AR16

CODE: 16OE4051 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular & Supplementary Examinations, February-2021

PROJECT MANAGEMENT

(OPEN ELECTIVE)

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)	Define Project Management. Explain the various stages in Project Management life cycle in detail.	7 M
	b)	Explain the Important Facets of Project Analysis.	7M
		(OR)	
2.	a)	Define Strategy. Explain the concepts of formulation of strategies with examples.	7 M
	b)	Define Capital Budgeting. Explain the different phases of Capital Budgeting.	7M

UNIT-II

3.	a)	Focus on the steps in Market and Demand Analysis and their interrelationships.	7 M
	b)	Define Secondary Information. Elaborate the different sources of Secondary Information.	7M
		(OR)	
4.	a)	Define Demand Forecasting. Explain the different techniques of Demand Forecasting in detail.	7 M
	b)	Elaborate the concepts of Choice of Technology and Technical Arrangements in Technical Analysis.	7M

UNIT-III

7.	a)	Define Capital Structure. Explain the key factors in determining the Debt-Equity Ratio.	7 M
	b)	Define Working Capital. Explain the different types and processing of Working Capital.	7M
		(OR)	
6.	a)	Define Equity Capital. Explain the rights, advantages and disadvantages of Equity Capital.	7 M
	b)	Define Preference share Capital. Explain the different types of Preference Shares, its advantages and its disadvantages.	7M

UNIT-IV

7.	a)	Elaborately describe the different Forms of Project organisation	7 M
	b)	Discuss the Human Aspects of project Management.	7M
		(OR)	
8.	a)	Describe the Pre requisites for successful project implementation.	7 M
	b)	Explain the process of Project Monitoring and Controlling.	7M

UNIT-V

9.	a)	Elaborate the process of Completion of project and Managing Transition Period.	7 M
	b)	Describe the concept of Closure of Contracts and Completion of Assets of Projects.	7M
		(OR)	
10.	a)	Explain the steps in Post Project Evaluation and Completion Audit Report	7 M
	b)	Elaborate the Concept of Scientific Management designed by F.W. Taylor.	7M

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AR16

CODE: 16OE4052 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular & Supplementary Examinations, February-2021

GEOGRAPHICAL INFORMATION SYSTEM

(OPEN ELECTIVE)

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)	Define the term map and how would you explain the maps which are classified on the basis of scale criteria?	7M
	b)	What is meant by projection and explain the method of construction criteria projections?	7M
		(OR)	
2.	a)	List the classification criteria of map projections and explain with a neat sketch about the Cylindrical projection with its aspects?	7M
	b)	How would you define the term scale and explain the various scales?	7M

UNIT-II

3.	a)	List and explain the various components of geographical information system?	7M
	b)	Explain how can you link the spatial and non-spatial data with figure?	7M
		(OR)	
4.	a)	Define the term GIS and list out the objectives?	7M
	b)	Explain the different methods of spatial data inputs in GIS?	7M

UNIT-III

5.	a)	Explain about the components of DBMS?	7M
	b)	Explain about the hierarchical database model with flowchart?	7M
		(OR)	
6.	a)	List and explain the various functions of DBMS?	7M
	b)	Explain about the Ordered Sequential Files?	7M

UNIT-IV

7.	a)	What is vector data and explain its graphical representation in GIS with figure?	7M
	b)	Define raster data model? Explain about the run length encoding and block encoding with figures?	7M
		(OR)	
8.	a)	Explain briefly about the topological features in vector data model with neat sketches?	7M
	b)	What are the stages of data modelling in GIS? Explain about the graphical representation of raster data with a neat sketch?	7M

UNIT-V

9.	a)	Explain how GIS techniques are used in land use and land cover studies?	7M
	b)	Explain how GIS techniques are used in forest studies?	7M
		(OR)	
10.	a)	Explain the role of GIS in Agricultural studies?	7M
	b)	Explain how GIS techniques are used in geological studies?	7M

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AR16

CODE: 16OE4053 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular/supplementary Examinations, February,2021

POWER QUALITY MANAGEMENT

(Open Elective)

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)	Define the following terms: i) Sag ii) Surge iii) Swell iv) Frequency v)Flicker vi) Harmonic vii) Interruption	7M
	b)	Explain power quality Vs equipment immunity?	7M
		(OR)	
2.		Explain about the power quality issues that a Power system will face?	14M

UNIT-II

3.		Give a detailed account of cures for low frequency disturbances?	14M
		(OR)	
4.		List out common power frequency disturbances in electrical power system & Explain these disturbances briefly?	14M

UNIT-III

5.	a)	List the causes of electrical transients? Explain any two of them.	7M
	b)	Explain about Atmospheric causes, Switching of Loads?	7M
		(OR)	
6.		Explain how transient waveforms are created under different loading conditions with suitable examples?	14M

UNIT-IV

7.		Explain the causes of voltage & current harmonics?	14M
		(OR)	
8.		Explain the effect of harmonics on power system devices?	14M

UNIT-V

9.		Explain about various Harmonic measurement devices with suitable diagrams?	14M
		(OR)	
10.	a)	Write short notes on: a) Harmonic Analyzers b) Transient-Disturbance Analyzers	7M
	b)	Explain about Number of Test location, Test duration for solving Power quality problems?	7M

AR16

CODE: 16OE4054 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular & Supplementary Examinations, February-2021

FUNDAMENTALS OF ROBOTICS

(Open Elective)

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)	Discuss in detail the architecture of robot system.	7M
	b)	Sketch and explain any two basic robot configurations classified according to the coordinate system.	7M
		(OR)	
2.	a)	What is the importance of Automation in industry? Explain.	7M
	b)	Discuss in detail about Magnetic gripper with neat sketch.	7M

UNIT-II

3.		Explain the various drive system used with an industrial robot and compare their features, merits and demerits.	14M
		(OR)	
4.	a)	Briefly explain the working principle of any two types of position sensors with neat sketch.	7M
	b)	Describe the principle and application of LVDT.	7M

UNIT-III

5.		For the point [3, 7, 5] perform the following operations: a) Rotate 30^0 about X-axis b) Translate 8 units along y-axis c) Rotate 30^0 about x then translate 6 units along Y- axis d) Rotate 90^0 about z-axis	14M
		(OR)	
6.	a)	What is homogenous transformation matrix? Explain four sub matrices.	7M
	b)	Find the new location of a point $[3\ \ 0\ \ -1\ \ 1]^{T,}$ if it is rotated by 180^0 about Z-axis and then translated by 3 units along Y – axis.	7M

UNIT-IV

7.	a)	Write down the capabilities and limitations of Lead through methods	7M
	b)	What are the differences between Lead through programming and Manual programming method.	7M
		(OR)	
8.	a)	Discuss the relative merits and demerits of different robot programming languages	7M
	b)	Explain the different types of Robot languages.	7M

UNIT-V

9.	a)	Describe the various considerations taken into account for material handling.	7M
	b)	List out different processing applications of robot.	7M
		(OR)	
10.		Explain different material handling applications of industrial robots.	14M

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AR16

CODE: 16OE4055 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular/supplementary Examinations, February,2021

BASICS OF MOBILE COMMUNICATIONS

(OPEN ELECTIVE)

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 operation of cellular system.	7M
	b)	Demonstrate the limitations of conventional mobile systems.	7M
		(OR)	
2.	a)	Define Frequency reuse. How the capacity of cellular system can be increased in cellular system.	7M
	b)	Illustrate the Performance criteria of cellular communication.	7M

UNIT-II

3.	a)	Define Path loss curve. Explain how it is useful for mobile radio environment	7M
	b)	Define foliage loss. Estimate loss due to foliage in mobile radio environment	7M
		(OR)	
4.	a)	Develop the relation between power transmitted and received of cell site and mobile antenna in flat terrain	7M
	b)	Summarize fading in propagation.	7M

UNIT-III

5.	a)	Infer soft hand off and hard hand off in cellular communications	7M
	b)	Explain different hand off scenarios in mobile cellular communications	7M
		(OR)	
6.	a)	Explain different cell site antennas in cellular communications	7M
	b)	Define directional antenna. Explain directional antenna in mobile communications	7M

UNIT-IV

7.	a)	Draw the frequency management chart and explain it.	7M
	b)	Explain different channel assignment techniques in mobile cellular communications.	7M
		(OR)	
8.	a)	Distinguish control channels and setup channels in cellular communications	7M
	b)	Explain channel sharing and borrowing in cellular communications	7M

UNIT-V

9.	a)	Demonstrate the architecture of GSM Technology cellular communications	7M
	b)	Summarize GSM channels in cellular communications	7M
		(OR)	
10.	a)	Explain the operation of FDMA technology in wireless communications	7M
	b)	Explain the operation of TDMA technology in wireless communications	7M

AR16

CODE: 16OE4056 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular & Supplementary Examinations, February-2021

INTRODUCTION TO CLOUD COMPUTING

(Open Elective)

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 the technologies for network –based systems?	7M
	b)	compare Cloud computing , Cluster and Grid computing?	7M
		(OR)	
2.	a)	Summarise the Multicore CPUs and Multithreading Technologies	7M
	b)	Explain Cloud Computing over the Internet?	7M

UNIT-II

3.	a)	What are the Essential Characteristics of cloud computing?	7M
	b)	Explain pros and cons of cloud computing?	7M
		(OR)	
4.	a)	Justify software as a service?	7M
	b)	Compare cloud service models?	7M

UNIT-III

5.	a)	Discuss cloud services used on project management.	7M
	b)	Explain the use of cloud service on Collaborating on calendars, task management	7M
		(OR)	
6.	a)	Explain the use of cloud service on Schedules	7M
	b)	Discuss cloud services used on calendars	7M

UNIT-IV

7.	a)	What are the various cloud security risks?	7M
	b)	Explain the steps to ensure virtual machine security in cloud computing?	7M
		(OR)	
8.	a)	Discuss the top 10 Security Concerns for Cloud-Based Services?	7M
	b)	Explain operating system security?	7M

UNIT-V

9.	a)	Discuss the evolution of storage technology?	7M
	b)	Compare File system and database?	7M
		(OR)	
10.	a)	Explain apache Hadoop?	7M
	b)	Explain Distributed file system?	7M

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AR16

CODE: 16OE4057 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular/supplementary Examinations, February, 2021

Introduction to DBMS

(OPEN ELECTIVE)

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)	With a neat diagram, explain the structure of Database Management System.	10M
	b)	What is data independence and how does a DBMS support it? Explain.	4M
		(OR)	
2.	a)	Describe the three level schema – architecture of a DBMS	7M
	b)	Discuss the main characteristics of DBMS approach and how differ from traditional approach.	7M

UNIT-II

3.	a)	Define an Entity and explain different types of Attributes that occur in Entity Relationship model, with an example.	6M
	b)	Draw an ER diagram of University system, taking into at least six entities.	8M
		(OR)	
4.	a)	What is an integrity constraint? Explain briefly different types of constraints in SQL.	10M
	b)	Explain different Data types available in SQL Language.	4M

UNIT-III

5.	a)	What is query? Explain about nested query with example.	7M
	b)	Explain various aggregate functions in SQL with suitable examples	7M
		(OR)	
6.	a)	What is Join? Explain various types of join operations with examples.	7M
	b)	Write about the usability of ‘group by’ and ‘having’ clauses in SQL.	7M

UNIT-IV

7.	a)	What is Lossless-join decomposition?	6M
	b)	What are different types of normalization? Also explain the difference between 1NF and 2NF briefly.	8M
		(OR)	
8.		What is normalization? Why do we need to normalize our database? Explain various normal forms by taking proper examples	14M

UNIT-V

9.	a)	Define transaction and explain desirable properties of transactions.	8M
	b)	Why the concurrency control is needed? Explain it.	6M
		(OR)	
10.	a)	Compare and contrast between heap files and sorted files	7M
	b)	Distinguish between: i) Primary and Secondary indexing. ii) Ordered indexing and hashing.	7M

AR16

CODE: 16OE4058 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular & Supplementary Examinations, February-2021

ENTREPRENEURIAL DEVELOPMENT

(Open Elective)

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 the Nature and Scope of Business.	7
	b)	Analyse the Concept of Entrepreneur & Entrepreneurship.	7
		(OR)	
2.	a)	Explain the characteristics of an Entrepreneur.	7
	b)	Classify the types of Entrepreneurs.	7

UNIT-II

3.	a)	Elaborate the Environmental factors effecting entrepreneurship.	7
	b)	Examine the factors affecting the local mobility of Entrepreneurs.	7
		(OR)	
4.	a)	Explain the Concept of women entrepreneurship.	7
	b)	Show the problems and remedies of women Entrepreneurship.	7

UNIT-III

7.	a)	Elaborate the Steps to start an MSME.	7
	b)	Explain the concept of Project Identification and e**laborate the ways of** Sources of new Ideas.	7
		(OR)	
6.	a)	Explain the creative problem solving techniques in entrepreneurship.	7
	b)	Explain the concepts of opportunity recognition.	7

UNIT-IV

7.	a)	Explain MSME Development Act-2006.	7
	b)	Elaborate the role of Business Incubation Centre,	7
		(OR)	
8.	a)	Explain the role of National Skill Development Corporation in Entrepreneurial Development.	7
	b)	Elaborate the role of Institutional finance in Entrepreneurial Development.	7

UNIT-V

9.	a)	Outline the Types of Ownership in Business Enterprise.	7
	b)	Elaborate the Concepts of working capital management.	7
		(OR)	
10.	a)	Explain the concepts of Marketing management in brief.	7
	b)	Explain the concepts of Human Resource management in brief.	7

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AR16

CODE: 16OE405A **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular/supplementary Examinations, February,2021

INTRODUCTION TO WIRELESS NETWORKS

(Open Elective)

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 about traffic routing in wireless networks	7M
	b)	Explain about i) Infrared Wireless LAN ii) Spread spectrum Wireless LAN	7M
		(OR)	
2.	a)	Explain about evolution of wireless communication systems.	7M
	b)	Distinguish fixed and wireless telephone networks.	7M

UNIT-II

3.	a)	Explain about any two different wireless data services.	7M
	b)	Explain the basic concepts of ISDN with necessary diagram.	7M
		(OR)	
4.	a)	Explain about Protocol architecture of SS7.	7M
	b)	Explain about Base band layer specifications of Bluetooth.	7M

UNIT-III

5.	a)	Explain about Mobile IP and its working with neat diagrams.	7M
	b)	Explain about concept of Tunnelling in mobile IP	7M
		(OR)	
6.	a)	Explain about wireless application protocol Architecture	7M
	b)	Explain about Wireless Session Protocol	7M

UNIT-IV

7.	a)	Explain about 802.11 medium access control layer	7M
	b)	Explain about 802.11 physical layer	7M
		(OR)	
8.	a)	Explain about the architecture of IEEE 802.11	7M
	b)	Explain about services of IEEE 802.11	7M

UNIT-V

9.	a)	Explain about types of HIPERLAN s.	7M
	b)	Explain about architecture of HIPERLAN 1.	7M
		(OR)	
10.	a)	Explain about basic architecture of WATM Network.	7M
	b)	Explain about protocol entities in WATM	7M

AR13

CODE: 13OE4007 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
IV B.Tech I Semester Supplementary Examinations, February, 2021
RENEWABLE ENERGY
(Electrical & Electronics Engineering)

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

PART-A

ANSWER ALL QUESTIONS **[1 x 10 = 10 M]**

1. a) How the solar energy be converted into electrical energy
   b) Using which device solar radiation is measured?
   c) List the solar applications?
   d) What is Solar water distillation process?
   e) Give the value of Betz criteria constant?
   f) What is Photoelectric effect?
   g) What is aerobic digestion?
   h) What is Anaerobic digestion?
   i) What is carnot cycle?
   j) What is peltier effect?

PART-B

Answer one question from each unit **[5x12=60M]**

UNIT-I

2. a) Define extraterrestrial and terrestrial solar radiation and explain how do they propagate to earth with suitable diagram? 6M
   b) Explain the conduction, convection and Radiation of heat energy transfer techniques? 6M

(OR)

3. a) Discuss how energy is produced in sun with suitable equations and write about the different layers of sun with suitable diagram? 6M
   b) Discuss the Terrestrial solar radiation with neat sketch? 6M

UNIT-II

4.	a)	Classify concentratic type of collectors and write the materials used there?	6M
	b)	Define efficiency of solar PV, also mention the reasons why module efficiency is less than cell efficiency?	6M
		(OR)	
5.	a)	Mention various components of Photo-Voltaic systems?	6M
	b)	Briefly explain solar heating technique with suitable diagram?	6M

UNIT-III

6.	a)	Discuss the different types of Biomass conversion Technologies with required diagrams	6M
	b)	Briefly explain the horizontal and vertical axis windmills and their applications?	6M
		(OR)	
7.	a)	Explain the principle of operation of Tidal power Generation?	6M
	b)	Explain the operation of a biogas digester with a suitable diagram?	6M

UNIT-IV

8.	a)	Briefly explain the potential of geothermal energy in India mentioning the names of places where the sources of geothermal energy are available ?	6M
	b)	Describe the applications of geothermal energy system?	6M
		(OR)	
9.	a)	List various methods of harnessing geothermal energy?	4M
	b)	Write about the potential and conversion technique of tidal energy in India?	8M

UNIT-V

10.		Discuss a fuel cell briefly, how does it work, explain it with suitable diagram?	12M
		(OR)	
11.		Explain the principle of operation of a MHD generator with suitable diagram?	12M

AR13

CODE: 13EC4031 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Supplementary Examinations, February,2021

WIRELESS COMMUNICATION NETWORKS

(ELECTIVE-II)

(Electronics & Communication Engineering)

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

PART-A

ANSWER ALL QUESTIONS **[1 x 10 = 10 M]**

1. a) Explain Advantages & Disadvantages of WLAN?
   b) Write some examples for wireless communication system.
   c) Define Bluetooth.
   d) List the advantages of WLAN.
   e) Define WLL?
   f) Write a note on tunneling.
   g) Explain briefly IEEE 802.11 medium access control?
   h) Write note on data oriented CDPD network.
   i) Explain briefly about Wireless ATM?
   j) Write about HIPERLAN WLL.

PART-B

Answer one question from each unit **[5x12=60M]**

UNIT-I

2. Differentiate wireless and fixed telephone networks 12M

(OR)

3. a) Describe Spread Spectrum Multiple access in detail. 7M
   b) Explain about circuit switching and packet switching. 5M

UNIT-II

4. a) Explain briefly about WLAN & WLL? 6M
   b) Write note on Bluetooth and IEEE 802.15 standard. 6M

(OR)

5. Explain about ISDN, Broadband ISDN, and ATM in detail. 12M

UNIT-III

6. a) What are the capabilities of mobile IP and explain? 6M
   b) How the registration process can be done and it's significance. 6M

(OR)

7. Explain about WAP architecture with neat sketch. 12M

UNIT-IV

8. a) Describe the features of IEEE 802.11A IEEE standard. 6M
   b) Write note on GPRS and higher data rates. 6M

(OR)

9. a) Explain about data oriented CDPD network. 6M
   b) Write short note on short messaging service in GSM. 6M

UNIT-V

10. Write short notes on
    i) Wireless PAN's ii) Brewsters angle iii) Ericisson multiple break point 12M

(OR)

11. a) Explain the functional requirements of HIPERLAN 6M
    b) Explain the functioning of WATM with basic architecture 6M