**18CE002**

**Hall Ticket Number:**

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| **II/IV B.Tech (Regular/Supplementary) DEGREE EXAMINATION** | | | |
| **August, 2021** | **Electronics & Instrumentation Engineering** | | |
| **Fourth Semester** | **Biology for Engineers** | | |
| **Time:** Three Hours | | **Maximum: 5**0 Marks | |
| *Answer Question No. 1 Compulsorily.* | | | (10X1 = 10 Marks) |
| *Answer* ***ANY ONE*** *question from each Unit.* | | | (4X10=40 Marks) |

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| 1. | a) | Name the major branches of biology. | CO1 | |  |
|  | b) | What is chlorophyll ? | CO1 | |  |
|  | c) | What are endospores ? | CO2 | |  |
|  | d) | What is the importance of meiosis? | CO2 | |  |
|  | e) | How do bacteria reproduce ? | CO2 | |  |
|  | f) | Define chemoheterotrophs with an example. | CO1 | |  |
|  | g) | List out two functions of DNA. | CO3 | |  |
|  | h) | Write four macromolecules. | CO3 | |  |
|  | i) | Specify the medicinal importance of aloe vera. | CO4 | |  |
|  | j) | Write any two metals involved in sterilization. | CO4 | |  |
| **Unit – I** | | | | | |
| 2. | a) | Analyze the structure of an eukaryotic cell with a neat labeled diagram. | CO1 | **10M** | |
|  |  | **(OR)** |  |  | |
| 3. | a) | Chart out three kingdom classification of microorganisms. | CO1 | **5M** | |
|  | b) | Explain the structure of nucleus with a neat labeled diagram. | CO1 | **5M** | |
| **Unit – II** | | | | | |
| 4. | a) | Identify any five media useful for identification of bacteria. | CO2 | **10M** | |
|  |  | **(OR)** |  |  | |
| 5. | a) | Elucidate four distinct phases in bacterial growth curve and its significance. | CO2 | **5M** | |
|  | b) | Discuss any five differences between mitosis and meiosis. | CO2 | **5M** | |
| **Unit – III** | | | | | |
| 6. | a) | Define nucleotide. Explain the different types of RNA. | CO3 | **10M** | |
|  |  | **(OR)** |  |  | |
| 7. | a) | Illustrate about alpha and beta helix structure of protein. | CO3 | **5M** | |
|  | b) | Examine any five structural features of DNA. | CO3 | **5M** | |
| **Unit – IV** | | | | | |
| 8. | a) | Chart out the chemical methods of sterilization. | CO4 | **10M** | |
|  |  | **(OR)** |  |  | |
| 9. | a) | Write any five harmful aspects of bacteria. | CO4 | **5M** | |
|  | b) | Discuss the medicinal importance of Tulasi and Turmeric. | CO4 | **5M** | |

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