

Reg. No: 

--	--	--	--	--	--	--	--	--	--

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

B.Tech II Year I Semester Supplementary Examinations Feb-2021

BIOLOGY FOR ENGINEERS  
(Common to CE, EEE, ME & AGE)

Time: 3 hours

Max. Marks: 60

**PART-A**

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

- |          |          |  |           |
|----------|----------|--|-----------|
| <b>1</b> | <b>a</b> | What is meant by dominant and recessive? | <b>2M</b> |
|          | <b>b</b> | Write any four functions of proteins.    | <b>2M</b> |
|          | <b>c</b> | What are autotrophs & heterotrophs?      | <b>2M</b> |
|          | <b>d</b> | Distinguish between DNA and RNA.         | <b>2M</b> |
|          | <b>e</b> | What is sterilization?                   | <b>2M</b> |

**PART-B**

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

**UNIT-I**

- |          |          |   |           |
|----------|----------|---|-----------|
| <b>2</b> | <b>a</b> | Compare the characteristics of Prokaryotic and Eukaryotic cell. | <b>5M</b> |
|          | <b>b</b> | How autotrophs utilize carbon and energy?                       | <b>5M</b> |

**OR**

- |          |  |            |
|----------|--|------------|
| <b>3</b> | Illustrate in detail about the concept of taxonomic hierarchy. | <b>10M</b> |
|----------|--|------------|

**UNIT-II**

- |          |          |  |           |
|----------|----------|--|-----------|
| <b>4</b> | <b>a</b> | Give an account on Duplicate Gene Interaction.         | <b>5M</b> |
|          | <b>b</b> | Describe how color blindness is passed on to children. | <b>5M</b> |

**OR**

- |          |  |            |
|----------|--|------------|
| <b>5</b> | Explain Mendel's law of segregation and independent assortment in terms of genetics. | <b>10M</b> |
|----------|--|------------|

**UNIT-III**

- |          |          |  |           |
|----------|----------|--|-----------|
| <b>6</b> | <b>a</b> | List out the factors affecting the rate of enzyme reaction with neat diagrams. | <b>5M</b> |
|          | <b>b</b> | Outline the mechanism of enzyme action with suitable diagrams.                 | <b>5M</b> |

**OR**

- |          |          |  |           |
|----------|----------|--|-----------|
| <b>7</b> | <b>a</b> | Classify the Proteins.                                 | <b>6M</b> |
|          | <b>b</b> | Summarize the types of RNA and its functions in cells. | <b>4M</b> |

**UNIT-IV**

- |          |  |            |
|----------|--|------------|
| <b>8</b> | Explain about Genetic material of DNA? | <b>10M</b> |
|----------|--|------------|

**OR**

- |          |          |  |           |
|----------|----------|--|-----------|
| <b>9</b> | <b>a</b> | Write short notes on Protein as an Enzyme. | <b>5M</b> |
|          | <b>b</b> | Protein as Structural elements             | <b>5M</b> |

**UNIT-V**

- |           |  |            |
|-----------|--|------------|
| <b>10</b> | What is microscopy? Explain different types of microscopy. | <b>10M</b> |
|-----------|--|------------|

**OR**

- |           |                         |                                |  |
|-----------|-------------------------|--------------------------------|--|
| <b>11</b> | Explain using a graph : | <b>10M</b>                     |  |
|           | (a)                     | Lag phase                      |  |
|           | (b)                     | Log phase                      |  |
|           | (c)                     | Stationary phase               |  |
|           | (d)                     | Death phase of microorganisms. |  |

\*\*\*END\*\*\*