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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY: PUTTUR
(AUTONOMOUS)

B. Tech III Year I Semester Supplementary Examinations December-2021
HYDROLOGY & WATER RESOURCES ENGINEERING
(Civil Engineering)

Time: 3 hours

Max. Marks: 60

PART-A

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

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|---|---|--|----|----|
| 1 | a | Write any 3 limitations of rational method. | L1 | 2M |
| | b | Illustrate about an Aquiclude. | L2 | 2M |
| | c | What is water requirement of crop. | L1 | 2M |
| | d | Write about the types of investigation carried for reservoir planning. | L1 | 2M |
| | e | Write the combination of loading for design of gravity dam. | L2 | 2M |

PART-B

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

UNIT-I

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| 2 | a | With the help of a neat sketch, explain the single tube infiltrometer. | L2 | 4M |
| | b | What do you mean by Hydrograph and Unit hydrograph? | L1 | 6M |

OR

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| 3 | a | Explain the factors, which affect the rate of evaporation. | L2 | 10M |
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UNIT-II

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| 4 | a | Enumerate in detail about factor affecting duty of irrigation water. | L1 | 5M |
| | b | Explain in detail about the methods of improving duty. | L2 | 5M |

OR

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| 5 | The left branch canal carrying a discharge of 20cumecs has a Culturable commended area of 20000 hectares? The intensity of rabi crop is 80% and base period is 120 days. The right branch canal carrying a discharge of 8 cumecs has a Culturable commended area of 12000 hectares, intensity of irrigation of rabi crop is 50% and base period is 120 days. Compare the efficiencies of the two canal systems. | L3 | 10M |
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UNIT-III

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| 6 | a | Write the function of cross regulators and distributor head regulators. | L1 | 6M |
| | b | Write the criteria to design the crest level and length of downstream floor in cross regulator design. | L3 | 4M |

OR

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| 7 | Explain with neat sketch about the types of falls in dam irrigation. | L2 | 10M |
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UNIT-IV

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| 8 | a | Illustrative the criteria's to select the suitable type of cross drainage work. | L2 | 8M |
| | b | Write the three classifications of aqueducts. | L1 | 2M |

OR

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| 9 | Describe in detail various investigations to be carried for reservoir planning. | L3 | 10M |
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UNIT-V

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| 10 | a | Explain with sketch about galleries in gravity dam. | L1 | 2M |
| | b | Write briefly on various forces that act on a gravity dam. | L2 | 8M |

OR

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| 11 | Draw and explain the elementary profile of a gravity dam. | L2 | 10M |
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END