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



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

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| **Code :** | **19BT3030** | **Duration :** | **3hrs** |
| **Sub. Name :** | **GENOMICS AND PROTEOMICS** | **Max. Marks :** | **100** |

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| **Q. No.** | **Sub Div.** | **Questions** | **Course Outcome** | **Marks** |
| **ANSWER ANY FIVE QUESTIONS (5 x 16 = 80 Marks)** | | | | |
| 1. | a. | Elaborate the structure, organization and anatomy of eukaryotic genome. | CO1 | 10 |
| b. | Summarize the objectives and outcomes of Human genome project. | CO1 | 6 |
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| 2. | a. | Explain Maxam Gilbert method of DNA sequencing. Add a note on automated sequencing. | CO3 | 8 |
| b. | Appraise on Restriction Fragment Length Polymorphism and Expressed sequence tags. | CO3 | 8 |
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| 3. | a. | Define annotation. Construct the features of structural and functional annotation. | CO2 | 10 |
| b. | Outline the applications of gene prediction tools and softwares. | CO2 | 6 |
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| 4. | a. | Define transciptome. Discuss how microarray technologies can be employed in transciptomics. | CO4 | 10 |
| b. | Compare and contrast genomics with proteomics. | CO5 | 6 |
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| 5. | a. | Introspect the methods of clone contig approach in sequence assembly. | CO4 | 12 |
| b. | With a neat illustration, position the location of intron, exon and UTR in a gene. | CO5 | 4 |
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| 6. | a. | State the principle of 2D PAGE. Discuss the technology of detecting and analyzing co and post translational modification in proteins. | CO5 | 12 |
| b. | State Mendelian law of inheritance. Highlight the significance with suitable explanation. | CO2 | 4 |
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| 7. | a. | Explain in detail the principle, technique and applications of MALDI TOF mass spectrometry. | CO4 | 10 |
| b. | Proteome is a new world and is a new field of biology, Justify the reasons. | CO4 | 6 |
| **COMPULSORY QUESTION (1 x 20 = 20 Marks)** | | | | |
| 8. | a. | Describe the various applications of proteomics in medicine, toxicology and pharmaceuticals. | CO6 | 15 |
| b. | Discuss on peptide mass fingerprinting. | CO5 | 5 |