2. Which of the following is not a abiotic component of the ecosystem?
a) Bacteria b) Humus
c) Organic compounds d) Inorganic compounds
3. Pond ecosystem is
a) not self sufficient and self regulating
b) partially self sufficient and self regulating
c) self sufficient and not self regulating
d) self sufficient and self regulating
4. Which of the following is / are not a natural ecosystem?
a) Forest ecosystem b) Rice field
c) Grassland ecosystem d) Desert ecosystem
5. Which of the following is not a sedimentary cycle?
a) Nitrogen cycle b) Phosphorous cycle
c) Sulphur cycle d) Calcium cycle

VERY SHORT ANSWER

2 * 2 = 4

6. Pyramid of energy is always upright. Give reasons.
7. Construct the food chain with the following data. Hawk, plants, frog, snake, grasshopper.

SHORT ANSWER

2 * 3 = 6

8. Name of the food chain which is generally present in all type of ecosystem. Explain and write their significance.
9. Generally in summer the forest are affected by natural fire. Over a period of time it recovers itself by the process of successions. Find out the types of succession and explain.

LONG ANSWER

1 * 5 = 5

10. Various stages of succession are given bellow. From that rearrange them accordingly. Find out the type of succession and explain in detail. Reed-swamp stage, phytoplankton stage, shrub stage, submerged plant stage, forest stage, submerged free floating stage, marsh meadow stage.

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CHAPTER TEST - 8 BIO-BOTANY

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Time Allowed : 40 MIN

Max. Marks : 20

MULTIPLE CHOICE QUESTION

5 * 1 = 5

1. One of the chief reasons among the following for the depletion in the number of species making endangered is
 a) over hunting and poaching b) green house effect
 c) competition and predation d) habitat destruction
2. One green house gas contributes 20% of total global warming and another contributes 60%. These are respectively identified as
 a) N_2O and CO_2 b) CFCs and N_2O
 c) CH_4 and CO_2 d) CH_4 and CFCs
3. Find the wrongly matched pair.
 a) Endemism - Species confined to a region and not found anywhere else.
 b) Hotspots - Western ghats
 c) Ex-situ Conservation - Zoological parks
 d) Sacred groves - Saintri hills of Rajasthan
4. The unit for measuring ozone thickness
 a) Joule b) Kilos
 c) Dobson d) Watt
5. With respect to Eichhornia.
 Statement A: It drains off oxygen from water and is seen growing in standing water.
 Statement B: It is an indigenous species of our country.
 a) Statement A is correct and Statement B is wrong.
 b) Both Statements A and B are correct.
 c) Statement A is correct and Statement B is wrong.
 d) Both statements A and B are wrong.

VERY SHORT ANSWER

2 * 2 = 4

6. What is ozone hole?
7. Expand CCS.

SHORT ANSWER

2 * 3 = 6

8. Which one gas is most abundant out of the four commonest greenhouse gases?
 Discuss the effect of this gas on the growth of plants?
9. How do forests help in maintaining the climate?

LONG ANSWER

1 * 5 = 5

10. Explain afforestation with case studies.

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CHAPTER TEST -9 BIO-BOTANY

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Max. Marks : 20

MULTIPLE CHOICE QUESTION

5 * 1 = 5

1. Progeny obtained as a result of repeat self pollination a cross pollinated crop to called
 - a) pure line
 - b) pedigree line
 - c) inbreed line
 - d) heterosis
2. Match list I with list II.

List I Biofertilizer i) Free living N ₂ ii) Symbiotic N ₂ iii) P Solubilizing iv) P Mobilizing a) i-c, ii-a, iii-b, iv-d c) i-a, ii-c, iii-b, iv-d	List II Organisms a) Aspergillus b) Amanita c) Anabaena azollae d) Azotobactor b) i-d, ii-c, iii-a, iv-b d) i-b, ii-a, iii-d, iv-c
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3. While studying the history of domestication of various cultivated plants _____ were recognized earlier.
 - a) Centres of origin
 - b) Centres of domestication
 - c) Centres of hybrid
 - d) Centres of variation
4. Which one of the following crop varieties correct matches with its resistance to a disease?
 - a) Pusa Komal - Bacterial blight
 - b) Pusa Sadabahar - White rust
 - c) Pusa Shubhra - Chilli mosaic virus
 - d) Brassica - Pusa swarnim
5. Assertion : Genetic variation provides the raw material for selection
 Reason : Genetic variations are differences in genotypes of the individuals.
 - a) Assertion is right and reason is wrong.
 - b) Assertion is wrong and reason is right.
 - c) Both reason and assertion is right
 - d) Both reason and assertion is wrong.

VERY SHORT ANSWER

2 * 2 = 4

6. What are the different types of hybridization?
7. Explain the best suited type followed by plant breeders at present.

SHORT ANSWER

2 * 3 = 6

8. How are microbial inoculants used to increase the soil fertility?
9. List out the new breeding techniques involved in developing new traits in plant breeding.

LONG ANSWER

1 * 5 = 5

10. Write a note on heterosis.

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CHAPTER TEST - 10
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1. Groundnut is native of _____.
a) Philippines b) India
c) North America d) Brazil
2. Find out the correctly matched pair
a) Rubber - Shorea robusta b) Dye - Lawsonia inermis
c) Timber - Cyperus papyrus d) Pulp - Hevea brasiliensis
3. The active principle trans-tetra hydro canabial is present in
a) Opium b) Curcuma
c) Marijuana d) Andrographis
4. New world species of cotton
a) Gossypium arboreum b) G. herbaceum
c) Both a and b d) G. barbadense
5. Observe the following statements and pick out the right option from the following:
Statement I - Perfumes are manufactured from essential oils.
Statement II - Essential oils are formed at different parts of the plants.
a) Statement I is correct
b) Statement II is correct
c) Both statements are correct
d) Both statements are wrong

VERY SHORT ANSWER**2 * 2 = 4**

6. Write the cosmetic uses of Aloe
7. What is pseudo cereal? Give an example.

SHORT ANSWER**2 * 3 = 6**

8. If a person drinks a cup of coffee daily it will help him for his health. Is this correct? If it is correct, list out the benefits.
9. Which is called as the "King of Bitters"? Mention their medicinal importance.

LONG ANSWER**1 * 5 = 5**

10. What are psychoactive drugs? Add a note Marijuana and Opium.