**AR20**

**CODE: 20OET41A** **SET-1**

**ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI**

**(AUTONOMOUS)**

**IV B.Tech I Semester Regular Examinations, October-2023**

**API and Micro Services**

**(OPEN ELECTIVE)**

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

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

| | | | Marks | CO | Blooms Level |
|---|---|---|---|---|---|
| | | **UNIT-I** | | | |
| 1. | | Illustrate the key components of the spring modules framework? | 10 | CO1 | K2 |
| | | **(OR)** | | | |
| 2. | a) | Describe the concept of setter method injection in the spring framework with an example. | 5 | CO1 | K2 |
| | b) | Write about the concept of auto-scanning in the spring framework. | 5 | CO1 | K2 |
| | | **UNIT-II** | | | |
| 3. | | Discuss the purpose and significance of key Spring Boot annotations with relevant examples. | 10 | CO2 | K3 |
| | | **(OR)** | | | |
| 4. | a) | Explain about bean scopes in detail. | 5 | CO2 | K2 |
| | b) | List the pros and cons of different bean scopes in spring application lifecycle management. | 5 | CO2 | K3 |
| | | **UNIT-III** | | | |
| 5. | | Examine the steps involved in configuring Spring Data JPA in a Spring Boot application and evaluate the importance of each step in enhancing database access and entity management efficiency. | 10 | CO3 | K4 |
| | | **(OR)** | | | |
| 6. | a) | Compare and contrast the advantages and disadvantages of using spring data JPA for database access in spring boot application. | 6 | CO3 | K4 |
| | b) | Explain about pagination in spring data JPA with boot. | 4 | CO3 | K2 |
| | | **UNIT-IV** | | | |
| 7. | | Illustrate the significance of spring transaction management in the context of enterprise application development. | 10 | CO4 | K2 |
| | | **(OR)** | | | |
| 8. | a) | Explain the process of updating entities in a relational database using Spring Data JPA. | 5 | CO4 | K2 |
| | b) | Explain about advantages of spring declarative transaction. | 5 | CO4 | K2 |
| | | **UNIT-V** | | | |
| 9. | | Define service-oriented architecture (SOA) and outline its primary objectives. | 10 | CO5 | K2 |
| | | **(OR)** | | | |
| 10. | a) | Classify the different types of web services that can be implemented using spring boot. | 5 | CO5 | K2 |
| | b) | What is web service? Explain different types of web services in detail. | 5 | CO5 | K2 |
| | | **UNIT-VI** | | | |
| 11. | | Illustrate instances from the real world where the practice of versioning a Spring REST endpoint proves advantageous. | 10 | CO6 | K3 |
| | | **(OR)** | | | |
| 12. | a) | Discuss the impact of data validation on the overall quality and reliability of a spring REST application. | 5 | CO6 | K2 |
| | b) | Define the concept of exception handling in the context of spring REST applications. | 5 | CO6 | K2 |

**AR20**

**CODE: 20OET412** **SET-1**

**ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI**

**(AUTONOMOUS)**

## IV B.Tech I Semester Regular Examinations, October-2023

**PROJECT MANAGEMENT**

**(OPEN ELECTIVE)**

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

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

| | | | Marks | CO | Blooms Level |
|---|---|---|---|---|---|
| | | **UNIT-I** | | | |
| 1. | a) | Define Project Management? | 2 | CO1 | K1 |
| | b) | State the main purpose behind the project management? | 8 | CO1 | K1 |
| | | **(OR)** | | | |
| 2. | a) | Define project planning? Explain its stages? | 6 | CO1 | K1 |
| | b) | When is a project considered to be successful? | 4 | CO1 | K1 |
| | | **UNIT-II** | | | |
| 3. | a) | What is market and demand analysis? | 3 | CO2 | K1 |
| | b) | Explain demand analysis techniques? | 7 | CO2 | K1 |
| | | **(OR)** | | | |
| 4. | a) | What is project report and audit? | 3 | CO2 | K1 |
| | b) | Explain project report types? | 7 | CO2 | K1 |
| | | **UNIT-III** | | | |
| 5. | | Describe the UNIDO and SCBA approaches? | 10 | CO3 | K1 |
| | | **(OR)** | | | |
| 6. | | What is risk analysis? Explain? | 10 | CO3 | K1 |
| | | **UNIT-IV** | | | |
| 7. | a) | Discuss the role of financial resources in implementation? | 6 | CO4 | K1 |
| | b) | Discuss the role of control of projects? | 4 | CO4 | K1 |
| | | **(OR)** | | | |
| 8. | a) | What is meant by contract? | 3 | CO4 | K1 |
| | b) | Explain its types and elements. | 7 | CO4 | K1 |
| | | **UNIT-V** | | | |
| 9. | a) | Discuss in detail the monitoring system. . | 5 | CO5 | K1 |
| | b) | Discuss steps for project monitoring and control in project management | 5 | CO5 | K1 |
| | | **(OR)** | | | |
| 10. | a) | Give detailed overview of PERT and GANTT charts with a suitable example | 5 | CO5 | K1 |
| | b) | . Discuss their merits and demerits over each other. | 5 | CO5 | K1 |
| | | **UNIT-VI** | | | |
| 11. | a) | What is recruitment? | 3 | CO6 | K1 |
| | b) | Explain its sources? | 7 | CO6 | K1 |
| | | **(OR)** | | | |
| 12. | a) | Define training? | 2 | CO6 | K1 |
| | b) | Describe its types with advantages and disadvantages | 8 | CO6 | K1 |

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**CODE: 20OET414** **SET-1**

**ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI**

**(AUTONOMOUS)**

**IV B.Tech I Semester Regular Examinations, October-2023**

**Digital Marketing**

**(OPEN ELECTIVE)**

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

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

| | | | Marks | CO | Blooms Level |
|---|---|---|---|---|---|
| | | **UNIT-I** | | | |
| 1. | a) | Explain the characteristics of Digital Marketing | 5 | CO1 | K2 |
| | b) | Define Digital Marketing Strategy. Explain the Steps to create a digital market strategy. | 5 | CO1 | K2 |
| | | **(OR)** | | | |
| 2. | a) | Explain the role and functions of Digital Marketing Manager. | 5 | CO1 | K2 |
| | b) | Explain the seven key ways in which the increasingly wide spread adoption of technology is influencing consumer behaviour. | 5 | CO1 | K2 |
| | | **UNIT-II** | | | |
| 3. | a) | Elaborate the concepts of Paid results. | 5 | CO2 | K4 |
| | b) | Elaborate the concepts of Organic results. | 5 | CO2 | K4 |
| | | (OR) | | | |
| 4. | a) | Elaborate the concepts of Back links. | 5 | CO2 | K4 |
| | b) | Elaborate the concepts of Organic Traffic.. | 5 | CO2 | K4 |
| | | UNIT-III | | | |
| 5. | a) | Explain the importance of Social Media Optimization. | 5 | CO3 | K2 |
| | b) | Elaborate the myths of Social Media Marketing. | 5 | CO3 | K4 |
| | | **(OR)** | | | |
| 6. | a) | Elaborate the concepts of Social Media Plan. | 5 | CO3 | K4 |
| | b) | Discuss the Suggestions for Social Media Marketing. | 5 | CO3 | K4 |
| | | **UNIT-IV** | | | |
| 7. | a) | Explain the Search Engine Marketing Concepts. | 5 | CO4 | K2 |
| | b) | Discuss the steps to set up Google words Account. | 5 | CO4 | K4 |
| | | **(OR)** | | | |
| 8. | a) | Elaborate the best practices for copywriting. | 5 | CO4 | K4 |
| | b) | Elaborate the tips for Key words Selection. | 5 | CO4 | K4 |
| | | **UNIT-V** | | | |
| 9. | a) | Discuss the concept of Web to lead | 5 | CO5 | K4 |
| | b) | Discuss the concept of Web to Case, | 5 | CO5 | K4 |
| | | **(OR)** | | | |
| 10. | a) | Explain the Lead Generation Strategy. | 5 | CO5 | K2 |
| | b) | Elaborate how You Look for in Lead Generation Tools? | 5 | CO5 | K4 |
| | | **UNIT-VI** | | | |
| 11. | a) | Discuss the concepts of Metaverse. | 5 | CO6 | K4 |
| | b) | Discuss the concepts of NFT. | 5 | CO6 | K4 |
| | | **(OR)** | | | |
| 12. | a) | Explain the History of Digital Revolution. | 5 | CO6 | K2 |
| | b) | Discuss the necessary technology for Digital Revolution. | 5 | CO6 | K4 |

**AR20**

**CODE: 20OET415** **SET-1**

**ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI**

**(AUTONOMOUS)**

**IV B.Tech I Semester Regular Examinations, October-2023**

**Environmental Impact Assessment**

**(OPEN ELECTIVE)**

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

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

| | | | Marks | CO | Blooms Level |
|---|---|---|---|---|---|
| | | **UNIT-I** | | | |
| 1. | a) | Define comprehensive EIA and show the complete process of EIA with the help of a neat process flow chart. | 6 | CO 1 | L2 |
| | b) | List what types of environmental base maps are required before start of EIA and identify their importance. | 4 | CO 1 | L3 |
| | | (OR) | | | |
| 2. | a) | Define Environmental Impact Assessment. Explain the purpose and requirement of EIA? | 5 | CO 1 | L2 |
| | b) | Organize in a systematic way for using EIA as a planning tool for major project activities in brief. | 5 | CO 1 | L3 |
| | | UNIT-II | | | |
| 3. | a) | Develop the Leopold interaction matrix method of impact assessment with suitable examples. | 5 | CO 2 | L3 |
| | b) | Identify the criteria for the selection of EIA methodology. | 5 | CO 2 | L3 |
| | | (OR) | | | |
| 4. | a) | Develop the network methodology of impact assessment with suitable examples. | 5 | CO 2 | L3 |
| | b) | Make use of the environmental media indices of air and water quality? Explain in detail. | 5 | CO 2 | L3 |
| | | UNIT-III | | | |
| 5. | a) | Outline the environmental impacts on flora and fauna and suggest some mitigation measures. | 6 | CO 3 | L2 |
| | b) | Identify the loss of environmental services to humanity by large scale Land Clearing Activities (LCAs). | 4 | CO 3 | L3 |
| | | (OR) | | | |
| 6. | a) | Organize the biological and regulatory mitigation measures for the mitigation of biological impact. | 5 | CO 3 | L3 |
| | b) | Show a detailed note on Biological Impact Assessment. | 5 | CO 3 | L2 |
| | | UNIT-IV | | | |
| 7. | a) | Define what is Environmental Audit? Identify the steps involved in the preparation of audit report? | 5 | CO 4 | L3 |
| | b) | Analyze the important points taken into consider to examine the environmental audit during operational phase of a project. | 5 | CO 4 | L4 |

(OR)

| | | | | | |
|---|---|---|---|---|---|
| 8. | a) | Why post audit is required? Examine how it is beneficial to improve the environment. | 4 | CO 4 | L4 |
| | b) | Identify the various issues to be considered in environmental audit during on-site activities. | 6 | CO 4 | L3 |
| | | UNIT-V | | | |
| 9. | a) | Identify the objectives and the important provisions provided under Environmental (Protection) Act-1986? | 6 | CO 5 | L3 |
| | b) | Compare the functions of CPCB and SPCB in relation to water act. | 4 | CO 5 | L4 |
| | | (OR) | | | |
| 10. | a) | Show why the Acts are necessary and select the role of regulatory agencies in enforcing the environmental laws. | 4 | CO 5 | L3 |
| | b) | Identify the objectives and the important provisions provided under Air (Prevention and Control of Pollution) Act-1981? | 6 | CO 5 | L3 |
| | | UNIT-VI | | | |
| 11. | a) | Describe what is the purpose of Environmental Impact Assessment? Examine the major areas covered in an EIS. | 4 | CO 6 | L4 |
| | b) | Develop an Environmental Impact Assessment and Appraisal report to a thermal power plant. | 6 | CO 6 | L6 |
| | | (OR) | | | |
| 12. | a) | Examine the planning and management of Environmental Impact Assessment studies of any proposed project. | 5 | CO 6 | L4 |
| | b) | Choose the problem of quantification in the assessment of environmental impact of a thermal project. | 5 | CO 6 | L5 |

# AR20

**CODE: 20OET416** **SET-1**

**ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI**

**(AUTONOMOUS)**

**IV B.Tech I Semester Regular Examinations, October-2023**

**Energy Audit Conversation and Management**

**(OPEN ELECTIVE)**

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

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

| | | | Marks | CO | Blooms Level |
|---|---|---|---|---|---|
| | | **UNIT-I** | | | |
| 1. | a) | Explain the concept of energy audit and classify them? | 5M | CO1 | Understand |
| | b) | Write short notes on load profiles? | 5M | CO1 | Create |
| | | **(OR)** | | | |
| 2. | a) | Explain in detail about different diagrams representing the energy flow representation? | 5M | CO1 | Understand |
| | b) | Explain short term energy conservation scheme in detail? | 5M | CO1 | Understand |
| | | **UNIT-II** | | | |
| 3. | | Define energy management. State and explain the basic principles and benefits of energy management? | 10M | CO2 | Remember |
| | | **(OR)** | | | |
| 4. | a) | Explain about energy management program initiating and planning? | 5M | CO2 | Understand |
| | b) | Explain about energy management program monitoring and reporting? | 5M | CO2 | Understand |
| | | **UNIT-III** | | | |
| 5. | a) | What are the factors affecting the efficiency of motor | 5M | CO3 | Analyze |
| | b) | Explain any one of the method to control the speed of DC shunt motor | 5M | CO3 | Understand |
| | | **(OR)** | | | |
| 6. | | How energy efficiency improvement is achieved in energy efficient motor for following power loss area:<br>i). Iron ii). Stator and Rotor iii). Friction and windage | 10M | CO3 | Analyze |
| | | **UNIT-IV** | | | |
| 7. | a) | What is power factor and explain the causes of low power factor? | 5M | CO4 | Analyze |
| | b) | Explain the drawbacks of low lagging power factor? | 5M | CO4 | Understand |
| | | **(OR)** | | | |
| 8. | | What are the methods are available for improving the power factor? Explain any one of the method briefly? | 10M | CO4 | Analyze |
| | | **UNIT-V** | | | |
| 9. | a) | What is the importance of Good lighting system design? | 5M | CO5 | Analyze |
| | b) | Explain the following energy instruments briefly:<br>i) Lux meter<br>ii) Data loggers | 5M | CO5 | Understand |
| | | **(OR)** | | | |
| 10. | a) | What are benefits of conducting lighting energy audit? | 5M | CO5 | Analyze |
| | b) | Explain the following energy instruments briefly:<br>i) Pyrometers<br>ii) Thermocouples | 5M | CO5 | Understand |
| | | **UNIT-VI** | | | |
| 11. | a) | Discuss the different classifications of costs of electrical energy? | 5M | CO6 | Understand |
| | b) | What is importance of high load factor? Explain briefly | 5M | CO6 | Understand |
| | | **(OR)** | | | |
| 12. | a) | Explain the concept of Time Value of Money in detail? | 5M | CO6 | Understand |
| | b) | What is Life Cycle Cost Analysis? Explain briefly? | 5M | CO6 | Analyze |

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**CODE: 20OET417** **SET-1**

**ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI**

**(AUTONOMOUS)**

**IV B.Tech I Semester Regular Examinations, October-2023**

**Optimization Techniques**

**(OPEN ELECTIVE)**

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

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

| | | Marks | CO | Blooms Level |
|---|---|---|---|---|
| | **UNIT-I** | | | |
| 1. | Solve the following linear programming problem using Big-M method<br>Maximize $Z=x_1+x_2$<br>Subjective to constraints<br>$3x_1+4x_2\geq 12$,<br>$x_1+2x_2\leq 6$,<br>$x_1, x_2\geq 0$ | 10M | CO1 | Apply |
| | **(OR)** | | | |
| 2. | Solve the following problem using Simplex method<br>Minimize $Z = x_1 - x_2$<br>Subject to:<br>$2x_1 + 3x_2 \leq 6$<br>$3x_1 + 4x_2 \leq 12$<br>$x_1, x_2 \geq 0$ | 10M | CO1 | Apply |
| | **UNIT-II** | | | |
| 3. | A manufacturing produces four products A, B, C, D by using two types of machines (Lathes, Milling). The time required on the two machines to manufacturing 1 unit of each of the four products, the profit per unit of the product and the total time available on the two types of machines per day given below. | 10M | CO2 | Apply |

| Machine | Time required per unit for product | | | | Total time available per day in min |
|---|---|---|---|---|---|
| | A | B | C | D | |
| Lathe | 7 | 10 | 4 | 9 | 1200 |
| Milling | 3 | 40 | 1 | 1 | 800 |
| Profit per unit | 45 | 100 | 30 | 50 | |

(a) Find the number of units to be manufacture of each product per day for minimizing the profit.

(b) Find the effect of changing the total time available per day on the two machines from 1200-800 minutes to 1500-1000 minutes.

**(OR)**

| | | | | |
|---|---|---|---|---|
| 4. | Maximize $Z = 3x_1 + 5x_2$<br>subject to the constraints<br>$3x_1 + 2x_2 \leq 18$<br>$x_1 \leq 4$<br>$x_2 \leq 6$<br>$x_1, x_2 \geq 0$. | 10M | CO2 | Apply |

## UNIT-III

| | | | | | |
|---|---|---|---|---|---|
| 5. | | A department store has only one cashier. During the rush hours customer arrives at a rate of 20 customers per hour. The average number of customers that can be handled by the casher is 24 customers per hour. Assume that the condition for use of the single channel queuing model determine (a) Utilization parameter (or) Traffic intensity (b) Average number of customers in the quee.(c) Average number of customers in the system (d) Average time a customer spend in the quee (e) Average number of customer spend in the system (f) Probability that cashier is idle. | 10M | CO3 | Apply |

**(OR)**

| | | | | | |
|---|---|---|---|---|---|
| 6. | a) | Explain the characteristics of queuing theory? | 3 M | CO3 | |
| | b) | Train arrive at the yard evening 15min and service time is 33min .If the train capacity of yard is limited to 4 trains Determine<br>a) The probability that the yard is empty<br>b) Average number of trains in the system<br>c) Average number trains in the quee<br>d)Waiting time for system and waiting time of quee | 10M | CO3 | Apply |

## UNIT-IV

| | | | | | |
|---|---|---|---|---|---|
| 7. | | Solve the following problem using method of Lagranian multipliers<br>$Z=4X_1^2+2X_2^2$<br>Subjective to the constraints<br>$X_1+X_2=15$,<br>$X_1,X_2\geq 0$ | 10M | CO4 | Apply |

**(OR)**

| | | | | | |
|---|---|---|---|---|---|
| 8. | | Find the maximum or minimum of the function<br>$Z=X_1^2+X_2^2+X_3^2-4X_1-8X_2-12X_3+100$ | 10M | CO4 | Apply |

## UNIT-V

| | | | | | |
|---|---|---|---|---|---|
| 9. | | What are the applications of the dynamic programming? | 10M | CO 5 | Understanding |

**(OR)**

| | | | | | |
|---|---|---|---|---|---|
| 10. | | State Bellman's "principle of optimality" and explain with the help of an example? | 10M | CO5 | Apply |

## UNIT-VI

| | | | | | |
|---|---|---|---|---|---|
| 11. | a) | What is a decision? Differentiate between programmed and non-programmed decisions. | 4M | CO6 | Understanding |
| | b) | Differentiate decision making under certainty, decision making under risk, decision making under uncertainty. | 6M | CO6 | Understanding |

**(OR)**

| | | | | | |
|---|---|---|---|---|---|
| 12. | | ABC Corporation wants to launch one of its mega campaigns to promote a special product. The promotion budgets not yet finalized, but they know that some Rs. 55,00,000 is available for advertising and promotion. Management wants to know how much they should spend for television spots, which is the most appropriate medium for their product. They have created five 'T.V. campaign strategies' with their projected outcome in terms of increase in sales. Find which one they have to select to yield maximum utility. The data required is given below. | 10M | CO6 | Apply |

| *Strategy* | *Cost in lakhs of Rs.* | *Increased in sales in lakhs of Rs.* |
|---|---|---|
| *A* | 1.80 | 1.78 |
| *B* | 2.00 | 2.02 |
| *C* | 2.25 | 2.42 |
| *D* | 2.75 | 2.68 |
| *E* | 3.20 | 3.24 |

**AR20**

**CODE: 20OET418** **SET-1**

**ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI**

**(AUTONOMOUS)**

**IV B.Tech I Semester Regular Examinations, October-2023**

**Blockchain Technologies**

**(OPEN ELECTIVE)**

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

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

| | | | Marks | CO | Blooms Level |
|---|---|---|---|---|---|
| | | **UNIT-I** | | | |
| 1. | | Define blockchain technology and provide a brief overview of how it works. Explain the core components that make up a blockchain system. | 10 | CO1 | L2 L4 |
| | | **(OR)** | | | |
| 2. | a) | Explain the concept of a peer-to-peer network in the context of blockchain technology. | 5 | CO1 | L3 |
| | b) | Explain the role of consensus algorithms in blockchain networks. | 5 | CO1 | L3 |
| | | **UNIT-II** | | | |
| 3. | a) | Define digital signatures and their significance in blockchain transactions. | 5 | CO2 | L2 |
| | b) | How do digital signatures ensure data integrity and authenticity? | 5 | CO2 | L4 |
| | | **(OR)** | | | |
| 4. | | Describe the key differences between permissioned and permissionless blockchains. Provide examples of use cases for each type. | 10 | CO2 | L3 L5 |
| | | **UNIT-III** | | | |
| 5. | | Discuss the key challenges and solutions associated with the Bitcoin blockchain. How has Bitcoin addressed issues such as scalability, security, and decentralization over time? | 10 | CO3 | L4 L5 |
| | | **(OR)** | | | |
| 6. | a) | Analyze the energy consumption and environmental impact of Bitcoin's Proof of Work (PoW) consensus mechanism | 5 | CO3 | L5 |
| | b) | Discuss the role of mining pools in the Bitcoin network. | 5 | CO3 | L4 |
| | | **UNIT-IV** | | | |
| 7. | a) | Provide an overview of Meta-Mask as a popular cryptocurrency wallet. | 5 | CO4 | L3 |
| | b) | Walk through the process of creating an account in Meta-Mask. | 5 | CO4 | L5 |
| | | **(OR)** | | | |
| 8. | a) | Explain the concept of a cryptocurrency wallet and its significance in the blockchain ecosystem. | 5 | CO4 | L2 |
| | b) | Discuss the advantages and disadvantages of cryptocurrency wallets. | 5 | CO4 | L3 |
| | | **UNIT-V** | | | |
| 9. | a) | Explain the role of Solidity as a programming language for writing smart contracts on the Ethereum platform. | 5 | CO5 | L4 |
| | b) | What are the key features of Solidity, and how does it support the development of decentralized applications (DApps)? | 5 | CO5 | L3 |
| | | **(OR)** | | | |
| 10. | a) | Provide a practical understanding of blocks on the Ethereum blockchain using the blockhcain.com explorer. | 5 | CO5 | L5 |
| | b) | How can users explore and analyze transactions, blocks, and smart contracts on the Ethereum network through this platform? | 5 | CO5 | L4 |
| | | **UNIT-VI** | | | |
| 11. | a) | Explain the architecture of Hyperledger Fabric. | 5 | CO6 | L4 |
| | b) | How does it differ from other blockchain platforms, and what key components make up the architecture of a Hyperledger Fabric network? | 5 | CO6 | L5 |
| | | **(OR)** | | | |
| 12. | a) | Walk through the steps involved in writing smart contracts using Hyperledger Fabric. | 5 | CO6 | L5 |
| | b) | Discuss the security features and considerations specific to Hyperledger Fabric. | 5 | CO6 | L4 |

**AR20**

**CODE: 20OET419** **SET-1**

**ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI**

**(AUTONOMOUS)**

**IV B.Tech I Semester Regular Examinations, October-2023**

**IT Systems Management**

**(OPEN ELECTIVE)**

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

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

| | | | Marks | CO | Blooms Level |
|---|---|---|---|---|---|
| | | **UNIT-I** | | | |
| 1. | | Define the evolutions of systems since 1960's and their management. | 10M | CO1 | K2 |
| | | **(OR)** | | | |
| 2. | a) | Define IT infrastructure? Explore the various components under IT infrastructure? | 5M | CO1 | K2 |
| | b) | Summarize Current business demands and IT systems Issues? | 5M | CO1 | K2 |
| | | **UNIT-II** | | | |
| 3. | a) | Sketch the Waterfall model. List out the advantages and disadvantages of Waterfall model. | 6M | CO2 | K3 |
| | b) | Explain about software economics. | 4M | CO2 | K2 |
| | | **(OR)** | | | |
| 4. | | Explain Conventional Software Management Performance. | 10M | CO2 | K2 |
| | | **UNIT-III** | | | |
| 5. | a) | Illustrate the People-Process-Technology (PPT) approach in detail. | 6M | CO3 | K4 |
| | b) | Explain Service level management and Financial Management | 4M | CO3 | K2 |
| | | **(OR)** | | | |
| 6. | a) | Describe service level agreement(SLA)? How does it help service level management | 5M | CO3 | K2 |
| | b) | Summarize capacity management and availability management with advantages | 5M | CO3 | K3 |
| | | **UNIT-IV** | | | |
| 7. | | Describe the Identity and Access Management(IAM) | 10M | CO4 | K2 |
| | | **(OR)** | | | |
| 8. | | Summarize Computer Security, Internet Security, Physical Security in detail. | 10M | CO4 | K3 |
| | | **UNIT-V** | | | |
| 9. | | Explain Storage Management Process and Activities. | 10M | CO5 | K3 |
| | | **(OR)** | | | |
| 10. | | Summarize Backup Requirements and Restore policies. | 10M | CO5 | K2 |
| | | **UNIT-VI** | | | |
| 11. | | Illustrate the Electronic Data Interchange and explain it. | 10M | CO6 | K4 |
| | | **(OR)** | | | |
| 12. | a) | Define IT E-Commerce and GSM | 4M | CO6 | K2 |
| | b) | Explain Emerging Trends in IT E-Commerce | 6M | CO6 | K3 |

# AR16(RA)

**CODE: 16CE4029** **SET-1**

**ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI**

**(AUTONOMOUS)**

**IV B.Tech I Semester Regular (RA)/Supplementary Examinations, October,2023**

## Traffic Engineering

**(CIVIL ENGINEERING)**

**Time: 3 Hours** **Max Marks: 70**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

### UNIT-I

| | | | |
|---|---|---|---|
| 1. | a) | Explain microscopic and macroscopic parameters of Traffic? Differentiate between them? | 8M |
| | b) | Explain the concept of PCU? How is it established? Give four examples? | 6M |
| | | **(OR)** | |
| 2. | a) | What are different types of speed studies that can be carried out? | 7M |
| | b) | Differentiate condition and collision diagram? Where can these diagrams be used? | 7M |

### UNIT-II

| | | | |
|---|---|---|---|
| 3. | a) | Define LOS? What are different LOS proposed in HCM manual? | 7M |
| | b) | How do you determine capacity of Highway? | 7M |
| | | **(OR)** | |
| 4. | a) | Explain concept of service volume? How do you find for a given Highway? | 6M |
| | b) | What are various measures to improve LOS of (i) Intersection (ii) Highway | 8M |

### UNIT-III

| | | | |
|---|---|---|---|
| 5. | a) | Explain step by step procedure of Webster method of signal design? | 8M |
| | b) | What are general traffic regulative measures? | 6M |
| | | **(OR)** | |
| 6. | a) | What are regulations concerning driver? | 7M |
| | b) | How do you enforce traffic regulations? | 7M |

### UNIT-IV

| | | | |
|---|---|---|---|
| 7. | a) | What are measures to reduce air pollution? | 7M |
| | b) | Brief various guidelines used to keep land use minimal in planning new or existing facilities? | 7M |
| | | **(OR)** | |
| 8. | a) | Explain various effects of traffic on environment? | 7M |
| | b) | What are major air pollutants released? | 7M |

### UNIT-V

| | | | |
|---|---|---|---|
| 9. | a) | What are various traffic signs? | 7M |
| | b) | Mention standards and specifications followed for road markings? | 7M |
| | | **(OR)** | |
| 10. | a) | What are various types of Pavement markings? | 8M |
| | b) | Differentiate cautionary and regulatory signs? | 6M |

# AR18(RA)

**CODE: 18MEE443** **SET-1**

**ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI**

**(AUTONOMOUS)**

**IV B.Tech I Semester Regular (RA)/Supplementary Examinations, October, 2023**

**INDUSTRIAL HYDRAULICS AND PNEUMATICS**

**(MECHANICAL ENGINEERING)**

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

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

**UNIT-I**

| | | | |
|---|---|---|---|
| 1. | a) | Name any five basic components required in a hydraulic circuit and mention their functions | 6M |
| | b) | Define Pascal's law. Explain the working of hydraulic jack using this law | 6M |
| | | **(OR)** | |
| 2. | a) | Explain the working and construction of gear pump. | 6M |
| | b) | List out the advantages and disadvantages of hydraulic system | 6M |

**UNIT-II**

| | | | |
|---|---|---|---|
| 3. | a) | Explain pilot operated check valve in detail. Explain the following a) Weight loaded accumulators b)Spring-loaded accumulators | 6M |
| | b) | Explain construction and working of Four way DCV With neat sketch. | 6M |
| | | **(OR)** | |
| 4. | a) | What is Pressure Intensifiers? Explain single stage pressure intensifiers. | 6M |
| | b) | Write the functions and types of flow control valve .Also explain the following with neat sketch 1) Non-pressure compensated. 2) Pressure compensated. | 6M |

**UNIT-III**

| | | | |
|---|---|---|---|
| 5. | | Explain the following circuits with neat sketch. i)Meter-In ii) Meter Out circuits. | 12M |
| | | **(OR)** | |
| 6. | a) | Discuss a regenerative circuit and explain how it helps to get equal extension and retraction forces. | 6M |
| | b) | Explain with suitable circuits, how the cylinder speed can be controlled by using flow control valves. | 6M |

**UNIT-IV**

| | | | |
|---|---|---|---|
| 7. | a) | List and briefly explain the important characteristics of compressed air. | 6M |
| | b) | Explain with a schematic diagram the production of compressed air for pneumatic systems. | 6M |
| | | **(OR)** | |
| 8. | a) | Describe Pneumatic actuators and explain the types of linear actuators. | 6M |
| | b) | Explain the construction and working of the following control components 1) Check valve 2) Shuttle valve 3)Sequence valve 4)Flow control valve. | 6M |

**UNIT-V**

| | | | |
|---|---|---|---|
| 9. | | With a neat sketch explain how following functions are generated in a pneumatic system i) AND function ii) OR function. | 12M |
| | | **(OR)** | |
| 10. | a) | Explain with a neat circuit diagram the method followed to control the speed of position in hydraulic cylinder? | 6M |
| | b) | What is the Function of Time Delay valve. | 6M |