

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

B.Tech. III Year II Semester Regular Examinations April-2026

FULL STACK AI DEVELOPMENT

(Common to CSM & CAI)

Time: 3 Hours

Max. Marks: 70

PART-A

(Answer all the Questions 10 x 2 = 20 Marks)

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|---|---|--|-----|----|----|
| 1 | a | What is web development? | CO1 | L2 | 2M |
| | b | List any two types of CSS selectors. | CO1 | L1 | 2M |
| | c | Identify the role of Node.js in backend development. | CO2 | L1 | 2M |
| | d | Define AJAX. | CO2 | L1 | 2M |
| | e | Define React. List the features of ReactJS. | CO3 | L1 | 2M |
| | f | State the role of Redux in React applications. | CO3 | L1 | 2M |
| | g | Name common HTTP methods used in REST APIs. | CO4 | L1 | 2M |
| | h | Define pagination. | CO4 | L1 | 2M |
| | i | What are public routes and private routes? | CO5 | L2 | 2M |
| | j | Identify common validation rules. | CO5 | L1 | 2M |

PART-B

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

UNIT-I

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|---|---|--|-----|----|----|
| 2 | a | Describe the architecture of a full stack application. | CO1 | L2 | 5M |
| | b | Differentiate between class selector and ID selector. | CO1 | L4 | 5M |

OR

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|---|--|--|-----|----|-----|
| 3 | | Design a responsive Registration Form using HTML, CSS, and JavaScript. | CO1 | L6 | 10M |
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UNIT-II

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|---|---|---|-----|----|----|
| 4 | a | Explain the role of Mongoose in Node.js applications. | CO2 | L3 | 5M |
| | b | Describe the structure and features of JSON with suitable examples. | CO2 | L2 | 5M |

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|---|---|--|-----|----|----|
| 5 | a | Describe Angular components and their lifecycle | CO2 | L2 | 5M |
| | b | Illustrate the implementation of routing in Express.js using different HTTP methods. | CO2 | L2 | 5M |

UNIT-III

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|---|--|--|-----|----|-----|
| 6 | | Create a React → Express → MongoDB data flow diagram | CO3 | L6 | 10M |
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| 7 | a | Differentiate the Redux store and reducer. | CO3 | L4 | 6M |
| | b | Develop routing using React Router. | CO3 | L6 | 4M |

UNIT-IV

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|---|--|--|-----|----|-----|
| 8 | | Design a pagination and filtering API using MongoDB. | CO4 | L6 | 10M |
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| 9 | a | Compare GET and POST methods with use cases | CO5 | L4 | 5M |
| | b | Describe how authorization differs from authentication. | CO5 | L3 | 5M |

UNIT-V

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|----|---|--|-----|----|----|
| 10 | a | Illustrate advanced validation rules in a form. | CO6 | L2 | 5M |
| | b | Demonstrate serving images from backend to frontend. | CO6 | L2 | 5M |

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|----|---|---|-----|----|----|
| 11 | a | Illustrate MongoDB queries to filter data. | CO6 | L3 | 5M |
| | b | Demonstrate deployment of a full-stack project. | CO6 | L3 | 5M |

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