



Padalsalai's Telegram Groups!

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12 - BIOLOGY – BOTANY

Chapter 1 - Asexual and Sexual Reproduction in Plants

One Marks Answers

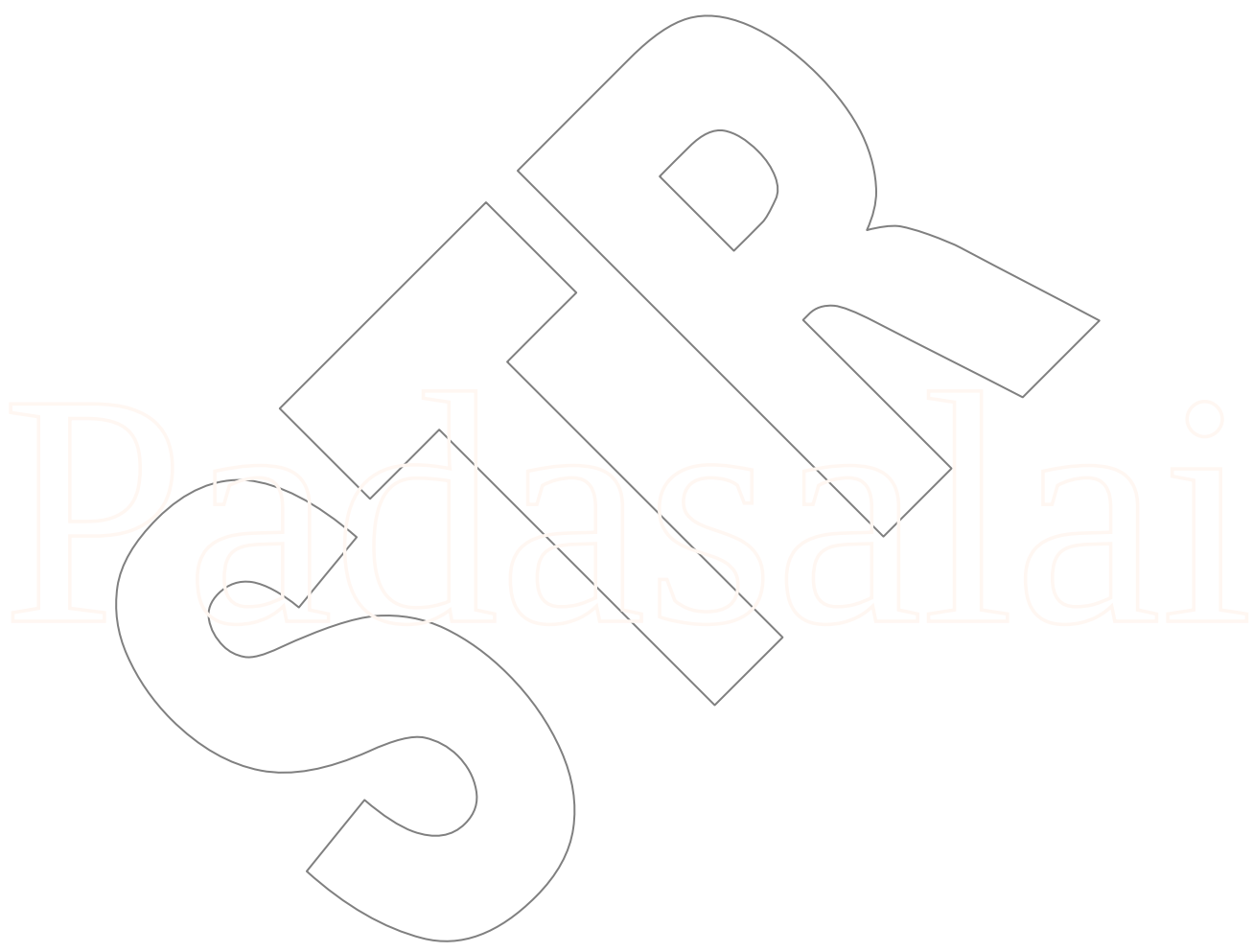
1. d) Yeast reproduce by budding
2. b) P.Maheswari
3. c) Rhizome – Musa
4. b) G.B.Amici
5. a) 10 micrometer
6. a) Microspore
7. b) I-iii; II-iv; III-i; IV-ii
8. d) Tapetum, middle layers endothecium epidermis
9. c) Nucellus – Nutritive tissue for developing embryo
10. d) Both Assertion and reason are true.
11. a) Sporogenous cell is hypodermal & d) ovules have single layer of nucellus tissue
12. b) Embryo sac
13. b) 6
[None: The diploid tissue with $2n = 4$ but the primary endosperm is a triploid condition so the cell will have $2 \times 3 = 6$ chromosome, hence primary endosperm cell has the 6 chromosome]
14. c) Styler region of gynoecium
15. d) hilum
16. b) air
17. b) ii and iv are correct
18. a) Paddy

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- 19. d) seed
- 20. b) 2 celled stage



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CHAPTER 2 – CLASSICAL GENETICS

One Marks Answers

1. a) Mitochondria and chloroplasts
2. d) aabb
3. d) two
4. d) Skin Colour in humans
5. d) Round seeds with yellow cotyledons and wrinkled seeds with yellow cotyledons
6. c) Crossing the F₁ hybrid with a double recessive genotype
7. d) 50:50
8. b) Test cross
9. a) Tightly linked genes on the same chromosomes show very few combinations
10. d) Co-dominance
11. b) Dominant epistasis
12. c) Pod length
13. c) Dominance of one allele to another alleles of same loci
14. a) The two genes are located on two different chromosomes
15. d) four

[Note: The genes controlling the seven pea characters studied by Mendel are now known to be located on 4 different chromosome (1, 4, 5, 7) and not 7 chromosomes. Genes for seed colour and flower colour are located on chromosome 1. Genes for height, inflorescence and pod shape are

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located on chromosome 4. Gene for pod colour are located on chromosome 5. Gene for seed shape is located on chromosome 7.]

16. b) Chromosome theory
17. c) Law of segregation
18. a) Epistatic
19. a) Dominance
20. b) 12:3:1
21. a) 1856 – 1863
22. b) Trichomal glandular or non-glandular



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CHAPTER 3 – CHROMOSOMAL BASIS OF INHERITANCE

One Marks Answers

1. c) Two copies of three different genomes
2. d) 45 AB, 45 ab, 5 Ab, 5aB
3. c) 3 and 4
4. b) Possibility of double cross over
5. c) 96.4 : 3.6
6. b) SHGL
7. b) A to G, C to T, C to G and T to A
8. 34 and 37
9. a) missense mutation
10. c) A is correct. B is wrong explanation of A
11. c) 9 cM

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CHAPTER 4 – PRINCIPLES AND PROCESSES OF BIOTECHNOLOGY

One Marks Answers

1. d) both b and c
2. d) confer resistance to antibiotics
3. c) GAATTC
4. b) Hybridization of DNA of one organism to that of the others.
5. d) I, II & III
6. d) IV, III, I, II
7. c) 5' GAATTC 3' 3' CTTAAG 5'
8. c) Plasmid Boliver and Rodriguez
9. Enzymes
10. d) c d a b
11. d) Agrose Gel Electrophoresis
12. e) Both assertion and reason are false

[Solution: *Agrobacterium tumefaciens* infects certain plants in which Ti plasmid (not chromosomal genome) causes the formation of tumour like growth called a crown gall. *Agrobacterium* does not infect grasses (i.e., cereals).]

13. a) Ti plasmid causes the bunchy top disease
14. d) Polymerase Chain Reaction
15. b) Transformed cells
16. d) High yield and resistant to boll worms

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CHAPTER 5 – PLANT TISSUE CULTURE

One Marks Answers

1. b) capacity to generate a whole plant from any plant cell / explant.
2. b) vegetative multiplication of plants by using small explants.
3. a) C A D B
4. b) 15 to 30 minutes and 121°C
5. b) Callus undergoes differentiation and produces somatic embryoids.
6. d) Anti-carcinogenic property is not seen in *Catharanthus roseus*.
7. b) Meristem culture
8. c) Biosafety
9. c) at very low temperature of -196 by using liquid nitrogen
10. d) Agar

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CHAPTER 6 – PRINCIPLES OF ECOLOGY

One Marks Answers

1. c. community → Ecosystem → Landscape → Biome
2. d. ii and iii only
3. b. niche
4. d) I and ii only
5. a. Calotro
6. a) I, ii and iii only
7. b. Statement A is correct but statement B is incorrect.
8. c. capillary water
9. a. (i) Holard (ii) Echard (iii) Chresard
10. c. iii ii iv
11. d. Halophytes
12. a. (+) Parasitism (-) Amensalism
13. c. Mimicry
14. b. Anabaena
15. d. Soil
16. b. Absorbing inorganic ions from soil
17. d) Calotropis
18. a. Nymphaea and typha
19. d. iv iii ii v i
20. a. Argemone
21. b. Zoochory

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CHAPTER 7 – ECOSYSTEM

One Marks Answers

1. a) Bacteria
2. b) Rice field
3. d) fresh water ecosystem
4. d) self sufficient and self regulating
5. b) no effective light penetration
6. b) 2 – 10%
7. d) Forest ecosystem
8. d) all of the above
9. c) Tertiary consumers → Secondary consumers → Primary consumers
→ Producers
10. d) b and c
11. c) pyramid of number in a forest ecosystem
12. c) Anabolism
13. a) Nitrogen cycle
14. c) i and ii

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CHAPTER 8 – ENVIRONMENTAL ISSUES

One Marks Answers

1. c) Redesigning landfill dumps to allow methane to be collected.
2. a) Statement A is correct and Statement B is wrong.
3. d) Sacred groves – Saintri hills of Rajasthan
4. d) Ozone
5. b) CFCs and N₂O
6. d) habitat destruction
7. d) removal of plants and trees
8. a) Quick nutrient cycling
9. c) Dobson
10. c) Appiko movement
11. a) Sesbania and Acacia

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CHAPTER 9 – PLANT BREEDING

One Marks Answers

1. b) Assertion is wrong and reason is right.
2. a) Centres of origin
3. c) Clonal selection - Sexually propagated
4. b) i – III, ii – I, iii – IV, iv – II
5. d) Mutation breeding
6. b) hybridization
7. a) clone
8. d) introduction
9. c) Norin 10
10. c) intra-varietal
11. a) pure line
12. b) rice
13. b) *Saccharum barberi* and *Saccharum officinarum*
14. b) ii i iii iv
15. c) proteins
16. a) Pusa Komal Bacterial blight
17. d) Pusa Komal – Brassica
18. b. id, iic, iiia, ivb.

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CHAPTER 10 – ECONOMICALLY USEFUL PLANTS AND ENTREPRENEURIAL BOTANY

One Marks Answers

1. b) Both (i) and (ii) are correct
2. a) Assertion is correct, Reason is wrong
3. d) Brazil
4. a) A is correct, B is wrong
5. a) Lamiaceae
6. a) Tropical African region
7. d) G.barbadense
8. c) Both are correct
9. b) Dye Lawsonia inermis
10. c) Both statements are correct
11. c) Both statements are correct
12. c) Marijuana
13. c) Stevioloside - Natural sweetener
14. d) Zea mays

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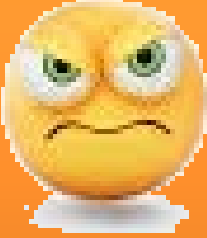


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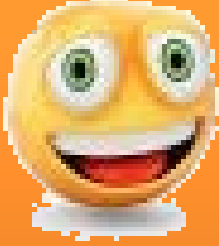


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