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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech II Year II Semester Regular Examinations October-2020

BIOLOGY FOR ENGINEERS

(Common to ECE, CSE & CSIT)

Time: 3 hours

Max. Marks: 60

PART-A

(Answer all the Questions 5 x 2 = 10 Marks)

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| 1 | a What are autotrophs and heterotrophs | 2M |
| | b Illustrate briefly what is gene mapping | 2M |
| | c How many types of nucleic acids are there? write any two functions of them | 2M |
| | d Draw a neat diagram of DNA double helix structure | 2M |
| | e What is sterilization? | 2M |

PART-B

(Answer all Five Units 5 x 10 = 50 Marks)

UNIT-I

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| 2 | a Compare the characteristics of Prokaryotic and Eukaryotic cell. | 5M |
| | b Write short notes on unicellular and Multicellular with examples. | 5M |

OR

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| 3 | a Classify Kingdom Protista and Kingdom Animalia. | 5M |
| | b Define Habitat. Explain Terrestrial Habitat. | 5M |

UNIT-II

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| 4 | a Explain Mendel's law of segregation with Punnett square. | 5M |
| | b Demonstrate Mendel's law of independent assortment in terms of genetics. | 5M |

OR

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| 5 | a Describe how color blindness occurs to children. | 5M |
| | b Discuss the mechanism and genetics behind Hemophilia. | 5M |

UNIT-III

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| 6 | a Summarize the types of RNA and its functions in cells. | 5M |
| | b Classify the Proteins. | 5M |

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| 7 | a List out the factors affecting the rate of enzyme reaction with neat diagrams. | 6M |
| | b Outline the mechanism of enzyme action with suitable diagrams. | 4M |

UNIT-IV

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| 8 | a Write short notes on Protein as an Enzyme. | 6M |
| | b Write short notes on Protein as Structural element. | 4M |

OR

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| 9 | a Explain genetic code. | 5M |
| | b Define Nucleosomes. Illustrate the structure of Nucleosomes. | 5M |

UNIT-V

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| 10 | a Explain different types of microscopy. | 5M |
| | b Write a note on sterilization and various techniques used. | 5M |

OR

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| 11 | a Interrupt the mechanism of ATP production | 5M |
| | b What is photosynthesis? Summarize the process of light dependent reaction of photosynthesis. | 5M |

END