

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – PLANT BIOLOGY & PLANT BIO-TECH.

THIRD SEMESTER – APRIL 2010

PB 3508/PB 3504 - CELL BIOLOGY AND ANATOMY

Date & Time: 26/04/2010 / 1:00 - 4:00

Dept. No.

Max. : 100 Marks

PART-A

(20 marks)

Answer ALL the questions

I. Choose the Correct Answer

(5X1=5)

1. Apical cell theory was proposed by
a) Nageli b) Hanstein c) Clowes d) Robert Hooke
2. Chromosome with the centromere in the centre is called
a) Telocentric b) Metacentric c) Acrocentric d) Submeta centric
3. Phellogen is a
a) Secondary meristem b) Primary meristem c) Intercalary meristem d) Permanent tissue
4. Tunica Corpus theory is based on
A) Cell division B) Differential staining
a) Both A & B are correct b) A is correct, but B incorrect c) A is incorrect but B is correct
d) Both are not correct
5. The site of protein synthesis is
a) Ribosomes b) Golgi bodies c) Peroxisomes d) Endoplasmic reticulum

II. State Whether the following is True Or False

(5X1=5)

6. Hanstein proposed Histogen theory.
7. Histones are basic proteins.
8. Phase contrast microscope was invented by Zernike.
9. Bicollateral bundles are present in *Cucurbita* stem.
10. Trilacunar node is primitive than unilacunar node.

III. Complete the following:

(5x1=5)

11. Golgi bodres are otherwise known as_____.
12. The cell wall material of endodermis is _____.
13. Fibers associated with secondary phloem are called as _____.
14. Bulliform cells are present in _____ leaf.
15. In DNA, adenene always pairs with_____.

(P.T.O.)

IV. Answer the following each in about 50 words.

(5x1=5)

16. What is Cystolith?
17. Define Idiogram.
18. What is a mitosis?
19. Distinguish between Isobilateral & Dorsi Ventral leaf
20. What are bordered pits?

PART-B

V. Answer the following, each answer not exceeding 350 words. Draw diagram wherever necessary.

(5X7=35 marks)

21. a) Explain the different part of SEM.
(or)
b) Distinguish between prokaryotic and eukaryotic cell.
22. a) Give a brief account of lampbrush chromosomes.
(or)
b) Write a short note on karyotyping.
23. a) Explain the chemical components of cell wall.
(or)
b) Explain the events that happen during Mitosis.
24. a) Write about any two theories related to meristem.
(or)
b) Explain the types of vascular bundles.
25. a) Give a brief note on the stomatal types.
(or)
b) Describe the anatomy of *Dracaena* stem.

PART-C

VI. Answer any Three of the following , each answer not exceeding 1200 words. Draw diagrams wherever necessary.

(3x15=45 marks)

26. Explain the normal secondary growth in dicot stem.
27. Describe in detail the structure and function of chloroplast.
28. What are meristems? Discuss their general characteristics. Mention their types.
29. Draw neatly labeled diagrams of Meiosis and write foot notes.
30. Describe chromosome structure and its organization

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