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

B Tech III Year I Semester Regular Examinations Feb-2021

FARM MACHINERY AND EQUIPMENT-I

(Agricultural Engineering)

Time: 3 hours

Max. Marks: 60

PART-A

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

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|---|---|-------------------------------------|----|
| 1 | a | Why Farm Mechanization is required? | 2M |
| | b | Explain different types of tillage. | 2M |
| | c | Define earth-moving operation. | 2M |
| | d | What is broadcasting? | 2M |
| | e | Define side draft and unit draft. | 2M |

PART-B

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

UNIT-I

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|---|---|---|----|
| 2 | a | Explain in briefly about heat treatment of steel. | 5M |
| | b | Write about different sources of farm power. | 5M |

OR

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|---|---|---|----|
| 3 | a | Discuss about cost calculation of farm tractor by using straight-line method. | 7M |
| | b | What is Custom Hiring? | 3M |

UNIT-II

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|---|---|--|----|
| 4 | a | What is primary tillage? | 5M |
| | b | Write about Mould Board plough and its components. | 5M |

OR

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| 5 | a | Define harrowing. | 5M |
| | b | Distinguish between standard disc plough and vertical disc plough. | 5M |

UNIT-III

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|---|---|--|----|
| 6 | a | List out the different types of scraper. | 3M |
| | b | A farmer purchased a tractor of 25 kW power at a total cost of Rs. 500000 and a three bottom plough of 30 cm bottom width at Rs. 30000/- only. The fuel consumption of the tractor was 6 ltr/h at the ploughing speed of 5 km/h. Calculate the area ploughed per hour and determine the cost of ploughing per ha. Make necessary assumptions if any. | 7M |

OR

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|---|---|--|----|
| 7 | a | What is the earth moving equipment is commonly used for handling of earth? | 7M |
| | b | Explain about shovels. | 3M |

UNIT-IV

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| 8 | a | What are the functions of sprayers? Write types of Sprayers. | 6M |
| | b | Explain about knapsack sprayer. | 4M |

OR

- 9 a What are the functions of furrow openers in seed drill? Explain in briefly about different types of furrow openers. 6M
- b What is seed cum ferti-drill. 4M

UNIT-V

- 10 a Distinguish between spike tooth harrow and spring tooth harrow. 7M
- b What is actual and theoretical filed capacity? 3M

OR

- 11 a Explain in briefly about different types of fertilizer application equipment. 6M
- b Write n briefly about fertilizer metering mechanism. 4M

END