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

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

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| **Code :** | **18AG1004** | **Duration :** | **3hrs** |
| **Sub. Name :** | **FUNDAMENTALS OF PLANT BIOCHEMISTRY** | **Max. Marks :** | **100** |

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| **Q. No.** | **Questions** | **Course Outcome** | **Marks** |
| **PART – A (20 X 1 = 20 MARKS)** | | | |
| 1. | Define Mutarotation of sugars. | CO1 | 1 |
| 2. | List the product and number of ATP produced during anaerobic oxidation of glucose. | CO2 | 1 |
| 3. | Define Gluconeogenesis. | CO2 | 1 |
| 4. | Define Zwitter ions of amino acids. | CO1 | 1 |
| 5. | What are the essential amino acids? Give examples. | CO3 | 1 |
| 6. | Define denaturation of proteins. | CO3 | 1 |
| 7. | Give the structure of triglycerides. | CO1 | 1 |
| 8. | Define Km value of enzyme. | CO3 | 1 |
| 9. | List the start and stop codon. | CO3 | 1 |
| 10. | Give the difference between nucleoside and nucleotide. | CO1 | 1 |
| 11. | Draw the structure of t-RNA and label the parts. | CO3 | 1 |
| 12. | Comment on TCA cycle as amphibolic role. | CO2 | 1 |
| 13. | Define Acid number of an oil. | CO1 | 1 |
| 14. | What are homopolysaccharides? Give two examples. | CO1 | 1 |
| 15. | Define Essential fatty acids and give examples. | CO2 | 1 |
| 16. | List the factors affecting the enzyme activity. | CO3 | 1 |
| 17. | Define Rancidity of an oil and give its types. | CO1 | 1 |
| 18. | List the sources and deficiency symptoms of any two B complex vitamins. | CO3 | 1 |
| 19. | Draw the central dogma of molecular biology. | CO1 | 1 |
| 20. | Define Coenzyme and Cofactors. | CO3 | 1 |

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| **PART – B (10 X 5 = 50 MARKS)**  **(Answer any 10 from the following)** | | | |
| 21. | Explain the classification of carbohydrates with examples. | CO1 | 5 |
| 22. | Write the classification of protein based on functions. | CO3 | 5 |
| 23. | Describe the nomenclature and classification of enzymes. | CO3 | 5 |
| 24. | Explain the structure, sources and functions of Vitamin A. | CO3 | 5 |
| 25. | Highlight the properties of genetic code. | CO3 | 5 |
| 26. | Give the classification of amino acids with their structures. | CO1 | 5 |
| 27. | Explain the glycolytic pathway and calculate its energetics. | CO2 | 5 |
| 28. | Explain the physical and chemical constants of lipids. | CO3 | 5 |
| 29. | Comment the role of any five minerals. | CO3 | 5 |
| 30. | Explain the beta oxidation of fatty acids. | CO2 | 5 |
| 31. | Explain the sources, functions and deficiencies of thiamine and ascorbic acid. | CO3 | 5 |
| 32. | Give the classification of phospholipids and give example. | CO1 | 5 |

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| **PART – C (2 X 15 = 30 MARKS)**  **(Answer any 2 from the following)** | | | | |
| 33. | a. | Describe in detail the TCA cycle and its energetics. | CO2 | 8 |
| b. | Elaborate the structural classification of proteins. | CO3 | 7 |
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| 34. | a. | Explain the mechanism of enzyme action. | CO3 | 7 |
| b. | Describe the double helical structure of DNA with a neat diagram and highlights its function. | CO3 | 8 |
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| 35. | a. | Elaborate the chemistry and functions of steroid hormones. | CO3 | 7 |
| b. | Explain in detail the prokaryotic transcription and translation with neat sketches. | CO3 | 8 |