

M 8539

Reg. No. : .....

IV Semester B.Sc. Degree (CCSS – Reg./Supple./Improve.)

Examination, May 2015

Complementary Course in Botany

(2012 Admn. Onwards)

4C04BOT: PLANT PHYSIOLOGY, ANGIOSPERM ANATOMY AND

CROP IMPROVEMENT

Time: 3 Hours Max. Weightage: 30

## SECTION - A

Answer all.(Questions in bunches of four; Each bunch carries a weightage of 1)

- 1. Choose the correct answer:
  - i) Age determination of trees by counting their annual rings
  - a) Growth ring

b) Periderm

c) Dendrochronology

- d) Etiology
- ii) Growing an organism in isolation to detect pests and diseases
  - a) Phytosanitary certificate
- b) Quarantine

c) Hybridisation

- d) Selection
- iii) An essential element required by the plant in large quantity
  - a) Mn

- b) Mg
- c) Mo
- d) Cu
- iv) Extra stelar secondary growth occurs by the action of
  - a) Periderm
- b) Phellogen
- c) Phellem
- d) Phelloderm

- 2. State True or False:
  - i) Leg haemoglobin is the product of Rhizobium Legume complex.
  - ii) Mass flow hypothesis explains absorption of minerals.
  - iii) Parenchyma is an example for a living tissue.
  - iv) Monocot has isobilateral leaves.

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3. Fill in the blanks.		
i) Respiration shows	n by green cells only during day time is	Reg. No. :
ii) The practice of gro	owing plants in soil less nutrient mediu	m is
iii) Removal of immat	ture anther or androecium from a bisex	ual flower is
iv) Secondary cortex	is known as	
4. Match the following:	Complementary Course in Bota (2012 Admrt. Onwards)	
GMA YMO A MA M	NT PHYSIOLOGY, ANGIOSPERI	ALIG TO COMPON O
Endosmosis	Inter generic hybrid	Chemosynthesis
Nitrosomonas	Guard cell	Allopolyploid
Stomata	Semipermeable membrane	e Transpiration
Raphanobrass	ica Bacteria	Hypotonic solution
5. Answer in one word	or in one sentence.	
i) Neutral stains.	ion of trees by conting their annual run	
ii) A group of immatu	re and undifferentiated cells in a continu	ous state of division.
iii) Quantasomes.		
iv) A variety or specie	es introduced from a foreign country.	(5×1=5)
	SECTION-B	olmálhlinylti (z
Answer any four (Differe	entiate the following. Each question car	rries a weightage of 1)
6. Photosynthesis and	chemosynthesis.	
7. Oil glands and necta		

8. Sieve tubes and sieve cells.

9. Phytochrome and vernalin.

10. Primary and secondary introduction.

11. Senescence and Richmond - Lang effect.

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## SECTION - C

Answer any five (Short answer questions. Each question carries a weightage of 1)

- Explain photomorphogenesis.
- 13. What are pits?

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- 14. Explain the different types of hybridisation.
- 15. List out the anatomical adaptations of xerophytes.
- 16. Elaborate on Donnan equilibrium.
- 17. What is meant by guttation?
- 18. Define quiescent centre.

 $(5 \times 1 = 5)$ 

## SECTION - D

Answer any six. (Short essay questions; Each question carries a weightage of 2)

- 19. Explain the organisation of shoot apex.
- 20. How does cyclic photophosphorylation take place?
- 21. Roots do not have cambium, but secondary growth occurs in the dicot root. Comment.
- 22. Describe carrier concept of active absorption of minerals.
- 23. Explain Photorespiration.
- 24. What are the anatomical adaptations of halophytes?
- 25. Write notes on vernalisation.
- 26. Describe briefly the steps involved in hybridisation technique.

 $(6 \times 2 = 12)$ 

## SECTION-E

Answer any one. (Long essay type questions; Each question carries a weightage of 4)

- 27. Explain the mechanism of water uptake in higher plants.
- 28. With the help of suitable diagrams explain the complex tissue Xylem.
- 29. Explain the mechanism of carbon dioxide fixation in C3 plants.  $(1 \times 4 = 4)$