

Reg. No:

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

B.Tech III Year I Semester Regular Examinations March-2023
SOIL AND WATER CONSERVATION ENGINEERING

(Agricultural Engineering)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

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|----|--|-----|----|-----|
| 1 | Briefly explain the each parameters of USLE. | CO2 | L2 | 12M |
| OR | | | | |
| 2 | a Explain the classification of gullies. | CO1 | L2 | 6M |
| | b Differentiate between u shape and v shape gullies. | CO1 | L2 | 6M |

UNIT-II

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|----|--|-----|----|----|
| 3 | a Explain different methods of estimation of peak rate of runoff in brief. | CO2 | L2 | 8M |
| | b Write a short note on Antecedent Moisture Condition (AMC). | CO2 | L2 | 4M |
| OR | | | | |
| 4 | a Define wind erosion. | CO1 | L1 | 2M |
| | b Write the adverse effect of wind erosion. | CO1 | L2 | 2M |
| | c Explain mechanics of wind erosion. | CO1 | L2 | 8M |

UNIT-III

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|----|--|-----|----|-----|
| 5 | a Discuss types of bench terraces with neat diagram. | CO3 | L2 | 8M |
| | b Write the objectives and limitations of bench terraces. | CO3 | L2 | 4M |
| OR | | | | |
| 6 | Design a contour bund for the following specific conditions given below: The area of the field is 1200 m x 50 m having uniform slope of 3% in length wise direction. The soil type is sandy loam having medium to high infiltration rates. The soil cover is moderate during rainy season. The average annual rainfall of the region is 850 mm and one day maximum excess rainfall for 10 years recurrence interval is 900 mm. Take X=0.6 and Y = 1.5, As per soil conditions (sandy loamy soil), consider 2:1 and 5:1 as upstream and downstream slopes respectively. | CO3 | L3 | 12M |

UNIT-IV

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|----|---|-----|----|-----|
| 7 | Explain pre and post sedimentation control methods. | CO4 | L2 | 12M |
| OR | | | | |
| 8 | Explain the design steps of grassed waterways. | CO4 | L2 | 12M |

UNIT-V

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|----|--|-----|----|-----|
| 9 | Explain various water harvesting techniques. | CO5 | L2 | 12M |
| OR | | | | |
| 10 | Describe the design steps involved in farm pond. | CO5 | L2 | 12M |

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