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| **Model Question Paper-1 with effect from 2019-20 (CBCS Scheme)** | | | | | | | | | | | |
| USN |  |  |  |  |  |  |  |  |  |  |  |
| **Fifth Semester B.E. Degree Examination Genomics and Proteomics** | | | | | | | | | | | |
| **TIME: 03 Hours** | |  |  |  |  |  |  |  |  |  | **Max. Marks: 100** |
| Note: | 01. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**. | | | | | | | | | | |

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| **Module – 1** | | | |
| **Q.1** | **(a)** | Describe Polymorphisms. Explain the types of polymorphism. | 10 |
| **(b)** | Describe the DNA sequence analysis methods. | 10 |
| **OR** | | | |
| Q.2 | (a) | Explain on Fluorescencemethod of Sequencing. | 06 |
| **(b)** | ExplainExtraction of DNA by using CTAB. | 08 |
| **(c)** | Illustrate shot-gun approach of sequencing. | 06 |
| **Module – 2** | | | |
| **Q.3** | **(a)** | Explain Gene variation and Single Nucleotide Polymorphisms. | 10 |
| **(b)** | Explain Expressed Sequence Tags (ESTs). | 10 |
| **OR** | | | |
| **Q.4** | **(a)** | Discuss on Human genome project and the genetic map. | 10 |
| **(b)** | Illustrate on Genotyping tools - DNA Chips. | 10 |
| **Module – 3** | | | |
| **Q.5** | **(a)** | Explain General architecture of eukaryotic genome. | 10 |
| **(b)** | Illustrate Regulation of transcription. | 10 |
| **OR** | | | |
| **Q.6** | **(a)** | Explain the Scope of Functional genomics | 7 |
| **(b)** | DiscussGene Knockdown technology. | 7 |
| **(c)** | Write Short note on Gene Editing - Crispr Cas9 | 6 |

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| **Module – 4** | | | |
| **Q.7** | **(a)** | Discuss in Detail on Molecular markers - RFLP, RAPD | 10 |
| **(b)** | Briefly describe Methods of molecular mapping. | 10 |
| **OR** | | | |
| **Q.8** | **(a)** | List and explain on CAPS, microsatellites and SNPs. | 8 |
| **(b)** | Describe with anMicro-array in functional genomics. | 8 |
| **(c)** | Discuss in detail Telomerase as molecular markers. | 4 |
| **Module – 5** | | | |
| **Q.9** | **(a)** | What is the role of Two-dimensional PAGE in proteome analysis? Explain. | 10 |
| **(b)** | Explain Mass-spec based analysis of protein expression | 10 |
| **OR** | | | |
| **Q.10** | **(a)** | How does Edman protein microsequencing works? | 6 |
| **(b)** | Explain Detection of proteins on SDS gels. | 8 |
| **(c)** | Explain Applications of proteome analysis to drug development and toxicology. | 6 |
| \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* | | | |

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| **Table showing the Bloom’s Taxonomy Level, Course Outcome and Programme Outcome** | | | | | | | |
|  | | | | | | | |
| **Question** | | | **Bloom’s Taxonomy**  **Level attached** | | **Course**  **Outcome** | **Programme Outcome** | |
| **Q.1** | (a) | | L2 | | CO1 | PO12 | |
| (b) | | L2 | | CO1 | PO12 | |
|  | |  | |  |  | |
| **Q.2** | (a) | | L1 | | CO1 | PO12 | |
| (b) | | L1 | | CO1 | PO12 | |
| (c) | | L2 | | CO1 | PO12 | |
| **Q.3** | (a) | | L2 | | CO1 | PO10 | |
| (b) | | L2 | | CO1 | PO10 | |
|  | |  | |  |  | |
| **Q.4** | (a) | | L2 | | CO1 | PO10 | |
| (b) | | L1 | | CO1 | PO10 | |
|  | |  | |  |  | |
| **Q.5** | (a) | | L1 | | CO1 | PO10 | |
| (b) | | L2 | | CO1 | PO10 | |
|  | |  | |  |  | |
| **Q.6** | (a) | | L3 | | CO1 | PO10 | |
| (b) | | L1 | | CO1 | PO10 | |
| c | | L1 | | CO1 |  | |
| **Q.7** | (a) | | L1 | | CO3 | PO9 | |
| (b) | | L1 | | CO2 | PO11 | |
|  | |  | |  |  | |
| **Q.8** | (a) | | L1 | | CO3 | PO9 | |
| (b) | | L2 | | CO2 | PO11 | |
| (c) | | L1 | | CO3 | PO9 | |
| **Q.9** | (a) | | L1 | | CO4 | PO8 | |
| (b) | | L1 | | CO4 | PO8 | |
|  | |  | |  |  | |
| **Q.10** | (a) | | L3 | | CO4 | PO8 | |
| (b) | | L2 | | CO4 | PO8 | |
| (c) | | L1 | | CO4 | PO8 | |
|  | | | | | | | |
| **Bloom’s Taxonomy Levels** | | **Lower order thinking skills** | | | | | |
| Remembering  ( knowledge): 𝐿1 | | Understanding Comprehension)  : 𝐿2 | | | Applying (Application):  𝐿3 |
| **Higher order thinking skills** | | | | | |
| Analyzing (Analysis): 𝐿4 | | Valuating (Evaluation): 𝐿5 | | | Creating (Synthesis): 𝐿6 |
|  | | | | | | | |

Related image