AR18

CODE: 18CEE311 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

III B.Tech II Semester Supplementary Examinations, January-2022

ADVANCED DESIGN OF REINFORCED CONCRETE

(Professional Elective-1)

(Civil 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. Write steps to design cantilever retaining wall. 12M

(OR)

2. Explain various checks for stability of retaining wall. 12M

UNIT-II

3. Design a Circular tank with flexible base for a capacity of 180 kilo litres resting on ground having a soil with SBC of 180kN\m^2. Provide a depth of 4.0m with a free board of 250mm. The construction materials to be used are M30 grade concrete and Fe415 steel. 12M

(OR)

4. An open square tank 3.6m x3.6m x 2.8m deep rests on firm ground. Design the tank. Use M 30 concrete and Fe 415 steel. 12M

UNIT-III

5. Design a roof slab for a circular room 4.2m inside diameter. The thickness of wall is 230mm and the slab projects outside the walls by 1m all around. The live load on the slab is 3kN\m^2 at service Use M25 concrete and Fe 415 steel. 12M

(OR)

6. Design a typical flat slab which is supported on 500mm diameter circular columns spaced 6mx5.5m apart in both the directions. The live load on the flat slab is 4kN\m^2. Use Fe 415 steel and M30 concrete. 12M

UNIT-IV

7. A column 350mm x350mm in section stands on a pile cap supported **three** piles. The column is situated at the centroid of the pile group. The total load transferred by the column is 1000kN .The piles are 1.2 m centre to centre. Design the pile cap. Use M30 grade concrete and Fe 415 steel. 12M

(OR)

8. Explain design aspects of under reamed pile foundation with neat sketch. 12M

UNIT-V

9. Explain provisions for ductile detailing of structures as per IS13920. 12M

(OR)

10. Calculate base shear and distribute on a five storied symmetrical commercial building using response spectrum method. Plan dimensions of the building are 16m x 16m. Beams are spaced at 4m centre to centre both in x and y directions. Assume zone III, important building and founded on medium soil conditions. Thickness of slab is 125mm, beams are of 230mm x 500mm, columns are of 400mm x 400mm. Assume uniform brick wall of thickness 230mm on every beam. 12M

***

AR18

CODE: 18CSE324 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

III B.Tech II Semester Supplementary Examinations, January-2022

CRYPTOGRAPHY AND NETWORK SECURITY

(Professional Elective – II)

(Computer Science and 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)	Explain the two network security models.	6M
	b)	What is software vulnerability? With an example explain SQL injection attack.	6M
		(OR)	
2.	a)	Write the encryption rules of Playfair cipher. Construct a Playfair matrix with the key "largest" and encrypt the message "Attack postponed".	6M
	b)	Differentiate substitution and transposition ciphers. Encrypt the message "secret code is red" using rail fence technique with k=2.	6M

UNIT-II

3.	a)	Describe the principles of Public key cryptography.	6M
	b)	With neat sketches explain the encryption of DES algorithm.	6M
		(OR)	
4.	a)	Explain the Blowfish algorithm encryption and decryption process.	6M
	b)	List the pros and cons of the following block cipher modes of operation. i) Cipher Feedback ii) Counter	6M

UNIT-III

5.	a)	Write RSA algorithm. Perform encryption and decryption using p = 3, q = 11, e = 7 and M = 5.	6M
	b)	Briefly explain the Man-in-the-Middle attack of Diffie and Hellman key exchange algorithm.	6M
		(OR)	
6.	a)	Write the summary of Kerberos Version 4 Message Exchanges.	6M
	b)	Describe the message digest generation using SHA-1.	6M

UNIT-IV

7.	a)	Draw and explain the general format of PGP messages.	6M
	b)	What is the scope of AH authentication in transport and tunnel modes?	6M
		(OR)	
8.	a)	Explain the benefits and services of IPSec.	6M
	b)	Write about the functionality and transfer encodings used in S/MIME.	6M

UNIT-V

9.	a)	Explain about SSL handshake and alert protocols.	6M
	b)	With neat sketches explain the purchase request processing in SET.	6M
		(OR)	
10.	a)	Explain the phases of viruses. List the major differences between virus and worms.	6M
	b)	With suitable examples explain packet filtering router firewall.	6M

***

AR18

CODE: 18CSE323 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

III B.Tech II Semester Supplementary Examinations, January-2022

ADVANCED MACHINE LEARNING

(Professional Elective – II)

(Information Technology)

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)	With a neat diagram explain the working of an artificial neural network.	6M
	b)	Briefly discuss the elements of computational learning.	6M
		(OR)	
2.	a)	Explain the concept of a Perceptron with a neat diagram.	6M
	b)	Write the algorithm for Back propagation.	6M

UNIT-II

3.		Explain how kernel methods can be used to extend SVMs to define non-linear decision boundaries.	12M
		(OR)	
4.	a)	Discuss the significance of constructing approximate kernel feature maps.	6M
	b)	Write brief notes on weighted transducers.	6M

UNIT-III

5.	a)	Justify the following statement: "If in the graph representing the belief network, two variables are independent, then they are independent in any distribution consistent with the belief network structure"	6M
	b)	Write and describe the steps of EM algorithm.	6M
		(OR)	
6.	a)	For a set of local distributions defined as $p1(x1\|x2, x4)$, $p2(x2\|x1, x3)$, $p3(x3\|x2, x4)$, $p4(x4\|x1, x3)$ is it always possible to find a joint distribution $p(x1, x2, x3, x4)$ consistent with these local conditional distributions?	6M
	b)	Elaborate on Gaussian distribution.	6M

UNIT-IV

7.	a)	Compare feature selection Vs. feature extraction techniques. Discuss the merits and demerits of each.	6M
	b)	Illustrate Independent Component Analysis.	6M
		(OR)	
8.		Explain how to reduce dimensionality using principal component analysis.	12M

UNIT-V

9.		By considering any two examples or possible applications, describe reinforcement learning.	12M
		(OR)	
10.	a)	Discuss the Limitations and Scope of reinforcement learning.	6M
	b)	Explain how reinforcement learning is different from unsupervised learning.	6M

***

AR16

CODE: 16CE3020 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

III B.Tech II Semester Supplementary Examinations, January-2022

ADVANCED DESIGN OF CONCRETE STRUCTURES

(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. Design a cantilever retaining wall for the following data: 14M
Height of wall above ground, 4.5 m
Depth of foundation, 1.2 m
Unit weight of earth fill, 18 kN/m^2
Angle of internal friction, 30^0
Coefficient of friction between soil and concrete, 0.45
Safe bearing capacity of soil 130 kN/m^2. Use M20 mix and Fe415 steel.

(OR)

2. Explain the methods of designing vertical stem, counter fort, toe slab heel slab and shear key of a counter fort retaining wall. 14M

UNIT-II

3. A reinforced concrete water tank is 5 m x 3 m with a maximum depth of 2.50 m. 150 mm x 150 mm splays are provided at the junction of walls and base slab. The tank is supported on brick masonry walls all round. Design the tank. Use M30 concrete and HYSD bars of Fe415 grade steel. 14M

(OR)

4. An open square tank 5 m x 5 m x 3 m deep rests on firm ground. Design the tank. Use M 25 concrete and Fe 415 steel. 14M

UNIT-III

5. Design an interior panel of flat slab with drop and column head. The panel size is 5.0 x 6.0 m. Height of floor is 4.0 m and the diameter of column is 500 mm. Take live load as 5.0 kN/m^2. The materials are M20 & Fe415 grades. 14M

(OR)

6. A hall is Circular with an internal diameter of 5.0 m. Design a simply supported slab for the hall for the live load of 4000 N/m^2. Assume partial fixity at the support. Use M25 concrete and Fe415 steel. 14M

UNIT-IV

7. A column 400 mm x 400 mm in section stands on a pile cap supported **three** piles and the size of pile is 400 mm square. The column is situated at the centroid of the pile group. The total load transferred to the column is 1200 kN .The spacing between piles is 1.5 m centre to centre. Design the pile cap. Use M20 grade concrete and Fe 415 steel 14M

(OR)

8. The foundation for a structure comprising six piles of square cross section have to support a service load of 3600 kN The piles are driven through a hard stratum and bear on heard rock. Design the reinforcements **in the pile** assuming the pile to be 6.0 m long and using M20 grade concrete and Fe415 grade steel. Sketch the reinforcement details also. 14M

UNIT-V

9. Determine the design wind force of the framed building of plan 30 m x 15 m and 54 m height consisting of storey height is 3.6 m it is braced in the longitudinal direction by rigid frame action and by a reinforced concrete infill wall in transverse direction. Assume the building is located in coastal area with basic wind speed of 60 m/sec 14M

(OR)

10. Write the requirements of ductile detailing of beams and columns as per codal provision IS:13920 14M

AR16

CODE: 16CE3021 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

III B.Tech II Semester Supplementary Examinations, January-2022

INDUSTRIAL WASTE AND WASTE WATER MANAGEMENT

(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)	What are the general characteristics of Industrial waste water?	6M
	b)	Write a detailed note on Equalization and Proportioning.	8M
		(OR)	
2.		What is neutralization? Why industrial wastes are neutralized? Discuss various methods for neutralization of acid and alkali wastes.	14M

UNIT-II

3.	a)	Discuss the effects of industrial waste water on rivers and lakes.	8M
	b)	Explain how recirculation of waste water is useful in industry.	6M
		(OR)	
4.		Can all the industrial wastes be treated in municipal sewage treatment plant? What are the advantages and limitations of treating industrial wastes along with domestic wastes?	14M

UNIT-III

5.	a)	With a neat diagram explain the manufacturing process of pulp and paper industry. Identify the sources of waste water.	8M
	b)	Discuss various biological treatment options available for the treatment of waste water from pulp and paper industry.	6M
		(OR)	
6.	a)	Discuss the sources and characteristics of waste water from a diary industry.	6M
	b)	Explain the method of treating cotton textile mill wastes with the help of flow sheet.	8M

UNIT-IV

7.	a)	Explain the sources and characteristics of waste water from a sugar industry.	7M
	b)	Discuss various method of treatment of waste water from sugar industry with appropriate flow sheets.	7M
		(OR)	
8.	a)	Describe the sources of waste water from oil refinery?	6M
	b)	Explain how liquid wastes from an oil refinery are treated.	8M

UNIT-V

9.		Explain the concept of Common Effluent Treatment Plant. Discuss advantages and limitations of Common Effluent Treatment Plants.	14M
		(OR)	
10.	a)	Write a short note on 'Zero discharge'.	6M
	b)	Describe how you design treatment plant for the effluent of corn starch industry.	8M

***

AR16

CODE: 16EE3020 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

III B.Tech II Semester Supplementary Examinations, January-2022

ELECTRICAL DISTRIBUTION SYSTEMS

(Elective-I)

(Electrical and Electronics 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

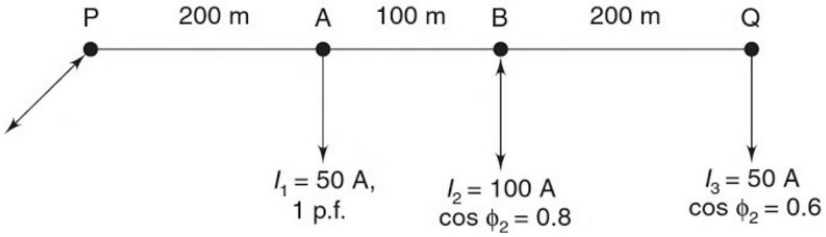
1.	a)	Explain Diversity factor and coincidence factor	6M
	b)	Derive the relationship between load factor and loss factor.	8M
		(OR)	
2.	a)	What are the factors that affect the choice of primary feeders.	6M
	b)	Explain the classification of loads and their characteristics in distribution systems.	8M

UNIT-II

3.	a)	Explain how do you analyze a substation service area with 'n' primary feeders	8M
	b)	Explain the various factors to be considered to decide the ideal location of substation	6M
		(OR)	
4.	a)	Show that if the voltage drops are limited, six feeders can carry only 1.25 times as much load as the four feeders?	7M
	b)	Give a detailed analysis of square shaped distribution substation areas.	7M

UNIT-III

5.	a)	Determine the value of power factor for which the voltage drop is maximum.	6M
	b)	A single phase ac distributor AB 500m long has a total impedance of $(0.02+j0.04)\Omega$ and is fed from end A and is loaded as under i) 50A at unity power factor 200m from point A ii) 100A at 0.8 power factor lagging 300m from point A iii) 50A at 0.6 power factor lagging at the far end Calculate the total voltage drop and voltage at the far end.	8M



(OR)

6.	a)	Explain single phase two wires uni-grounded levels to calculate voltage drop and power loss.	8M
	b)	Explain about non-three phase primary lines.	6M

UNIT-IV

7.	a)	What is meant by coordination of protective devices?	8M
	b)	Discuss the objectives of distribution protection.	6M
		(OR)	
8.	a)	Explain sectionaliser to sectionaliser coordination.	7M
	b)	Explain the principle of fuse.	7M

UNIT-V

9.	a)	Explain the factors that influence the choice of series and shunt capacitors in distribution systems	7M
	b)	Explain different methods used for power factor correction in distribution systems.	7M
		(OR)	
10.	a)	Explain line drop compensation in distribution systems.	7M
	b)	List the various methods to improve voltage profile.	7M

AR16 SET1

CODE: 16ME3021

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

III B.Tech II Semester Supplementary Examinations, January-2022

THERMAL ENGINEERING - II

(Mechanical 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) Sketch and explain working of separating and throttling calorimeter. [7M]

   b) In a steam power plant the steam supply is at 15bar and dry and saturated. The condenser pressure is 0.4 bar, Calculate the Carnot and Rankine efficiencies of the cycle. Neglect pump work. [7M]

(OR)

2. a) Steam at apressure of 15bar and 300^0C is delivered to the throttle of an engine.The steam expands to 2 bar when release occurs. The steam exhaust takes place at 1.1 bar. A performance test gave the result of the specific steam consumption of 12.8 kg/kwh and a mechanical efficiency of 80%.Deterrmine [14M]
   1.Modified Rankine engine work
   2.Modified Rankine efficiency
   3.Indicated and brake work
   4.Brake thermal efficiency

UNIT-II

3. a) Describe with a neat sketch the construction and working of a Babcock and wilcox boiler. [7M]
   b) What are the differentiating features between a water tube and a fire tube boiler? [7M]

(OR)

4. a) Explain with a neat sketch working of a Benson boiler. [7M]
   b) Derive expression for maximum discharge through a chimney. [7M]

UNIT-III

5. a) Derive the relationship between area- velocity of a nozzle. [7M]
   b) Compare the merits and demerits of surface condenser over jet condenser [7M]

(OR)

6. a) Derive an expression for maximum discharge through convergent divergent nozzle for steam. [7M]
   b) Explain different types of jet condensers with neat sketch. [7M]

UNIT-IV

7. a) A stage of a steam turbine is supplied with steam at a pressure 50 bar and 350^0C and exhausts at a pressure of 5 bar. The isentropic efficiency of the stage is 0.82 and the steam consumption is 2270kg/min.Determine the power output of the stage. [7 M]

   b) Explain velocity compounding of an impulse turbines. [7M]

(OR)

8. A 50% reaction turbine running at 400r.p.m has the exit angle of 20^0 and the velocity of steam relative to the blades at the exit is 1.35 times the mean blade speed. The steam flow rate is 8.33kg/s and at a particular stage the specific volume is 1.381m3/kg. Calculate for this stage, [14M]
   1.Asuitable blade height assuming the rotor mean dia 12 times the blade height
   2.diagram work

UNIT-V

9. a) Explain the effect of reheat on Brayton cycle. [7M]

   b) Explain the working of turbo engine with neat sketch [7M]

(OR)

10. A turbo jet engine consumes air at the rate of 60.2kg/s when flying at a speed of 1000km/h.`Calculate: [14 M]
    1.Exit velocity of the jet when the enthalpy change for the nozzle is 230 KJ/kg and velocity coefficient is 0.96
    2.Fuel flowrate inkg/s when air fuel ratio is 70:1
    3.Thrust specific fuel consumption`
    4. Thermal efficiency of the plant when the combustion efficiency is 92% and calorific value of fuel used is 42000kj/kg.
    5.Propulsive power 6.Propulsive efficiency
    7. Overall efficiency.

AR16

CODE: 16EC3022 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

III B.Tech II Semester Supplementary Examinations, January-2022

COMPUTER ORGANIZATION AND ARCHITECTURE

(Electronics and Communication 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 different types of computers.	6M
	b)	Explain the Functional units and operational concepts of a basic computer.	8M
		(OR)	
2.	a)	Explain in detail shift micro operations.	7M
	b)	Explain how the registers are connected to a common bus system using multiplexers.	7M

UNIT-II

3.	a)	Explain floating point representation in detail.	6M
	b)	Draw the flowchart for floating point addition and subtraction algorithm and explain.	8M
		(OR)	
4.	a)	Explain booths multiplication algorithm with flowchart.	7M
	b)	Explain about BCD adder.	7M

UNIT-III

5.	a)	Explain in detail about Auxiliary memory.	8M
	b)	Explain about static RAM & dynamic RAM.	6M
		(OR)	
6.	a)	Explain the mapping techniques in cache memory.	7M
	b)	Explain about memory management hardware.	7M

UNIT-IV

7.	a)	Explain about Parallel Priority Encoder.	7M
	b)	Discuss Asynchronous communication interface	7M
		(OR)	
8.	a)	Explain in detail about Direct Memory Access.	8M
	b)	Explain IO Processor with example.	6M

UNIT-V

9.	a)	Discuss about the basics of vector processing	6M
	b)	What is parallel processing? Explain any parallel processing mechanism.	8M
		(OR)	
10.	a)	Explain briefly about Array Processors.	7M
	b)	Discuss briefly micro instruction sequencing.	7M

AR16

CODE: 16CS3018 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

III B.Tech II Semester Supplementary Examinations, January-2022

SOFTWARE TESTING AND PROJECT MANAGEMENT

(Common to CSE & IT)

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 structured approach to software building.	10M
	b)	Differentiate Verification and Validation Testing.	4M
		(OR)	
2.	a)	List out and explain 8 considerations in developing test methodologies	7M
	b)	Explain the various methods involved in establishing testing policy	7M

UNIT-II

3.	a)	Differentiate black box and white box testing?	7M
	b)	Walkthroughs can catch 60% errors-comment?	7M
		(OR)	
4.		Illustrate cause effect graphing with example?	14M

UNIT-III

5.		Explain the process of software test life cycle?	14M
		(OR)	
6.		List and explain the steps involved in testing process.	14M

UNIT-IV

7.	a)	Explain the features of waterfall model	10M
	b)	Discuss disadvantages in waterfall model and remedies?	4M
		(OR)	
8.	a)	Explain about conventional software management performance?	7M
	b)	Explain about evolution of software economics?	7M

UNIT-V

9.	a)	Explain about improving software processes.	7M
	b)	State the principles of conventional software engineering	7M
		(OR)	
10.	a)	State the principles of modern software management	7M
	b)	Explain about transitioning to an iterative process	7M

AR13

CODE: 13ME3021 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

III B.Tech II Semester Supplementary Examinations, January-2022

OPERATIONS RESEARCH

(Mechanical Engineering)

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

PART-A

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

1. a) Define Operations Research.
   b) List various models used in OR.
   c) What is Unbalanced Transportation Model.
   d) What is the objective of travelling salesman problem.
   e) What algorithm is used for Optimal sequencing of jobs.
   f) What is Kendall's notation.
   g) Define the replacement.
   h) Define Saddle Point in game theory.
   i) What is difference between CPM and PERT.
   j) Define Critical Path.

PART-B

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

UNIT-I

2. Solve the following Linear Programming problem by Simplex method 12M

$$\text{Maximize } Z = 10X_1 + 15X_2 + 20X_3$$
$$\text{Subjected to } 2X_1 + 4X_2 + 6X_3 \leq 24$$
$$3X_1 + 9X_2 + 6X_3 \leq 30$$
$$X_1, X_2, X_3 \geq 0$$

(OR)

3. Solve the following Linear Programming problem by Big-M method 12M

$$\text{Maximize } Z = 6X_1 + 4X_2$$
$$\text{Subjected to } 2X_1 + 3X_2 \leq 30$$
$$3X_1 + 2X_2 \leq 24$$
$$X_1 + X_2 \geq 3$$
$$X_1, X_2 \geq 0$$

UNIT-II

4. A Company has 3 Sources which supplies goods to 4 destinations. Monthly Source supplies and destinations demand requirements are shown below. Unit shipping costs are also given in table. Determine the optimum distribution for this company to minimize shipping costs. 12M

Destination

		1	2	3	4	Supply
Source	1	15	10	17	18	2
	2	16	13	12	13	6
	3	12	17	20	11	7
Demand		3	3	4	5	

(OR)

5. A Company has 5 Jobs and 5 Persons to be performed. Time for each Person would take to perform each job is given in the following matrix. How the jobs should be allocated to each person so as to minimize the total time. 12M

		Jobs				
		A	B	C	D	E
Persons	1	2	9	2	7	1
	2	6	8	7	6	1
	3	4	6	5	3	1
	4	4	2	7	3	1
	5	4	3	9	5	1

UNIT-III

6. There are seven jobs, each of which must go through machines A, B and C in the order ABC. Processing Times in minutes are given in the table below. Find the sequence that minimizes the total elapsed time required to complete jobs and also find idle time for machines A, B and C. 12M

Job	Processing Time		
	Machine-A	Machine-B	Machine-C
1	12	3	7
2	6	4	8
3	5	1	9
4	11	5	4
5	5	2	7
6	7	3	8
7	6	4	3

(OR)

7. A harbour has single dock to unload the containers from the incoming ships. The arrival rate of ships at the harbour follows poisson distribution and the unloading time for the ships follow exponential distribution and hence, the service rate also follows poisons distribution. The arrival rate and service rate are 8 ships per week and 14 ships per week respectively. Find the following: 12M
   i) Utilization of dock.
   ii) Average number of waiting ships in the system and in the queue.
   iii) Average waiting time per ship in the queue and in the system.

UNIT-IV

8. A truck owner finds from his past records that the maintenance cost per year of a truck whose purchase price is Rs.8000, are given below: 12M

Year	1	2	3	4	5	6	7	8
Maintenance cost	1000	1300	1700	2200	2900	3800	4800	6000
Resale Price	4000	2000	1200	600	500	400	400	400

Determine at what time it is profitable to replace the truck?

(OR)

9. Solve the following game whose pay off matrix is given by pay off matrix to player A. 12M

Apply dominance principle, then find the optimal strategy of both players and Value of game.

		Player-B				
		I	II	III	IV	V
Player-A	I	2	4	3	8	4
	II	5	6	3	7	8
	III	6	7	9	8	7
	IV	4	2	8	4	3

UNIT-V

10. Construct the network diagram for the following data. Calculate total float, free float, independent float for each activity, total project duration and the critical path? 12M

Activity	Duration (Days)
1-2	2
1-3	2
1-4	2
2-5	4
3-6	5
3-7	8
4-7	4
5-8	2
6-8	4
7-9	5
8-9	3
9-10	4

(OR)

11. Draw Network diagram and find critical path, project duration ,slack for all events, probability of completing the project in 41 days from the following data ; 12M

Activity (i-j)	Duration (days)		
	Optimistic time	Most likely time	Pessimistic time
1-2	3	6	15
1-6	2	5	14
2-3	6	12	30
2-4	2	5	8
3-5	5	11	17
4-5	3	6	15
6-7	3	9	27
5-8	1	4	7
7-8	4	19	28

***

AR13

CODE: 13CS3024 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

III B.Tech II Semester Supplementary Examinations, January-2022

SOFTWARE PROJECT MANAGEMENT

(Computer Science & Engineering)

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

PART-A

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

1. a) Define project.
   b) Define Product Breakdown Structure (PBS).
   c) Who are Project Stakeholders?
   d) What is cost-benefit analysis ?
   e) What are the main components of the risk management?
   f) Define review point
   g) What are the two methods used to progress of project in picture?
   h) Expand the term SCO.
   i) What is the responsibility of Project Review Authority?
   j) Mention some of the artifacts of Software Assessment.

PART-B

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

UNIT-I

2. a) Explain Waterfall model in practice. What are five necessary improvement for this model. 6M
   b) How to estimate cost in software economics? Explain with an illustration. 6M

(OR)

3. a) Explain the three generations of software economics and pragmatic software cost estimation. 6M
   b) What are the common causes for Project failures? Explain in detail. 6M

UNIT-II

4. a) What are the modern process approaches for solving conventional problems. Explain in detail. 6M
   b) Explain about various workflows used in software project management. 6M

(OR)

5. a) Differentiate between conventional and modern software project management principles. 6M
   b) Explain the life cycle phases of unified model in detail. 6M

UNIT-III

6. a) What are different types of check points used in SPM. Explain in detail. 6M
   b) Differentiate between artifacts as management and technical perspective. 6M

(OR)

7. a) Write about results of major milestones in a modern process. Explain in detail. 6M
   b) Write in detail about Management Artifacts with an example. 6M

UNIT-IV

8.	a)	What are the four component teams in a default line-of-business organization and their responsibilities?	6M
	b)	Write an overview of software project team evolution over the life cycle	6M
		(OR)	
9.	a)	With a neat diagram, explain the software project team evolution.	6M
	b)	What is the primary reason for round-trip engineering? Explain with a neat diagram.	6M

UNIT-V

10.	a)	Explain about process overview of CCPDS-R project.	6M
	b)	Differentiate between management indicators and quality indicators used in managing a modern process.	6M
		(OR)	
11.	a)	Explain the Management and Quality indicators in detail	6M
	b)	Explain about various artifacts of CCPDS-R project.	6M

***