O.P.Code: 18CE0101    R18    H.T.No. ☐☐☐☐☐☐☐☐☐☐

# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
## (AUTONOMOUS)
### B.Tech. I Year I Semester Supplementary Examinations October/November-2025
### ENGINEERING MECHANICS
(Common to CE, ME, AGE)

**Time: 3 Hours**

**Max. Marks: 60**

## PART-A
(Answer all the Questions 5 x 2 = 10 Marks)

| | | | | |
|---|---|---|---|---|
| 1 | a | What are the different types of Supports? | CO1 | L1 | 2M |
| | b | What is Angle of Friction? | CO2 | L1 | 2M |
| | c | Define Centroid, | CO3 | L1 | 2M |
| | d | Define Moment of inertia. | CO4 | L1 | 2M |
| | e | What is meant by perfect frame? | CO5 | L1 | 2M |

## PART-B
(Answer all Five Units 5 x 10 = 50 Marks)

### UNIT-I

| | | | | |
|---|---|---|---|---|
| 2 | a | Classify different system of forces with suitable examples. | CO1 | L2 | 5M |
| | b | The resultant of the two forces, when they act at an angle of 60o is 14 N. If the same forces are acting at right angles, their resultant is √137 N. Determine the magnitude of the two forces. | CO1 | L2 | 5M |

**OR**

| | | | | |
|---|---|---|---|---|
| 3 | a | Explain free body diagram with example. | CO1 | L1 | 5M |
| | b | State and prove Lami's theorem. | CO1 | L1 | 5M |

### UNIT-II

| | | | | |
|---|---|---|---|---|
| 4 | a | State laws of friction. | CO2 | L1 | 5M |
| | b | Explain *Cone of Friction* with a neat sketch. | CO2 | L2 | 5M |

**OR**

| | | | | |
|---|---|---|---|---|
| 5 | | A body, resting on a rough horizontal plane, required a pull of 180 N inclined at 30° to the plane just to move it. It was found that a push of 220 N inclined at 30° to the plane just moved the body. Determine the weight of the body and the coefficient of friction. | CO2 | L3 | 10M |

### UNIT-III

| | | | | |
|---|---|---|---|---|
| 6 | | A uniform lamina shown in Fig. consists of a rectangle, a circle and a triangle. Determine the center of gravity of the lamina. All dimensions are in mm | CO3 | L3 | 10M |



**OR**
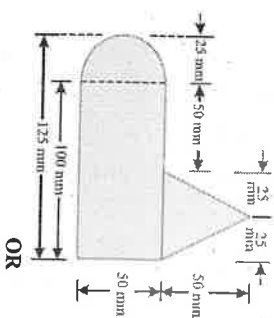
| | | | |
|---|---|---|---|
| 7 | A semicircle of 90 mm radius is cut out from a trapezium as shown in Fig. Find the position of the Centre of gravity of the figure | CO3 | L3 | 10M |
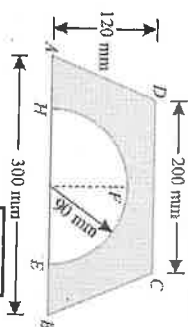


### UNIT-IV

| | | | |
|---|---|---|---|
| 8 | Find the moment of inertia of a T-section with flange as 150 mm × 50 mm and web as 150 mm × 50 mm about X-X and Y-Y axes through the center of gravity of the section as shown in fig. | CO4 | L3 | 10M |
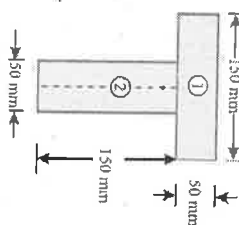


**OR**

| | | | |
|---|---|---|---|
| 9 | Find the moment of inertia about the centroidal X-X and Y-Y axes of the angle section shown in Fig. | CO4 | L3 | 10M |
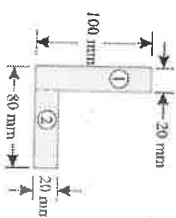


### UNIT-V

| | | | |
|---|---|---|---|
| 10 | Explain the procedure to find forces in members of truss by using method of joints. | CO5 | L2 | 10M |

**OR**

| | | | |
|---|---|---|---|
| 11 | Find the forces in the members of a truss as shown in fig | CO5 | L3 | 10M |



*** END ***

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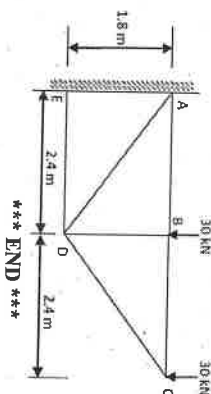
### SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

**B.Tech. II Year I Semester Supplementary Examinations October/November-2025**

### PROBABILITY & STATISTICS
(Common to ME, CSE & CSIT)

**Time: 3 Hours**  **Max. Marks: 60**

### PART-A
(Answer all the Questions 5 x 2 = 10 Marks)

| | | | | |
|---|---|---|---|---|
| 1 | a | State Bayes theorem. | CO1 | L1 | 2M |
| | b | Define Binomial distribution. | CO2 | L1 | 2M |
| | c | Write the formulas for correlation, rank correlation. | CO3 | L2 | 2M |
| | d | Write normal equations to y=ax+b. | CO4 | L2 | 2M |
| | e | Define Student's t-test. | CO5 | L1 | 2M |

### PART-B
(Answer all Five Units 5 x 10 = 50 Marks)

**UNIT-I**

2  a  A class consists of 6 girls and 10 boys. If a committee of 3 is chosen at random from the class, Find the Probability that (i) 3 boys are selected (ii) exactly 2 girls are selected.  CO1  L3  5M

b  Two cards are selected at random from 10 cards numbered 1 to 10. Find the probability that the sum is even if (i) the two cards are drawn together. (ii) The two cards drawn one after other with replacement.  CO1  L3  5M

**OR**

3  A random variable X has the following probability function  CO1  L3  10M

| x | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| P(x) | 0 | K | 2k | 2k | 3k | K² | 2K² | 7K²+k |

Determine (i) K (ii) Evaluate P(X≥6) and P (0<X<5) (iii) if $P(X \le K) > 1/2$, find the minimum value of K (iv) variance.

**UNIT-II**

4  a  Out of 800 families with 5 children each, how many would you expect to have (i) 3 boys (ii) 5 girls (iii) either 2 or 3 boys. Assume equal probabilities for boys and girls.  CO2  L2  5M

b  Two dice are thrown five times. Find the probability of getting 7 as sum i) at least once (ii) P(1<X<5).  CO2  L3  5M

**OR**

5  Find the mean and variance of a Normal distribution in which 7% of items are under 35 and 89% are under 63.  CO2  L3  10M

**UNIT-III**

6  a  Find arithmetic mean to the following data using step deviation method  CO3  L3  5M

| Marks | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 |
|---|---|---|---|---|---|
| Frequency | 5 | 8 | 25 | 22 | 10 |

b  Find the median to the following data  CO3  L3  5M

| X | 5 | 8 | 11 | 14 | 17 | 20 | 23 |
|---|---|---|---|---|---|---|---|
| F | 2 | 8 | 12 | 20 | 10 | 6 | 3 |

**UNIT-IV**

7  a  Obtain the rank correlation coefficient for the following data :  CO3  L3  5M

| X | 68 | 64 | 75 | 50 | 64 | 80 | 75 | 40 | 55 | 64 |
|---|---|---|---|---|---|---|---|---|---|---|
| Y | 62 | 58 | 68 | 45 | 81 | 60 | 68 | 48 | 50 | 70 |

**OR**

b  Find two regression equations from the following data:  CO3  L3  5M

| X | 10 | 25 | 34 | 42 | 37 | 35 | 36 | 45 |
|---|---|---|---|---|---|---|---|---|
| Y | 56 | 64 | 63 | 58 | 73 | 75 | 82 | 77 |

8  Fit a second degree polynomial to the following data by method of least squares  CO4  L5  10M

| x | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| y | 1 | 1.8 | 1.3 | 2.5 | 6.3 |

**UNIT-V**

9  It is claimed that a random sample of 49 tyres has a mean life of 15200 km. This sample was drawn from a population whose mean is 15150kms and standard deviation of 1200 km. Test the Significance at 0.05 level.  CO4  L4  10M

**OR**

10  To examine the hypothesis that the husbands are more intelligent than the wives, an investigator took a sample of 10 couples and administered them a test which measures the I.Q. The results are as follows:  CO5  L3  10M

| Husbands | 117 | 105 | 97 | 105 | 123 | 109 | 86 | 78 | 103 | 107 |
|---|---|---|---|---|---|---|---|---|---|---|
| Wives | 106 | 98 | 87 | 104 | 116 | 95 | 90 | 69 | 108 | 85 |

11  The following table gives the classification of 100 workers according to sex and nature of work. Test whether the nature of work is independent of the worker (ψ2 = 3.84 at 1d.f).  CO5  L4  10M

| | Stable | Unstable | Total |
|---|---|---|---|
| Males | 40 | 20 | 60 |
| Females | 10 | 30 | 40 |
| Total | 50 | 50 | 100 |

*** END ***

# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
## (AUTONOMOUS)
### B.Tech. III Year I Semester Supplementary Examinations October/November-2025
### COMPUTER NETWORKS
(Computer Science & Engineering)

**Time: 3 Hours**          **Max. Marks: 60**

## PART-A
(Answer all the Questions 5 x 2 = 10 Marks)

| | | | | | |
|---|---|---|---|---|---|
| 1 | a | List the layers in OSI reference model. | CO1 | L1 | 2M |
| | b | State the process of Stop and Wait ARQ. | CO1 | L1 | 2M |
| | c | Describe about dynamic routing algorithm. | CO3 | L2 | 2M |
| | d | Distinguish between contention and congestion. | CO4 | L4 | 2M |
| | e | Sketch TCP segment header. | CO5 | L3 | 2M |

## PART-B
(Answer all Five Units 5 x 10 = 50 Marks)

### UNIT-I

| | | | | | |
|---|---|---|---|---|---|
| 2 | a | Tell in detail about twisted pair cable working. | CO1 | L5 | 5M |
| | b | Briefly explain about Coaxial cable. | CO1 | L2 | 5M |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 3 | a | Summarize various network types. | CO1 | L5 | 5M |
| | b | Illustrate the architecture of Internet. | CO1 | L4 | 5M |

### UNIT-II

| | | | | | |
|---|---|---|---|---|---|
| 4 | | Discuss bit-oriented HDLC Protocol with the elaborative explanation of its frames. | CO2 | L2 | 10M |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 5 | | Relate and explain Pure ALOHA and slotted ALOHA protocols. | CO3 | L5 | 10M |

### UNIT-III

| | | | | | |
|---|---|---|---|---|---|
| 6 | a | Calculate the Shortest Path Algorithm considering an example. | CO3 | L3 | 7M |
| | b | Explain Flooding concept. | CO3 | L2 | 3M |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 7 | | Sketch and explain in detail about IPV4 protocol. | CO3 | L3 | 10M |

### UNIT-IV

| | | | | | |
|---|---|---|---|---|---|
| 8 | a | List the transport service primitives. | CO4 | L1 | 3M |
| | b | Explain about the elements of transport layer. | CO4 | L2 | 7M |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 9 | a | Explain the TCP protocol with neat sketch. | CO4 | L2 | 5M |
| | b | Write in detail about User Datagram Protocol (UDP). | CO4 | L3 | 5M |

### UNIT-V

| | | | | | |
|---|---|---|---|---|---|
| 10 | a | List out the four main properties of HTTP. | CO5 | L1 | 5M |
| | b | Illustrate in detail about function and structure of e-mail protocol. | CO5 | L3 | 5M |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 11 | a | Write about static web pages. | CO5 | L3 | 5M |
| | b | Explain about dynamic web pages. | CO5 | L2 | 5M |

*** END ***

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# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
## (AUTONOMOUS)
B.Tech. III Year I Semester Supplementary Examinations October/November-2025

## HYDRAULIC ENGINEERING
### (Civil Engineering)

**Time: 3 Hours**  Max. Marks: 60

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

### PART-A

| | | | | | |
|---|---|---|---|---|---|
| 1 | a | Define specific energy? | CO1 | L1 | 2M |
| | b | Explain about various applications of hydraulic jump. | CO2 | L1 | 2M |
| | c | State the angular momentum principal. | CO3 | L2 | 2M |
| | d | What is meant by priming of a pump? | CO4 | L1 | 2M |
| | e | What is the purpose of draft tube in the turbine? | CO5 | L1 | 2M |

### PART-B

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

### UNIT-I

| | | | | | |
|---|---|---|---|---|---|
| 2 | a | Derive an expression for maximum velocity of flow through a circular section. | CO1 | L1 | 5M |
| | b | Determine the expression for the most economical trapezoidal section in terms of side slope. | CO1 | L2 | 5M |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 3 | a | Derive the condition for a rectangular channel to be most efficient. | CO1 | L3 | 5M |
| | b | Explain the term specific energy of a flowing liquid and derive the condition for critical depth. | CO1 | L2 | 5M |

### UNIT-II

| | | | | | |
|---|---|---|---|---|---|
| 4 | a | What is hydraulic jump and what are the assumptions of hydraulic jump. | CO2 | L1 | 5M |
| | b | What are the different types of hydraulic jump and explain with neat sketches? | CO2 | L1 | 5M |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 5 | a | A hydraulic jump forms at the downstream end of spillway carrying 17.93 m3/s discharge. If depth before jump is 0.80 m, determine the depth after the jump and energy loss. | CO2 | L3 | 5M |
| | b | Write about the classification of bottom channel slope. | CO2 | L1 | 5M |

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### UNIT-III

| | | | | | |
|---|---|---|---|---|---|
| 6 | | A jet of water of diameter 75mm moving with a velocity of 30m/s, strikes a curved fixed plate tangentially at one end at an angle of 30° to the horizontal. The jet leaves the plate at an angle of 20° degrees to the horizontal. Find the force exerted by the jet on the plate in the horizontal and vertical direction. | CO3 | L3 | 10M |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 7 | | Obtain the condition for the jet when it strikes the curved plate at one end tangentially when the plate is symmetrical | CO3 | L3 | 10M |

### UNIT-IV

| | | | | | |
|---|---|---|---|---|---|
| 8 | | What is centrifugal pump? Explain the parts of centrifugal pump with neat sketch. | CO4 | L1 | 10M |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 9 | | Explain the different types of hydraulic similarities that must exist between a prototype and its model. | CO4 | L2 | 10M |

### UNIT-V

| | | | | | |
|---|---|---|---|---|---|
| 10 | a | (i) Define (ii)speed ratio (ii) Flow ratio (iii) Diameter of turbine (iv)Radial discharge. | CO5 | L2 | 5M |
| | b | Define the term unit power, unit speed and unit discharge with reference to a hydraulic turbine. And also derive the expression for these terms. | CO5 | L2 | 5M |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 11 | a | What are the uses of draft tube? Describe with neat sketches different types of draft tube. | CO5 | L1 | 5M |
| | b | What is specific speed, derive the equation for specific speed. | CO5 | L1 | 5M |

*** END ***

## SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
### (AUTONOMOUS)
**B.Tech. III Year I Semester Supplementary Examinations October/November-2025**
### DESIGN AND ANALYSIS OF ALGORITHMS
(Common to CSIT & CSE)

**Time: 3 Hours**                                                    **Max. Marks: 60**

### PART-A
(Answer all the Questions 5 x 2 = 10 Marks)

| | | | | | |
|---|---|---|---|---|---|
| 1 | a | What is an algorithm? | CO1 | L1 | 2M |
| | b | Define the divide and conquer method. | CO2 | L1 | 2M |
| | c | Define optimal solution. | CO3 | L1 | 2M |
| | d | What is graph coloring? | CO4 | L1 | 2M |
| | e | What is Non-deterministic algorithm? | CO5 | L1 | 2M |

### PART-B
(Answer all Five Units 5 x 10 = 50 Marks)

### UNIT-I

2  a  What is asymptotic notation? Explain different types of notations with examples?          CO1   L2   5M

   b  Apply the Master's theorem. Solve the following Recurrence relations
      i) $T(n) = 4T(n/2) + n$ i000i) $T(n) = 2T(n/2) + n \log n$          CO1   L3   5M

**OR**

3  a  Determine in steps of Union and Find algorithms with example.          CO1   L5   5M

   b  Define disjoint sets. Explain different types of disjoint sets operations with examples.          CO1   L2   5M

### UNIT-II

4  a  Sort the records with the following index values in the ascending order using quick sort algorithm. 9, 7, 5, 11, 12, 2, 14, 3, 10, 6.          CO2   L2   5M

   b  What is divide and conquer strategy? Explain the working strategy of Binary Search and find element 60 from the below set by using the above technique: { 10, 20, 30,40,50, 60,70}. Analyze time complexity for binary search.          CO2   L2   5M

**OR**

5  a  Explain the Strassen's algorithm for matrix multiplication and analyze time complexity.          CO2   L5   5M

   b  Solve an algorithm for techniques of binary trees with examples.          CO2   L3   5M

### UNIT-III

6  a  Elaborate job sequencing with deadlines by using greedy method where given the jobs, their deadlines and associated profits as shown below. Calculate maximum earned profit.          CO3   L6   5M
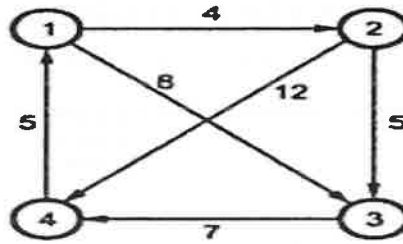
| Jobs | J1 | J2 | J3 | J4 | J5 | J6 |
|---|---|---|---|---|---|---|
| Deadlines | 5 | 3 | 3 | 2 | 4 | 2 |
| Profits | 300 | 180 | 190 | 300 | 120 | 100 |

   b  Explain any one application of greedy method with an example.          CO3   L2   5M

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 7 | a | Construct an algorithm for All pairs of shortest path and calculate shortest path between all pairs of vertices by using dynamic programming method for the following graph. | CO3 | L6 | 6M |



| | | | | | |
|---|---|---|---|---|---|
| | b | Build any one application of dynamic programming with an example. | CO3 | L6 | 4M |

### UNIT-IV

| | | | | | |
|---|---|---|---|---|---|
| 8 | a | Discuss the Hamiltonian cycle algorithm with step by step operation with example. | CO4 | L6 | 6M |
| | b | Give brief description about the general method of branch and bound. | CO4 | L2 | 4M |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 9 | a | Select any one application of backtracking with an example. | CO4 | L3 | 5M |
| | b | Distinguish in detail 8-queens problem using back tracking with state space tree. | CO4 | L4 | 5M |

### UNIT-V

| | | | | | |
|---|---|---|---|---|---|
| 10 | a | Construct any two non-deterministic algorithms with example. | CO5 | L3 | 5M |
| | b | Explain the class of P and NP with example. | CO5 | L2 | 5M |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 11 | a | State and explain cook's theorem. | CO5 | L2 | 5M |
| | b | Determine the classes NP-hard and NP-complete problem with example. | CO5 | L5 | 5M |

**\*\*\* END \*\*\***

# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
## (AUTONOMOUS)
### B.Tech. IV Year I Semester Supplementary Examinations October/November-2025
### MANAGEMENT SCIENCE
(Common to CSE, CSIT, ECE)

**Time: 3 Hours**                                    **Max. Marks: 60**

## PART-A
(Answer all the Questions 5 x 2 = 10 Marks)

| | | | | | |
|---|---|---|---|---|---|
| 1 | a | Define Contingency Theory. | CO1 | L2 | 2M |
| | b | What is marketing mix? | CO2 | L1 | 2M |
| | c | Discuss Job analysis. | CO3 | L2 | 2M |
| | d | Explain about SWOT analysis. | CO4 | L1 | 2M |
| | e | Write about MRP. | CO5 | L2 | 2M |

## PART-B
(Answer all Five Units 5 x 10 = 50 Marks)

### UNIT-I

| | | | | | |
|---|---|---|---|---|---|
| 2 | | Define and explain in the management and its various functions. | CO1 | L1 | 10M |
| | | **OR** | | | |
| 3 | a | Briefly explain the Weber „s Ideal Bureaucracy. | CO1 | L2 | 5M |
| | b | Examine line & staff organization structure. | CO1 | L4 | 5M |

### UNIT-II

| | | | | | |
|---|---|---|---|---|---|
| 4 | | Discuss and Explain the various types plant layoutwith suitable examples. | CO2 | L2 | 10M |
| | | **OR** | | | |
| 5 | a | Elaborate the ABC analysis and derive algebraic model of EOQ. | CO2 | L3 | 5M |
| | b | Explain the stages in Product Life Cycle in brief. | CO2 | L2 | 5M |

### UNIT-III

| | | | | | |
|---|---|---|---|---|---|
| 6 | | Define HRM. Explain and its functions. | CO3 | L2 | 10M |
| | | **OR** | | | |
| 7 | a | Discuss the wage and salary administration | CO3 | L2 | 5M |
| | b | Evaluate on-the job training | CO3 | L3 | 5M |

### UNIT-IV

| | | | | | |
|---|---|---|---|---|---|
| 8 | | Discuss about environmental scanning and explain the process of environmentalscanning. | CO4 | L2 | 10M |
| | | **OR** | | | |
| 9 | | Explain and illustrate what you understand by network analysis. How would youcompare PERT with CPM? | CO4 | L2 | 10M |

### UNIT-V

| | | | | | |
|---|---|---|---|---|---|
| 10 | | Business Process Reengineering deals with the restructuring the processes associated with the products or services'. Do you agree? Illustrate. | CO5 | L4 | 10M |
| | | **OR** | | | |
| 11 | a | What is Business Process Outsourcing? Explain its types in brief. | CO5 | L1 | 5M |
| | b | What is knowledge management? Explain Its importance and models of KM. | CO5 | L1 | 5M |

*** END ***

# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
## (AUTONOMOUS)
### B.Tech. IV Year I Semester Supplementary Examinations October/November-2025
### ARTIFICIAL INTELLIGENCE & MACHINE LEARNING
(Common to CSE & CSIT)

Time: 3 Hours                                                                 Max. Marks: 60

## PART-A
(Answer all the Questions 5 x 2 = 10 Marks)

| | | | | | |
|---|---|---|---|---|---|
| 1 | a | Mention the categorization of intelligent systems. | CO1 | L1 | 2M |
| | b | What is goal formulation? | CO2 | L1 | 2M |
| | c | What is training data? | CO3 | L1 | 2M |
| | d | Differentiate between supervised learning and unsupervised learning. | CO4 | L1 | 2M |
| | e | Give some example for reinforcement learning. | CO5 | L1 | 2M |

## PART-B
(Answer all Five Units 5 x 10 = 50 Marks)

### UNIT-I

| | | | | | |
|---|---|---|---|---|---|
| 2 | | Explain the components of problem definition with an example. | CO1 | L1 | 10M |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 3 | a | Compare and contrast various problem solving approaches to typical AI problems. | CO1 | L4 | 5M |
| | b | Predict and analyse future application areas of Artificial Intelligence. | CO1 | L5 | 5M |

### UNIT-II

| | | | | | |
|---|---|---|---|---|---|
| 4 | a | Describe briefly about problem solving agents with basic algorithm. | CO2 | L3 | 5M |
| | b | State and explain in detail about optimization problems. | CO2 | L4 | 5M |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 5 | | Anlyze the alpha – beta pruning with appporpriate examples. | CO3 | L4 | 10M |

### UNIT-III

| | | | | | |
|---|---|---|---|---|---|
| 6 | | Explain in detail about back propagation algorithm. | CO3 | L2 | 10M |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 7 | | Describe in detail about Vapnik-Chervonenkis Dimension. | CO3 | L2 | 10M |

### UNIT-IV

| | | | | | |
|---|---|---|---|---|---|
| 8 | | Explain in detail about K-Means algorithm. | CO4 | L2 | 10M |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 9 | | Illustrate the mixtures of latent variable models. | CO4 | L2 | 10M |

### UNIT-V

| | | | | | |
|---|---|---|---|---|---|
| 10 | | State and explain non parametric density estimation. | CO5 | L3 | 10M |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 11 | | List and explain in detail about elements of reinforcement learning. | CO5 | L2 | 10M |

*** END ***

# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
## (AUTONOMOUS)
**B.Tech. IV Year I Semester Supplementary Examinations October/November-2025**
**BIG DATA ANALYTICS**
(Computer Science & Engineering)

Time: 3 Hours                                                                Max. Marks: 60

## PART-A
(Answer all the Questions 5 x 2 = 10 Marks)

| | | | | | |
|---|---|---|---|---|---|
| 1 | a | Define big data. | CO1 | L1 | 2M |
| | b | What is name node and data node. | CO2 | L1 | 2M |
| | c | Define MapReduce. | CO3 | L1 | 2M |
| | d | Illustrate and Give two examples of user defined functions. | CO4 | L2 | 2M |
| | e | What is Hbase. | CO5 | L1 | 2M |

## PART-B
(Answer all Five Units 5 x 10 = 50 Marks)

### UNIT-I

| | | | | |
|---|---|---|---|---|
| 2 | Discuss Big Data in terms of three dimensions, volume, variety and velocity. | CO1 | L1 | 10M |

**OR**

| | | | | |
|---|---|---|---|---|
| 3 | Illustrate in detail about Hadoop streaming. | CO1 | L2 | 10M |

### UNIT-II

| | | | | |
|---|---|---|---|---|
| 4 | Describe the File read and File write operations in HDFS | CO2 | L1 | 10M |

**OR**

| | | | | |
|---|---|---|---|---|
| 5 | Explain in detail about File Based Data structures. | CO2 | L2 | 10M |

### UNIT-III

| | | | | |
|---|---|---|---|---|
| 6 | Describe the Shuffle and Sort operations in Map side and Reduce side. | CO3 | L1 | 10M |

**OR**

| | | | | |
|---|---|---|---|---|
| 7 | Explain the different types of output formats in MapReduce. | CO3 | L2 | 10M |

### UNIT-IV

| | | | | |
|---|---|---|---|---|
| 8 | Compare the PIG with Databases with an Example | CO4 | L2 | 10M |

**OR**

| | | | | |
|---|---|---|---|---|
| 9 | Explain about Arithmetic Operators in Pig Latin. | CO4 | L2 | 10M |

### UNIT-V

| | | | | |
|---|---|---|---|---|
| 10 | Describe about Hive architecture and its components. | CO5 | L1 | 10M |

**OR**

| | | | | |
|---|---|---|---|---|
| 11 | What are the advantages of Hive over traditional databases? | CO5 | L1 | 10M |

*** END ***

# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
## (AUTONOMOUS)
**B.Tech. IV Year I Semester Supplementary Examinations October/November-2025**
### CYBER SECURITY
(Common to CSE, CSIT)

**Time: 3 Hours**                         **Max. Marks: 60**

## PART-A
(Answer all the Questions 5 x 2 = 10 Marks)

| | | | | | |
|---|---|---|---|---|---|
| 1 | a | What are Cyber Crimes and How these crimes can be minimized? | CO1 | L1 | 2M |
| | b | List out the phases involved in planning Cyber Crime. | CO2 | L1 | 2M |
| | c | Define Spoofed Policy Development Process. | CO3 | L1 | 2M |
| | d | What is the role of Proxy Servers and Anonymizers in Phishing. | CO4 | L4 | 2M |
| | e | What are the consequences of cybercrimes. | CO5 | L2 | 2M |

## PART-B
(Answer all Five Units 5 x 10 = 50 Marks)

### UNIT-I

| | | | | | |
|---|---|---|---|---|---|
| 2 | a | Analyze about the Global perspective of Cyber Crime. | CO1 | L1 | 5M |
| | b | Summarize about cybercrime in "the legal perspective" | CO1 | L1 | 5M |

**OR**

| | | | | |
|---|---|---|---|---|
| 3 | Explain about Information Security Management related to Cyber Security in detail. | CO1 | L1 | 10M |

### UNIT-II

| | | | | |
|---|---|---|---|---|
| 4 | Discuss and Elaborate about Cyber Stalking with its types. | CO2 | L6 | 10M |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 5 | a | Show how botnet is created and brief its usage with clear description. | CO2 | L2 | 5M |
| | b | Discuss about the Fuel for Cybercrime in detail. | CO2 | L6 | 5M |

### UNIT-III

| | | | | |
|---|---|---|---|---|
| 6 | Compare Mishing, Smishing and Vishing in detail. | CO3 | L2 | 10M |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 7 | a | Select the appropriate techniques used in authentication service security. | CO3 | L3 | 5M |
| | b | List out few Tips to Secure your Cell/Mobile Phone from being Stolen/Lost. | CO3 | L2 | 5M |

### UNIT-IV

| | | | | | |
|---|---|---|---|---|---|
| 8 | a | Outline the purpose of proxy Server in detail. | CO4 | L2 | 5M |
| | b | Who are Anonymizers and how they get affected by scams in cybercrime? | CO4 | L1 | 5M |

**OR**

| | | | | |
|---|---|---|---|---|
| 9 | How hacker use the SQL injections to hack the information. Summarize it. | CO4 | L2 | 10M |

### UNIT-V

| | | | | |
|---|---|---|---|---|
| 10 | Explain the IPR issues with appropriate laws related to it. | CO5 | L2 | 10M |

**OR**

| | | | | |
|---|---|---|---|---|
| 11 | Explain social computing and associated challenges for organizations. | CO5 | L2 | 10M |

*** END ***

# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
## (AUTONOMOUS)
**B.Tech. IV Year I Semester Supplementary Examinations October/November-2025**
### ENTREPRENEURSHIP DEVELOPMENT
(Open Elective-III)

**Time: 3 Hours**                                                                 **Max. Marks: 60**

## PART-A
(Answer all the Questions 5 x 2 = 10 Marks)

| | | | | | |
|---|---|---|---|---|---|
| 1 | a | Define the Functions of an entrepreneur | CO1 | L2 | 2M |
| | b | Role of MSMEs-Discuss. | CO2 | L1 | 2M |
| | c | What is meant by an Invention? | CO3 | L1 | 2M |
| | d | What are the Sources of financing? | CO4 | L2 | 2M |
| | e | Define Project Life Cycle. | CO5 | L2 | 2M |

## PART-B
(Answer all Five Units 5 x 10 = 50 Marks)

### UNIT-I

| | | | | | |
|---|---|---|---|---|---|
| 2 | a | Do you think that entrepreneurs are supporting and developing the economy of a country. | CO1 | L5 | 5M |
| | b | Briefly explain various types of entrepreneurs. | CO1 | L2 | 5M |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 3 | | Does the entrepreneurs requires intrapreneurial skills for running the business successfully? Comment. | CO1 | L4 | 10M |

### UNIT-II

| | | | | | |
|---|---|---|---|---|---|
| 4 | a | Suppose Ms. Malvika wants to open a food joint, which form of business you would recommend to her and support your answer. | CO2 | L6 | 5M |
| | b | Illustrate the problems of MSME. | CO2 | L3 | 5M |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 5 | | Examine the role of government in supporting MSMEs in India. | CO2 | L4 | 10M |

### UNIT-III

| | | | | | |
|---|---|---|---|---|---|
| 6 | a | Creativity and Innovation are interrelated or different. Comment. | CO3 | L3 | 5M |
| | b | Examine the importance of Innovation in Entrepreneurship. | CO3 | L4 | 5M |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 7 | | Develop the consequence of Invention in Entrepreneurship. | CO3 | L3 | 10M |

### UNIT-IV

| | | | | | |
|---|---|---|---|---|---|
| 8 | a | Construct the motivational factors influencing the entrepreneurs. | CO4 | L3 | 5M |
| | b | Outline the EDP and discuss its advantages. | CO4 | L2 | 5M |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 9 | a | What is the scope of entrepreneurship development in India? | CO4 | L1 | 5M |
| | b | Give your opinion about the various schemes offered by government for promoting Entrepreneurship in India. | CO4 | L4 | 5M |

### UNIT-V

| | | | | | |
|---|---|---|---|---|---|
| 10 | a | Define project Management? Determine the stages of project management process. | CO5 | L2 | 5M |
| | b | Make note on features of the Project. | CO5 | L3 | 5M |

**OR**

| | | | | | |
|---|---|---|---|---|---|
| 11 | a | Describe about Project post Feasibility analysis. | CO5 | L2 | 5M |
| | b | Write about Financial requirements for preparation of Project. | CO5 | L2 | 5M |

*** END ***