

B.Sc BIOTECHNOLOGY (CBCS)
I-SEMESTER (CELL BIOLOGY & GENETICS)
QUESTION BANK FOR PRACTICALS

Duration: 3 hours

Total= 50 Marks

I. MAJOR PRACTICALS (ANY TWO -ONE FROM IA AND ONE FROM IB)

1 X 20 = 20 Marks

IA PRACTICALS

1. Prepare squash of onion root tips and identify the stages of mitosis.
2. Separate salivary glands from Drosophila and identify the polytene chromosome.
3. Prepare the sample for identification of meiotic stages.
4. Stain the given microbial culture and identify the microbial cell.

IB PRACTICALS

5. Solve the problem on dihybrid ratio in Drosophila and show the goodness of fit.
6. In the given problem on three-point test cross identify the order and distance between the genes.
7. Test the given gene and genotypic frequencies for Hardy-Weinberg equilibrium.

II. MINOR PRACTICALS (ANY TWO – ONE FROM IIA AND ONE FROM IIB)

1 X 10 = 10 Marks

IIA PRACTICALS:

1. Identify the (Plant) cell in the slide placed under microscope. Give its salient features.
2. Identify the stage of meiosis. Give its characteristics.
3. Identify the petri plate or sample containing microbial (fungal) growth. Give the characteristics.

IIB PRACTICALS:

4. Solve the problem on two-point testcross in Drosophila.
5. Solve the problem on epistatic ratio 9:7 or 12:3:1
6. Solve the problem for calculation of gene and genotypic frequencies.
7. Solve the problem on monohybrid ratio in maize.


III. SPOTTERS (ANY FIVE)

5 x 2 = 10 Marks

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|-------------------|----------------------------------------------|--------------------------|
| 1. Bacterial cell | 11. Polyploidy | 21. Test cross |
| 2. Plant cell | 12. Trisomy | 22. Back cross |
| 3. Animal cell | 13. Cell cycle | 23. Synaptonemal complex |
| 4. Fungal cell | 14. Lampbrush chromosome | 24. X-linked inheritance |
| 5. Chloroplast | 15. Cleft Lip | 25. Polydactyly |
| 6. Mitochondria | 16. Coat color in Rabbit | |
| 7. Translocation | 17. Gynandromorph in Drosophila | |
| 8. Duplication | 18. Haemophilia inheritance | |
| 9. Deletion | 19. Colorblindness inheritance | |
| 10. Inversion | 20. Chloroplast inheritance in Chlamydomonas | |

IV. RECORD & VIVA

10 Marks


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