Reg. No. \_\_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov / Dec – 2019**

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| **Code :** | **17AG1006** | **Duration :** | **3hrs** |
| **Sub. Name :** | **CROP PHYSIOLOGY** | **Max. Marks :** | **100** |

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| **Q. No.** | **Questions** | | **Course Outcome** | **Marks** |
| **PART – A (20 X 1 = 20 MARKS)** | | | | |
| 1. | | Kranz anatomy is found in the leaves of \_\_\_\_\_\_\_\_\_\_\_\_\_. | CO2 | 1 |
| 2. | | Define foliar nutrition. | CO3 | 1 |
| 3. | | Stomata open during night and close during day in \_\_\_\_\_\_\_\_\_\_\_\_\_. | CO2 | 1 |
| 4. | | Define plant and crop. | CO1 | 1 |
| 5. | | Deteriorative process that naturally terminate functional life of the plant are called \_\_\_\_\_\_\_\_\_\_\_. | CO2 | 1 |
| 6. | | TCA cycle is also known as \_\_\_\_\_\_\_\_\_\_\_\_. | CO2 | 1 |
| 7. | | Visible range of the spectrum i.e PAR wavelength is \_\_\_\_\_\_\_\_\_\_\_. | CO1 | 1 |
| 8. | | The first stable compound formed in C3 plants is \_\_\_\_\_\_\_\_\_\_\_\_\_. | CO1 | 1 |
| 9. | | In soil, water available to the root is \_\_\_\_\_\_\_\_\_\_\_. | CO3 | 1 |
| 10. | | Water potential of pure water is\_\_\_\_\_\_\_\_\_\_\_\_. | CO3 | 1 |
| 11. | | Oxidative phosphorylation is found in\_\_\_\_\_\_\_\_\_\_ | CO2 | 1 |
| 12. | | When a cell is placed in hypertonic solution, its water potential\_\_\_\_\_\_\_\_\_\_. | CO3 | 1 |
| 13. | | Marginal scorching of older leaf is associated with the nutrient \_\_\_\_\_\_\_\_\_\_. | CO3 | 1 |
| 14. | | Father of crop physiology is \_\_\_\_\_\_\_\_\_\_\_\_\_. | CO1 | 1 |
| 15. | | Stomatal closing type antitranspirant \_\_\_\_\_\_\_\_\_\_\_\_\_. | CO2 | 1 |
| 16. | | The hormone responsible for closing of stomata is \_\_\_\_\_\_\_\_\_\_\_. | CO2 | 1 |
| 17. | | Nutrient responsible for Pollen germination and pollen tube growth is \_\_\_\_\_\_\_\_\_\_\_. | CO3 | 1 |
| 18. | | Define climactric and non-climactric fruits with suitable example. | CO1 | 1 |
| 19. | | White bud of maize disorder is caused by the \_\_\_\_\_\_\_\_\_\_\_\_. | CO3 | 1 |
| 20. | | Exanthema in citrus is due to \_\_\_\_\_\_\_\_\_\_\_\_\_deficiency. | CO3 | 1 |

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| **PART – B (10 X 5 = 50 MARKS)**  **(Answer any 10 from the following)** | | | |
| 21. | Discuss the cyclic photophosphorylation and non-cyclic photophosphorylation. | CO2 | 5 |
| 22. | State the difference between and C3 and C4 pathway. | CO1 | 5 |
| 23. | Elaborate on the photorespiration in plants with pathway. | CO1 | 5 |
| 24. | Briefly explain the mechanism of water absorption in plants with suitable diagram. | CO3 | 5 |
| 25. | Discuss the types of transpiration and antitranspirants in plants. | CO1 | 5 |
| 26. | Detail the photosynthesis in CAM plants with pathway. | CO2 | 5 |
| 27. | Elaborate the mitochondrial electron transport chain with suitable diagram. | CO2 | 5 |
| 28. | Briefly explain the glycolysis pathway with suitable diagram. | CO2 | 5 |
| 29. | Describe the factors affecting photosynthesis. | CO2 | 5 |
| 30. | Write the importance of plant physiology in Agriculture. | CO1 | 5 |
| 31. | Explain the physiological changes during seed development with diagram. | CO3 | 5 |
| 32. | Elaborate the functions of plasma membrane, chloroplast, mitochondria, peroxisome and vacuole with diagram. | CO1 | 5 |

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| **PART – C (2 X 15 = 30 MARKS)**  **(Answer any 2 from the following)** | | | | |
| 33. | a. | Explain the role and types of PGRs in agriculture. | CO3 | 8 |
| b. | Explain the morphological and biochemical changes during seed development. | CO1 | 7 |
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| 34. | a. | Elaborate the seed structure with diagram and methods of testing seed viability and vigour. | CO1 | 8 |
| b. | Write in detail the physiological growth parameters in crop productivity. | CO2 | 7 |
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| 35. | a. | Enumerate the physiological functions and deficiency symptoms of micronutrients in plants. | CO3 | 8 |
| b. | Discuss briefly the physiological mechanism of fruit ripening with their metamorphic changes with suitable diagram. | CO2 | 7 |