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

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

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| **Code :** | **18AG1009** | **Duration :** | **3hrs** |
| **Sub. Name :** | **FUNDAMENTALS OF CROP PHYSIOLOGY** | **Max. Marks :** | **100** |

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| **Q. No.** | **Questions** | **Course Outcome** | **Marks** |
| **PART – A (20 X 1 = 20 MARKS)** | | | |
| 1. | What are all the organelle involved in photorespiration? | CO1 | 1 |
| 2. | In which organalle glyoxylate cycle takes place? | CO1 | 1 |
| 3. | What are all the components of water potential? | CO2 | 1 |
| 4. | What is the difference between symplast and apoplast? | CO2 | 1 |
| 5. | What do you mean by photolysis of water ? | CO2 | 1 |
| 6. | How many ATP and NADPH is required to produce one molecule of glucose in C3 and C4 cycles? | CO1 | 1 |
| 7. | Give one example each for saturated and unsatured fattyacid. | CO1 | 1 |
| 8. | Write any two functions of water. | CO2 | 1 |
| 9. | Which is the site of glycolysis? | CO1 | 1 |
| 10. | What is the value of respiratory quotient for carbohydrate and organic acids? | CO1 | 1 |
| 11. | Give one example each for C4 and CAM plants. | CO1 | 1 |
| 12. | What are the nutrients associated with marginal chlorosis and purple pigmentation? | CO2 | 1 |
| 13. | What is the basis of classifying nutrients as essential for the plants? | CO1 | 1 |
| 14. | Who is the father of plant physiology? | CO1 | 1 |
| 15. | List out two functions of plasma membrane. | CO1 | 1 |
| 16. | What is the fuction of smooth and rough endoplasmic reticulum? | CO1 | 1 |
| 17. | Which is the hormone responsible for seed germination? | CO3 | 1 |
| 18. | Which is the nutrient associated with inter veinal chlorosis in young leaves? | CO2 | 1 |
| 19. | Which is the first process in seed germination? | CO1 | 1 |
| 20. | Which is the hormone linked with stomatal closure? | CO1 | 1 |

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| **PART – B (10 X 5 = 50 MARKS)**  **(Answer any 10 from the following)** | | | |
| 21. | What are anti-transpirants? Give examples for each type. | CO1 | 5 |
| 22. | List out immobile and mobile elements and their appearance of symptoms in leaves. | CO2 | 5 |
| 23. | List out physiological functions and disorders for calcium and boron. | CO2 | 5 |
| 24. | What do you mean by beneficial elements? Give examples. | CO2 | 5 |
| 25. | Differentiate between cyclic and non-cyclic phosphorylation. | CO1 | 5 |
| 26. | List out physiological fuctions and disorders for iron and zinc. | CO2 | 5 |
| 27. | List out physiological functions of Auxin and cytokinins. | CO3 | 5 |
| 28. | Explain the role of ABA in abiotic stress tolerance. | CO3 | 5 |
| 29. | Explain the role of Ethylene in fruit ripening. | CO3 | 5 |
| 30. | Elaborate the mechanism of water absorption. | CO2 | 5 |
| 31. | Define diffusion and osmosis with its significance. | CO2 | 5 |
| 32. | Describe in detail the C3 cycle with illustrations. | CO1 | 5 |

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| **PART – C (2 X 15 = 30 MARKS)**  **(Answer any 2 from the following)** | | | | |
| 33. | a. | Explain the various plant Physiological growth parameters used in crop productivity. | CO3 | 15 |
| b. | Elaborate the agricultural uses of plant growth regulators. | CO3 |
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| 34. | a. | Enumerate the fatty acid biosynthesis and breakdown in plants. | CO1 | 15 |
| b. | Explain the mechanism of nutrient absorption in plants. | CO2 |
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| 35. | a. | Explain the C4 and CAM pathway with illustrations. | CO1 | 15 |
| b. | Explain in detail the TCA cycle and mitochondrial electron transport chain in plants. | CO1 |