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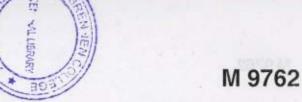
- 24. Write the ecological adaptations in mangroves.
- 25. Classify the different types of sclerenchyma present in the plant body. State their functions.
- 26. Describe the different theories related to the organization of root apex.

SECTION-E

Answerany one:

Essay type questions. Each question carries a weightage of 4.

- 27. Describe the anomalous secondary growth in Bignonia with a neat and labeled diagram.
- 28. Explain the different types of non-living inclusions of a cell.
- 29. Describe the structure and development of megasporangium in angiosperms. (1×4=4)



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Name :	. Bellsoer well by and layer farmenn stiff ()
CORE COU	gree (CCSS - Reg./Supple./Imp.) Examination, November 2015 2012 Admn. Onwards) RSE IN BOTANY/PLANT SCIENCE osperm Anatomy and Reproductive Botany
Time: 3 Hours	Total Weightage: 30
Instruction : Draw diagram	ms wherever necessary.
	SECTION-A
Answer all questions in bunch	nes of four. Each bunch carries a weightage of 1.
1. Choose the correct answe	r: Foodbook State of Tandaland
i) Centripetally develope	d xylem elements gives rise to
a) Mesarch bundle	b) Endarch bundle
c) Exarch bundle	d) Bicollateral bundles
ii) The common type ovul	le seen in angiosperms
a) Orthotropous	b) Anatropous
c) Circinotropous	d) Campylotropous
iii) Water secreting glands	s in plants are
a) Trichomes	b) Hydathodes
c) Digestive glands	d) Nectaries
iv) Cotyledons seen in mo	onocot seed is called
a) Scutellum	b) Labellum
c) Vexillum	d) Phellum

State true or false:

- i) Megasporophylls are regarded as male organs of the flower.
- ii) Cystoliths are developing in certain specialized cells called lithocysts.
- iii) Tyloses are balloon like structures seen in the lumen of xylem vessels.
- iv) Cell wall is the non-living component of a plant cell and is secreted by the living protoplasm.

3. Fill in the blanks:

i)	The innermost wall layer of anther is called	
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ii) A pit developed without having any corresponding pit on the adjacent wall is called_____

iii) The living cell seen in association with xylem is ______

iv) The exine of pollen grain is made up of _____

4. Match the following:

	Α	В	С
i)	Hydathode	Pinus needle	Colocasia
ii)	Raphides	Calcium Carbonate	Lateral conduction
iii)	Transfusion tissue	Epithem	Ficus leaf
iv)	Cystoliths	Calcium oxalate	Secretory tissue

 $(4 \times 1 = 4)$

SECTION-B

Answer any five. Each question carries a weightage of 1.

Differentiate the following:

- 5. Ring porous wood and diffuse porous wood.
- 6. Anomocytic stomata and aniso cytic stomata.
- 7. Porogamy and mesogamy.
- 8. Apotracheal parenchyma and para tracheal parenchyma.
- 9. Cork and bark.
- 10. Leptocentric vascular bundles and hadrocentric vascular bundles. (5



SECTION-C

Answer any five:

Short answer questions. Each question carries a weightage of 1.

- 11. Dendrochronology.
- 12. Explain the NPC system.
- 13. What is abscission?
- 14. Explain the classification of meristem based on the plane of cell division.
- 15. Comment on primary cell wall.
- 16. What is a ruminate endosperm?
- 17. Explain the function of tapetum.

 $(5 \times 1 = 5)$

SECTION - D

Answerany six:

Short answer questions. Each question carries a weightage of 2.

- 18. Describe the different types of ovule.
- Explain the anatomical features of a typical bifacial leaf with a neat and labeled diagram.
- 20. What is tapetum? Explain the different types of tapetum.
- 21. Explain the formation of male gametes in angiosperms.
- 22. Describe the latex cells and latex vessels.
- 23. Explain periderm formation in a dicot root.