AR16

CODE: 16OE4051 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular Examinations, November, 2019

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 Capital Budgeting. Explain the different phases of Capital Budgeting.	7 M
	b)	Explain the important aspects in monitoring the key sectors of environment.	7M
		(OR)	
2.	a)	Distinguish between Projected Cash flow Statement and Projected Balance Sheet.	7 M
	b)	Write short notes on Net Present Value and Internal Rate of return,	7M

UNIT-II

3.	a)	Elaborate the factors affecting the plant location and size.	7 M
	b)	Explain the different selection criteria on assessing Financial Factors in Project Selection.	7M
		(OR)	
4.	a)	Elaborate the concepts of Risk Analysis in Practice	7 M
	b)	How Financial Institutions Analyse the Risk in Projects.	7M

UNIT-III

7.	a)	Define Tendering in Contract. Explain the process of Tendering.	7 M
	b)	Elaborate prequalification bid and explain the details of Expression of Interest.	7M
		(OR)	
6.	a)	What are the different procedures in Disputes and claim Settlement?	7 M
	b)	Define Bidding. Explain the Procedure and Irregularities in bidding award.	7M

UNIT-IV

7.	a)	Describe the steps in Development of Project Network.	7 M
	b)	Elaborate the concepts of Time Estimation and Determination of Critical path.	7M
		(OR)	
8.	a)	Explain the process of Scheduling when Resources are Limited.	7 M
	b)	Focus on the concepts of PERT Model in Project Management.	7M

UNIT-V

9.	a)	Describe the Essential Qualities of Manager.	7 M
	b)	Define Recruitment. Explain the process Recruitment	7M
		(OR)	
10.	a)	Define Training. Explain the different types of Training.	7 M
	b)	Elaborate the concepts of Labour legislation in India.	7M

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AR16

CODE: 16OE4052 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular Examinations, November-2019

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

UNIT-II

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

UNIT-III

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

UNIT-IV

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

UNIT-V

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

AR-16

Subject Code: 16OE4053 **Set-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
IV-B.Tech I Semester Regular Examinations, Nov-2019
POWER QUALITY MANAGEMENT
(Open Elective-V)

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. Define electrical power quality .Discuss different power quality issues observed in electrical power systems. 14M

OR

2. Discuss electrical power quality vs. equipment immunity in detail? 14M

UNIT-II

3. What is voltage sag? How can the effects of voltage sag be overcome? 14M

OR

4 . What is the principle of operation of an isolation transformer?
Explain its construction with suitable diagram? Write some of its applications? 14M

UNIT: III

5 a. What do you mean by electrical transients? 4M
b. What are the different types of electrical transients & their causes? 10M

OR

6. Explain capacitor bank switching with suitable diagrams? 14M

UNIT: IV

7 a. Define individual and total harmonic distortions? 6M
b. What are the causes of voltage &current harmonics? 8M

OR

8. Discuss the effects of harmonics on power system devices? 14M

UNIT: V

9. Write short notes on:
(a)Harmonic analyzers 7M
(b)True RMS meters 7M

OR

10. Discuss the following instruments briefly:
(a) Chart recorders 7M
(b)Data loggers 7M

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CODE: 16OE4054 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular Examinations, November,2019

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)	What are the basic components of robot and explain them?	7
	b)	Classify robot by control system, and explain them	7
		(OR)	
2.		What are the different types of gripper mechanisms used for robots? Explain any one of them in detail?	14

UNIT-II

3.	a)	Write down the differences between electrical and pneumatic actuators?	7
	b)	Briefly explain hydraulic actuators with neat sketch.	7
		(OR)	
4.		Explain the working of a stepped motor with neat sketch..	14

UNIT-III

5.	a)	Derive the expression for a rotational matrix about x-axis.	4
	b)	A point $P(3\ \ -2\ \ 5)^T$ is first rotated by 90^0 about x-axis, then by 90^0 about z-axis. Finally, it is translated by -(3 2 -5). Determine new position vector P.	10
		(OR)	
6.		A point $P(7,3,2)^T$ is attached to frame{1} and subjected to rotation of 90^0 about z-axis followed by translation of [4,-3,7] followed by rotation of 90^0 about y-axis. Find the coordinates of point relative to the reference frame at the conclusion of transformations.	14

UNIT-IV

7.		Briefly explain offline programming method and write down the advantages and limitations.	14
		(OR)	
8.		Briefly explain online programming method and write down the advantages and limitations.	14

UNIT-V

9.		Explain robot applications in material handling and assembling.	14
		(OR)	
10.	a)	Discuss non manufacturing applications of robot.	10
	b)	What are the future applications of robot?	4

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CODE: 16OE4055 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular Examinations, November-2019

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.		Explain the operation of basic cellular system	14 M
		(OR)	
2.	a)	Explain the concept of frequency reuse	7 M
	b)	Write about co channel interference	7 M

UNIT-II

3.		Explain the point to point propagation model(Lee model)	14 M
		(OR)	
4.		Derive the expression for the received power in a simple signal propagation environment	14 M

UNIT-III

5.		Explain different handoff initiation techniques	14 M
		(OR)	
6.	a)	Explain how Omni directional antennas used at cell sites	7 M
	b)	Write short notes on space diversity used at cell sites	7 M

UNIT-IV

7.		What is frequency management and explain with an example	14 M
		(OR)	
8.	a)	Explain fixed channel assignment	7 M
	b)	Write about channel sharing and channel borrowing	7 M

UNIT-V

9.		Write about network switching subsystems and base station subsystems	14 M
		(OR)	
10.	a)	What is FDMA ,explain	7 M
	b)	Write the differences between CDMA and TDMA	7 M

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AR16

CODE: 16OE4056 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular Examinations, November,2019

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)	What is Data Center Virtualization for Cloud Computing?	7M
	b)	Classify types of Distributed Computing Systems?	7M
		(OR)	
2.	a)	Explain about Centralized computing and parallel computing?	7M
	b)	Relate Memory, Storage, and Wide-Area Networking ?	7M

UNIT-II

3.	a)	Compare Saas and Iaas ?	7M
	b)	Explain the advantages of cloud computing?	7M
		(OR)	
4.	a)	Discuss about the History of cloud computing?	7M
	b)	Summarise the drawbacks of cloud computing?	7M

UNIT-III

5.	a)	Discuss the use of cloud services for Event Management?	7M
	b)	Explain the use of cloud services for collaborating on calendars?	7M
		(OR)	
6.	a)	How cloud services are used in project management?	7M
	b)	Illustrate the use cloud services in Task management?	7M

UNIT-IV

7.	a)	Explain virtual machine security in cloud computing?	7M
	b)	Summarise the Security Concerns for Cloud-Based Services?	7M
		(OR)	
8.	a)	Demonstrate the operating system security?	7M
	b)	Explain the cloud security risks?	7M

UNIT-V

9.	a)	Explain storage models?	7M
	b)	Compare NoSQL and Database?	7M
		(OR)	
10.	a)	Discuss about Google File system?	7M
	b)	Discuss about 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 Examinations, November- 2019

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 Database approach and how differ from traditional approach.	7M

UNIT-II

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

UNIT-III

5.	a)	What is query? Explain about nested query with example.	7M
	b)	Explain aggregate functions in sql with suitable examples	7M
		(OR)	
6.	a)	Explain four 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 2NF and 3NF 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 Examinations, November- 2019

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 Concept of Entrepreneur & Entrepreneurship in India	7
	b)	Describe the types of Entrepreneurs with its advantages and disadvantages	7
		(OR)	
2.	a)	Detail the importance of Ethics and social responsibility of an entrepreneur	7
	b)	Describe the role of Entrepreneurship in Economic development	7

UNIT-II

3.	a)	Explain the emergence of entrepreneurial class in India	7
	b)	Critically analyse the future development of rural entrepreneurship in India	7
		(OR)	
4.	a)	Describe the Development of women Entrepreneurship in India	7
	b)	What are the need and objectives of Entrepreneurship Development programme (EDP)	7

UNIT-III

5.	a)	Explain Project Identification in detail with examples	7
	b)	Describe the status of MSMEs development in India	7
		(OR)	
6.	a)	Detail the elements in the Formulation of a project report	7
	b)	Prepare a sample project report of any product or service of your choice	7

UNIT-IV

7.	a)	Explain the functions of EXIM bank	7
	b)	Explain the benefits of Institutional finance	7
		(OR)	
8.	a)	Describe the importance of Technology Incubation Centre and Business Incubation Centre	7
	b)	Describe the functions of AP Skill Development Corporation	7

UNIT-V

9.	a)	Detail the Concepts of working capital management in entrepreneurship	7
	b)	What are the prospects of MSME in India	7
		(OR)	
10.	a)	How the Profile of an ideal Entrepreneur in India should be	7
	b)	What are all the Human Resource management aspects to be taken into consideration for entrepreneurship	7

AR16

CODE: 16OE405A **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular Examinations, November-2019

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

UNIT-II

3.	a)	Explain about architecture of CDPD in detail	7M
	b)	Explain the basic concepts of ISDN with necessary diagram.	7M
		(OR)	
4.		Explain about Protocol architecture of Bluetooth.	14M

UNIT-III

5.	a)	Explain about Mobile IP and its working with neat diagrams.	7M
	b)	Explain about Registration procedure 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 the architecture of IEEE 802.11	7M
	b)	Explain about services of IEEE 802.11	7M
		(OR)	
8.	a)	Explain about 802.11 medium access control layer	7M
	b)	Explain about 802.11 physical layer	7M

UNIT-V

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

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AR13

CODE: 13OE4007 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Supplementary Examinations, November- 2019

RENEWABLE ENERGY

(Electrical & Electronics Engineering)

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

PART-A

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

1. a) List the primary and secondary sources of energy
   b) Define Solar constant
   c) Differentiate beam radiation and diffuse radiation
   d) Write the advantages of flat plate collector over focussing type of solar collector
   e) When the velocity of the wind is doubled. Then comment on Wind power.
   f) Define Anaerobic digestion.
   g) Classify Geothermal sources.
   h) Define Tidal range
   i) Define Joulean Heat
   j) What are the main components of fuel cells

PART-B

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

UNIT-I

2. a) Write a short notes on role and potential of new and renewable energy sources **6M**
   b) Sketch the types of terrestrial solar radiation **6M**

(OR)

3. a) Derive the expression for solar radiation on tilted surface **8M**
   b) Write a short notes on solar radiation data **4M**

UNIT-II

4. a) Define solar collector. Explain the liquid heating flat plate collectors **6M**
   b) What is the principle of solar collector? Explain solar air heaters **6M**

(OR)

5. a) Classify the methods of solar energy storage **6M**
   b) Describe a non-convective solar pond for solar energy collection and storage **6M**

UNIT-III

6. a) What is the basic principle of wind energy conversion **6M**
   b) Derive the expression for power developed due to wind **6M**

(OR)

7. a) What is meant by anaerobic digestion? What are the factors which affect bio digestion? Explain briefly **6M**
   b) How biogas plants are classified. Explain them briefly **6M**

UNIT-IV

8.	a)	Explain the vapour dominated hydro thermal convective systems	**6M**
	b)	Write a short notes on hot dry rock geothermal resources	**6M**
		(OR)	
9.	a)	Explain the principle of open or Claude cycle OTEC system	**6M**
	b)	Derive the average tidal power per unit area in a single basin tidal system	**6M**

UNIT-V

10.	a)	List the advantages and disadvantages of MHD generator	**6M**
	b)	Write a short notes on electron gas dynamic conversion	**6M**
		(OR)	
11.	a)	Derive the expression for maximum electrical power per unit volume of MHD Faraday generator	**8M**
	b)	Write the advantages and disadvantages of fuel cells	**4M**

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AR13

CODE: 13EC4031 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Supplementary Examinations, November- 2019

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) What is FHMA?
   b) Define 1-persistant CSMA?
   c) What are the applications of Bluetooth?
   d) What is usage model?
   e) What are the services of wireless datagram protocol?
   f) What is the difference between a mobile user and nomadic user?
   g) What is SMS?
   h) What are the new elements added to the GSM infrastructure to support GPRS?
   i) What are the requirements of HIPERLAN?
   j) Give the specifications of WPAN.

PART-B

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

UNIT-I

2.	a	Differentiate between wireless and fixed telephone networks.	6M
	b	Explain about spread spectrum LANs.	6M
		(OR)	
3.	a	What is traffic routing? Explain connection oriented traffic routing in wireless networks.	6M
	b	Explain about Infrared LANs.	6M

UNIT-II

4.	a	Give the protocol architecture of Bluetooth.	6M
	b	What is the relationship between master and slave in a piconet?	6M
		(OR)	
5.	a	List and briefly define L2CAP logical channels.	6M
	b	What security services are provided by Bluetooth.	6M

UNIT-III

6.	a	What is the difference between an HTML filter and WAP proxy?	6M
	b	Explain the discovery process in mobile IP.	6M
		(OR)	
7.	a	When would each of the three WTP transaction classes be used?	6M
	b	Explain the architecture and protocol stack of WAP.	6M

UNIT-IV

8.	a	Give the physical architecture of CDPD.	6M
	b	Draw and explain CDPD protocol Architecture	6M
		(OR)	
9.	a	Explain the location and handoff management in GPRS.	6M
	b	Explain about wireless application protocol.	6M

UNIT-V

10.	a	Give the basic architecture of WATM.	6M
	b	Draw the frame format of the WATM and explain about all the fields.	6M
		(OR)	
11.		What is HIPERLAN? Explain about its architecture.	12M