

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

B.Tech. IV Year I Semester Regular & Supplementary Examinations October/November-2025

FOG COMPUTING

(CSE with Specialization in Cloud Computing)

Time: 3 Hours

Max. Marks: 60

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

UNIT-I

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|---|---|--|-----|----|----|
| 1 | a | Evaluate the need for fog computing in IoT environments with relevant use cases. | CO1 | L5 | 6M |
| | b | Illustrate the components of fog computing architecture with a neat diagram. | CO1 | L6 | 6M |

OR

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|---|---|--|-----|----|----|
| 2 | a | Explain the relationship between fog computing and IoT, highlighting how fog improves IoT performance. | CO1 | L2 | 6M |
| | b | Describe the different types of services provided by fog computing environments. | CO1 | L1 | 6M |

UNIT-II

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|---|---|--|-----|----|----|
| 3 | a | What is the need for Fog Computing in IoT? | CO2 | L1 | 6M |
| | b | List and explain the components in a fog computing architecture. | CO2 | L2 | 6M |

OR

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|---|---|---|-----|----|----|
| 4 | a | Explain the role of fog nodes in IoT applications. | CO2 | L2 | 6M |
| | b | Compare fog and cloud in terms of resource utilization. | CO2 | L4 | 6M |

UNIT-III

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|---|---|---|-----|----|----|
| 5 | a | Illustrate the steps involved in data analytics at the fog layer. | CO3 | L3 | 6M |
| | b | Describe how fog handles data storage. | CO3 | L2 | 6M |

OR

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|---|---|---|-----|----|----|
| 6 | a | Explain the role of local storage in fog devices. | CO3 | L2 | 6M |
| | b | Compare raw data processing in fog vs cloud. | CO3 | L4 | 6M |

UNIT-IV

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|---|---|--|-----|----|----|
| 7 | a | Apply iFogSim for a smart home environment. | CO4 | L3 | 6M |
| | b | Identify the advantages and disadvantages of predictive analytics. | CO4 | L1 | 6M |

OR

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|---|---|--|-----|----|----|
| 8 | a | Explain how FogTorchII helps in application placement. | CO4 | L2 | 6M |
| | b | Compare iFogSim and FogTorchII in terms of features. | CO4 | L4 | 6M |

UNIT-V

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|---|---|---|-----|----|----|
| 9 | a | Discuss fog computing's role in healthcare? | CO5 | L2 | 6M |
| | b | Define and describe Intelligent Transportation Systems (ITS). | CO5 | L2 | 6M |

OR

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|----|---|---|-----|----|----|
| 10 | a | Explain fog services used in e-health gateways. | CO5 | L2 | 6M |
| | b | Compare cloud and fog for health data processing. | CO5 | L4 | 6M |

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