

K S R M College of Engineering (Autonomous), KADAPA – 516 003
B.Tech VIII Semester Regular Examinations, 2022
Repairs & Rehabilitation of Structures
(Civil Engineering)

Time: 03:00 Hrs.

Max. Marks: 70

Note: All questions will carry equal marks

Unit – I

1 Explain in detail the corrosion mechanism and write the methods of corrosion protection on concrete structures? 14 Marks

OR

2 a Explain carbonation of concrete in detail? 7 Marks

b Define alkali aggregate reaction; explain causes and preventive measures of alkali aggregate reaction? 7 Marks

UNIT- II

3 a Describe properties of repair materials and their importance? 7 Marks

b Write types of repair techniques and explain two techniques Briefly? 7 Marks

OR

4 Write briefly about shotcrete and repairs in under water structures? 14 Marks

UNIT III

5 a What is structural appraisal? Write principals of structural appraisal. 7 Marks

b Write the procedure of structural Conditional assessment? 7 Marks

OR

6 Explain two different non-destructive techniques to evaluate deteriorations in detail? 14 Marks

UNIT IV

7 Explain in detail about retrofitting Techniques, its merits and demerits? 14 Marks

OR

8 Write in detail about need to enhance the seismic resistance of structures? Write in detail about elastomeric dampers? 14 Marks

UNIT V

9 Describe briefly about the basic components of structural health monitoring and its working mechanism? 14 Marks

OR

10 Write in detail about different sensors that can be used to find structural health? 14 Marks

K. S. R. M. College of Engineering, KADAPA

(AUTONOMOUS)

B. Tech, VIII Semester (R18) Regular Examinations of April/May 2022

Sub: Electrical Distribution Systems (PE-IV)

Time : 3 Hours

Max.Marks: 70

Answer any FIVE question choosing one question from each unit.

All questions carry equal marks

Unit-I		
1.	(a) Explain load modelling and its characteristics?	(7M)
	(b) Derive relationship between load and loss factor for different load cases?	(7M)
Or		
2.	(a) Explain following terms (i) Coincidence Factor (ii) Contribution Factor (iii) Utilization Factor (iv) Plant capacity factor	(7M)
	(b) Write short notes on primary distribution and secondary distribution systems	(7M)
Unit-II		
3.	(a) Compare overhead and underground distribution systems	(7M)
	(b) Explain requirements and design features of distribution systems?	(7M)
Or		
4.	(a) Describe with neat sketch radial type primary feeder	(7M)
	(b) Elucidate with neat single line diagram about loop type primary feeder	(7M)
Unit-III		
5.	(a) Write short notes on optimum location of substation	(7M)
	(b) Explain air insulated Indoor and Outdoor substation?	(7M)
Or		
6.	(a) With suitable layout describe any two type of bus bar arrangement	(7M)
	(b) Discuss about Primary-Feeder Loading	(7M)
Unit-IV		
7.	(a) Explain the effect of series and shunt capacitance on feeder voltage?	(7M)
	(b) Derive the equation for voltage drop in a uniformly distributed loads	(7M)
Or		
8.	(a) Discuss demerits of low power factor in distribution systems	(7M)
	(b) Clarify methods used for improving power factor?	(7M)
Unit-V		
9.	(a) Describe about Distribution Automation	(7M)
	(b) Discuss SCADA for Control Volt/VAR in the Distribution Networks	(7M)
Or		
10.	(a) Explain GIS in Distribution systems?	(7M)
	(b) Write significance of AMR	(7M)

Code: 1803801

K.S.R.M COLLEGE OF ENGINEERING (AUTONOMOUS), KADAPA
B.Tech VIII semester (R18) Regular Examinations , March 2022
REFRIGERATION AND AIRCONDITIONING
(Mechanical Engineering) (R 18)
MODEL QUESTION PAPER

Time: 3 hrs

Max Marks: 70

Answer five questions. Selecting one Question from each unit
All Questions carry equal marks

Unit-I

1. a) Explain the working of an air refrigerator on Bell-Coleman cycle (7M)

b) Performance of Bellcoleman cycle the compression and expansion follows on
 $PV^n = C$ (6M)

(OR)

2. a) Explain necessity of cooling in Air craft? (7M)

b) Explain boot strap air refrigeration system? (7M)

Unit-II

3 a) Explain the difference between the VCRS and VARS? (6M)

b) A vapour compression refrigerator uses Methyl Chloride (R-40) and operates between temperature limits of -10°C and 45°C . At entry to the compressor the refrigerant is dry saturated after compression it acquires a temperature of 60°C . Find the C.O.P. of the refrigerator. The relevant properties of Methyl Chloride are as follows: (8M)

Saturation temperature in 0°C	Enthalpy in kJ/Kg		Entropy in kJ/Kg	
	Liquid	Vapour	Liquid	Vapour
-10	45.4	460.7	0.183	1.637
45	133.0	483.6	0.485	1.587

(OR)

4. (a) Explain the working of simple vapour absorption refrigeration system?. (7M)

(b) In a vapour absorption system, the heat is supplied to the generator by condensing steam at 3bar and 85% dry. The temperature in the evaporator is to be maintained at -10°C . If the cooling water rejects heat at 30°C in the condenser find the maximum COP of the system. (7M)

Unit-III

5. (a) Explain the working of Steam Jet Refrigeration system? (7M)

(b) Explain the working of Thermo-electric Refrigeration system? (7M)

(OR)

6. a) Differentiate between 'Primary' and 'secondary' refrigerants? (8M)

b) Enumerate the desirable properties of an ideal refrigerant? (6M)

Unit-IV

7. The pressure and temperature of mixture of dry air and water vapour are 736 mm of Hg and 21⁰C DBT. The dew point temperature of the mixture is 15⁰C. Determine the following (i) Partial pressure of water vapour in the mixture.

(ii) Relative humidity

(iii) Specific humidity

(iv) Enthalpy of mixture per kg of dry air.

(14M)

(v) Specific volume per kg of dry air.

(OR)

8. a) Explain and briefly with neat a sketch “ sling psychrometer” (4M)

b) In a cooling application, moist air enters a refrigeration coil at the rate of 100 kg per min at 35⁰C and 50 % RH. The apparatus dew point of coil is 5⁰C and bypass factor 0.15. Determine (i) Outlet state of moist air

ii) Cooling capacity of coil in tones of refrigeration. (10M)

Unit-V

9. (a) What do you mean by effective temperature? What are the factors contribute to Effective temperature? (7M)

(b) Explain the comfort chart and sketch the chart (7M)

(OR)

10. (a) Explain schematically on the Psychometric diagram, summer air-conditioning system and Winter air-conditioning system (7M)

(b) Explain the Human body reacts to change in temperature of environment. (7M)

K.S.R.M COLLEGE OF ENGINEERING, KADAPA
(UGC-AUTONOMOUS)
B.TECH. VIII SEMESTER R 18
ECE
MODEL PAPER
SUBJECT: Wireless Communication (1804802)

Time: 3 Hrs.

Max.Marks:70

UNIT-1

1. (a) Derive an expression to obtain Rayleigh fading density & draw the plot. 7M
(b) Discuss Multi antenna Maximal Ratio Combiner. 7M

(OR)

2. (a) Explain in detail the BER of wireless communication systems. 10M
(b) Explain Diversity order. 4M

UNIT-2

3. (a) Discuss about Coherence bandwidth of the wireless channel. 7 M
(b) Briefly explain ISI and Doppler in Wireless Communications. 7M

(OR)

4. Define UWB and discuss features and wireless channels of UWB. 14M

UNIT-3

5. (a) Discuss cellular processes. 8M
(i) Call setup. (ii) Handover.
(b) Explain frequency reuse method in cellular Communication. 6M

(OR)

- 6 (a) Sketch the block diagram and clearly explain the RAKE receiver used in CDMA. 7M
(b) Write short notes on Walsh codes in CDMA. 7M

UNIT-4

7. State significance of cyclic prefix and write merits and demerits of cyclic prefix. 14M

(OR)

8. Derive an expression for optimal power allocation of MIMO SVD channel to achieve maximum capacity. 14M

UNIT-5

9. (a) List the features of WiMAX. 7M
(b) Discuss in detail about GPRS. 7M

(OR)

- 10 (a) Sketch and explain the architecture of WCDMA. 7M
(b) What are the important technical specifications of GSM ? 7M

K.S.R.M. COLLEGE OF ENGINEERING (AUTONOMOUS), KADAPA
Model Question Paper
(1805802) Object Oriented Analysis & Design
(Professional Elective-4)
B.Tech. VIII Semester (CSE) (R18)

Time: 3 hrs.

Max. Marks: 70

Note: - Answer any **FIVE** questions choosing **ONE** question from each unit.
All questions carry Equal marks.

UNIT-I

1. Write Basic building blocks of the UML in Conceptual modeling of UML? 14M
(OR)
2. (a) What is modeling? Write about the importance of modeling in UML 4M
(b) Explain about the modeling of System Architecture in detail. 10M

UNIT-II

3. Discuss about Interface, Types and Roles. 14M
(OR)
4. What is Class diagram? Discuss about common modeling techniques for simple collaboration and logical data base schema in class diagram. 14M

UNIT-III

5. Define Interaction diagram? Explain about the following:
(a) Sequence Diagram 7M
(b) Collaboration Diagram 7M
(OR)
6. Write briefly about Swimlanes, Forking and Joining in Activity diagram with an example. 14M

UNIT - IV

7. Explain briefly about Event and Signals? 14M
(OR)
8. Write short notes on
(i) Sub states;
(ii) Sequential Sub States;
(iii) Concurrent Sub states. 14M

UNIT-V

9. What is Component? Explain Component Diagram In Detail? 14M
(OR)
10. Explain and Draw the Use case diagram and Interaction diagram for Library application. 14M

K.S.R.M. COLLEGE OF ENGINEERING

(AUTONOMOUS)

Kadapa, Andhra Pradesh, India– 516 005

B. Tech. VIII Semester (R18)

Operations Research (Subject Code: 18OE2616)

Time: 3 Hours

MODEL PAPER

Max. Marks: 70

Note: Answer any **FIVE** questions by choosing ONE from each unit.
All questions carry equal marks.

Unit - I

1. (a) Discuss models of Operations Research. (7M)
(b) Explain the scientific method of Operations Research. (7M)

OR

- (a) What are the application areas of Operations Research? (7M)
(b) What are the limitations of Operations Research? (7M)

Unit - II

3. Solve the LPP

$$\begin{aligned} \text{Maximize } z &= 5x_1 + 3x_2 \\ \text{Subject to } 3x_1 + 5x_2 &\leq 15 \\ 5x_1 + 2x_2 &\leq 10 \\ \text{and } x_1, x_2 &\geq 0 \end{aligned}$$

by graphical method. (14M)

OR

4. Solve the LPP

$$\begin{aligned} \text{Maximize } z &= 6x_1 + 8x_2 \\ \text{Subject to } 5x_1 + 10x_2 &\leq 60 \\ 4x_1 + 4x_2 &\leq 40 \\ \text{and } x_1, x_2 &\geq 0 \end{aligned}$$

by simplex method. (14M)

Unit - III

5. Find the initial solution of the given problem of transportation using least cost method and VAM.

	1	2	3	4	Supply
1	10	22	0	22	8
2	15	20	12	8	13
3	20	12	10	15	11
Demand	5	11	8	8	

OR

- 6 Find the initial basic feasible solution to the following transportation problem by NWCR and Least cost (14M)

		TO			
		1	2	3	Supply
1	2	2	7	4	5
2	3	3	3	1	8
From 3	5	5	4	7	7
4	7	7	6	2	14
Demand	2	2	9	18	

Unit - IV

7. A department head has four subordinates and four tasks to be performed. The subordinates differ in efficiency and the tasks differ in their difficulty level. The estimation of time each man would take to perform each task is given in the matrix.

Tasks	Man			
	E	F	G	H
A	20	28	19	13
B	15	30	16	28
C	40	21	20	17
D	21	28	26	12

How should the task be allocated one to a man, so as to minimize the total man hours. (14M)

OR

8. Using Hungarian method. The matrix entries represent the processing time in hours.

Jobs↓	Operator				
	1	2	3	4	5
1	10	12	15	12	8
2	7	16	14	14	11
3	13	14	7	9	9
4	12	10	11	13	10
5	8	13	15	11	15

How should the job be assigned to the operators, so that the total cost is minimized (14M)

Unit - V

9. Calculate the earliest start time, earliest finish time, latest start time and latest finish time of each activity of the project given below and determine the Critical path of the project and duration to complete the project. (14M)

Activity	1-2	1-3	1-5	2-3	2-4	3-4	3-5	3-6	4-6	5-6
Duration (min)	8	7	12	4	10	3	5	10	7	4

OR

10. The following table gives the estimates of optimistic time (t_0), most likely time (t_m) and pessimistic time (t_p) of different activities of a project.

Activity	t_0	t_m	t_p
1-2	4	8	12
2-3	1	4	7
3-4	8	12	16
3-5	3	5	7
4-5	0	0	0
4-6	3	6	9
5-7	3	6	9
5-8	4	8	6
6-10	4	6	8
7-9	4	8	12
8-9	2	5	8
9-10	4	10	16

(i) Construct the network diagram when it is given that schedule completion is 40 days.

(ii) Calculate the probability of finishing the project

- a. Within the schedule time
- b. Less than 45 days
- c. Less than 38 days

(14M)

Subject Code: 18OE2618 / R18

**K.S.R.M COLLEGE OF ENGINEERING, KADAPA
(AUTONOMOUS)
MODEL QUESTION PAPER
FOUR YEAR B. TECH DEGREE EXAMINATIONS
IV B.TECH VIII SEMESTER REGULAR EXAMINATION
SUB: GREEN CHEMISTRY & TECHNOLOGY**

Time : 3hrs

Max marks :70M

Answer any Five questions choosing one question from each unit. (14x5=70M)

UNIT-I

1. Define Green Chemistry and discuss in brief about 12 principles of Green Chemistry (14M)
(Or)
2. a) Explain Basic components of Green chemistry (7 M)
b) Write notes on Significance of Green chemistry (7 M)

UNIT-II

3. Discuss in brief about designing of safer chemicals. (14M)
(Or)
4. a) Explain the use of selection of solvents in protecting environment. (10M)
b) Write notes on Atom economy. (4 M)

UNIT-III

5. (a) Discuss the importance of use of biocatalyst (7M)
(b) Explain Heck reaction (7M)
(Or)
6. a) Write short notes on Biochemical Reduction (7M)
b) Discuss about Ullmann's coupling (7M)

UNIT-IV

7. Explain N-Alkylation technique (14M)
(Or)
8. a) Write Short notes on Solvent free reactions (7M)
b) Discuss about different types of supports used in solid-mineral support. (7M)

UNIT-V

9. Discuss in brief about applications of ultrasound assisted Green synthesis (14M)
(Or)
10. (a) Define sonochemistry and write the importance of sonochemistry (7M)
(b) Write notes on Bouveault reaction (7M)

Q.P. Code : 18OE 2619

College Code: 9Y

K.S.R.M COLLEGE OF ENGINEERING (AUTONOMOUS), KADAPA

B. Tech. VIII Semester (R 18) Regular Examinations May/June – 2022

SUB : CREATIVE WRITING (OPEN ELECTIVE)

Time : 3 Hours

Max. Marks : 70

Answer any FIVE Questions choosing one question from each unit.

All questions carry Equal Marks

UNIT – I

1. a) Define Creative Writing and write about the significance of Creative Writing. 7 M
b) List out the genres in Creative Writing with examples. 7 M

(OR)

2. a) What is the importance of poetry in Creative Writing. Give an example. 7 M
b) Define 'fiction' with an example. 7 M

UNIT - II

3. a) What are ' literary devices' and why are they used in Creative Writing. 7 M
b) Why do authors use figurative language in their writings. Explain. 7 M

(OR)

4. a) What are the elements of style in literature. Discuss. 7 M
b) Fill in the blanks as instructed in brackets. 7 M

- i) I _____ (meet) him while I was going to college
ii) If you had worked hard you _____ (get) a first class
iii) Everyday, he comes to office _____ hour late (article)
iv) There is _____ little milk in the bottle (article)
v) The rich must help _____ poor (article)
vi) I gave him a chair to sit _____ (preposition)
vii) We should not spend money _____ luxuries (preposition).

UNIT - III

5. a) What is ' dialogue writing and list the five rules of dialogue writing. 7 M
b) Define note taking and note making and discuss the most effective ways of taking, making and using of notes. 7 M

(OR)

6. a) How to write a short story in five steps. Explain. 7 M
b) Expand the Idea ' Procrastination is the thief of the time'. 7 M

UNIT – IV

7. a) Discuss the difference between web content writing and blog writing . 7 M
b) What is script writing and how to write a script. 7 M

(OR)

8. a) What is journalistic writing and mention the types of journalistic writing. 7 M
b) How to write a graphic novel. Explain. 7 M

UNIT - V

9. Define ' publication'. Discuss its purpose and types of publication. 14 M

(OR)

10. Illustrate the process of publication. 14 M

Code: 18OE2620
KSRM COLLEGE OF ENGINEERING, KADAPA
(AUTONOMOUS)
B. TECH. VIII SEM OPEN ELECTIVE (R18)
SUB: MATERIALS MANAGEMENT
MODEL PAPER

TIME: 3HRS

Max. Marks: 70

Note: Answer any *five* of the following
 Choosing *one* from each unit

	<u>UNIT-I</u>	
1.(a)	Discuss the ethical concepts in Purchase	7M
(b)	Explain International purchase procedure	7M
	(OR)	
2.(a)	Explain purchase methods	7M
(b)	Write about purchase organization	7M
	<u>UNIT-II</u>	
3.	Define vendor management and its factors	14M
	(OR)	
4.(a)	Explain the vendor management process	7M
(b)	What are the advantages of vendor management	7M
	<u>UNIT-III</u>	
5.	What are the material handling principles. Illustrate	14M
	(OR)	
6.(a)	How materials handling performance is evaluated	14M
	<u>UNIT-IV</u>	
7.	Define inventory management. Explain various types of inventory management	14M
	(OR)	
8.(a)	Forecasting techniques of inventory management	7M
(b)	Explain Material requirement planning	7M
	<u>UNIT-V</u>	
9.	Discuss the modern trends in material management	14M
	(OR)	
10.(a)	Purchasing Vs Supply Management	7M
(b)	Explain TQM	7M

K.S.R.M COLLEGE OF ENGINEERING (AUTONOMOUS),
KADAPA Model Question Paper
(18OE508) CLOUD COMPUTING
(Open Elective-4)

B.Tech VIII Semester (CSE) (R18) Degree Examination

Time: 3 Hrs

Max. Marks: 70

Note: Answer any FIVE questions choosing ONE question from each unit.
All questions carry Equal marks

UNIT-I

1. Explain 5-4-3 principles of Cloud Computing with appropriate diagrams. (14M)

(OR)

2. a) Explain Cloud Ecosystem with a neat diagram. (7M)
b) List requirements for Cloud Services and explain. (7M)

UNIT-II

3. a) Discuss Cloud architecture with appropriate diagram. (7M)
b) Explain the evolution of cloud applications. (7M)

(OR)

4. a) How to manage the cloud infrastructure? Explain. (7M)
b) Explain the phases of cloud migration. (7M)

UNIT-III

5. a) Discuss characteristic, advantage and disadvantages of private cloud. (7M)
b) Explain the difference between outsourced and on-Premise community cloud. (7M)

(OR)

6. a) Explain different approaches to Virtualization (7M)
b) Discuss the suitability of IaaS. (7M)

UNIT-IV

7. a) Explain different cloud application development platforms. (7M)
b) Discuss different perspectives on SaaS development. (7M)

(OR)

8. a) What are the new challenges of software development in cloud. (7M)
b) Explain Cloud-Aware Software development using PaaS technology. (7M)

UNIT-V

9. Discuss the overview of Data center environment. (14M)

(OR)

10. a) Explain how Amazon Web Services support cloud computing. (7M)
b) Discuss Captiva Cloud Toolkit by EMC. (7M)

Q.P.Code : 1803807

**K.S.R.M. COLLEGE OF ENGINEERING (AUTONOMOUS), KADAPA
B.Tech. VIII Sem. (R18) REGULAR & SUPPLE, Examination of May 2022
SUB: TOTAL QUALITY MANAGEMENT (OPEN ELECTIVE)**

Time: 3 Hours

Max. Marks: 70

Answer any **FIVE** Questions choosing one question from each unit.

All questions carry equal Marks.

UNIT – I

1. (a) Define Quality? What is the role of Top management in promoting TQM? 10M
(b) Explain the concept of Total Quality Management. 4M

(OR)

2. (a) What is SQC? Describe various types of control charts? 10 M
(b) Explain about Acceptance sampling? 4M

UNIT – II

3. (a) Define customer satisfaction? What is the relation of a process Vs customer? 10M
(b) What is the role of Marketing in TQM? 4M

(OR)

4. (a) Discuss various types of Benching marking techniques ? 10M
(b) What are the advantages and disadvantages of Benchmarking? 4M

UNIT – III

5. Describe in detail about the seven tools of TQM? 14M
(OR)

6. (a) Discuss about the organization for TQM?. 10 M
(b) What is the importance of Quality circles? 4M

UNIT-IV

7. (a) Define cost of quality? How do you measure the quality cost? 10M
(b) Write a short note on importance of quality cost ?. 4M

(OR)

8. (a) Describe about the importance of quality management in industrial perspective? 10M
(b) Explain about accounting system with respect to quality? 4M

UNIT-V

9. (a) What is ISO 9000 ? Explain in detail the examples of ISO/QS 9000? 10M
(b) Explain the advantages of ISO 9000 Certification? 4M

(OR)

10. (a) Describe how the ISO auditing system works. 10M
(b) Explain the elements of ISO 9000:2000 4M

Note: All questions will carry equal marks

Unit – 1

- | | | |
|----|---|----------|
| 1 | What are the differences between disaster and natural hazard? | 14 Marks |
| | OR | |
| 2 | a) Explain briefly about Disaster, hazard, vulnerability, Risk, Impacts and Mitigation? | 7 Marks |
| | b) Describe severity, frequency and preventions of Disaster? | 7 Marks |
| | UNIT- II | |
| 3 | a) Explain the classifications of Hazards? | 7 Marks |
| | b) Explain the causes and risk reduction measures of floods? | 7 Marks |
| | OR | |
| 4 | a) Describe briefly about industrial hazards? | 7 Marks |
| | b) Explain briefly about impacts of transportation accidents? | 7 Marks |
| | UNIT III | |
| 5 | a) Explain Environmental and social impacts from Disaster? | 7 Marks |
| | b) Explain political, health and psychological impacts occurred by disasters? | 7 Marks |
| | OR | |
| 6 | What are the factors changing the demographic and socioeconomic characteristics of population on disaster preparedness? | 14 Marks |
| | UNIT IV | |
| 7 | Explain Disaster reduction risk? Explain the components and steps for implementing Disaster Risk Reduction? | 14 Marks |
| | OR | |
| 8 | a) Discuss briefly about the recovery, reconstruction and development elements of disaster risk reduction? | 7 Marks |
| | b) Write in detail about post-disaster environmental response? | 7 Marks |
| | UNIT V | |
| 9 | Explain the roles and responsibilities of government along with local institutions for pre-disaster - measures? | 14 Marks |
| | OR | |
| 10 | a) Discuss the policies and legislation through national platform for disaster risk reduction? | 7 Marks |
| | b) What is the role of NGO's during disaster management? | 7 Marks |