



# LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING (AUTONOMOUS)

L.B. Reddy Nagar :: Mylavaram-521 230 :: Krishna Dist. :: A.P.  
Approved by AICTE, New Delhi. Affiliated to JNTUK, Kakinada

## B.Tech.(VIII-Semester) (R14) Supplementary Examinations, July 2021 & B.Tech.(VIII-Semester) (R14) Regular Examinations (Re-admitted Students), July 2021 TIME TABLE

TIME :10.00 AM to 1.00 PM

A.Y. 2020-21

DATE	ASE	CE	CSE	ECE	EEE	EIE	IT	ME
20-07-2021 (Tuesday)	S349 - Principles of Management	S338 - Pavement Analysis and Design Engineering	S329 - Operations Research	S362 - Radar Systems	S230 - Energy Conservation and Audit	S311 - Micro Electro Mechanical Systems	OE-II S329 - Operations Research	S343 - Power Plant Engineering
22-07-2021 (Thursday)	PE-IV S106 - Advanced Propulsion Systems	PE-IV S438 - Rural Road Technology  S111 - Advanced Structural Design	PE-IV S157 - Cloud Computing	PE-IV S375 - Satellite Communications  S426 - Wireless Sensor Networks	PE-IV S263 - HVDC Transmission  S248 - FACTS Controllers	PE-IV S229 - Embedded Systems Design  S107 - Advanced Sensors	PE-IV S326 - Object Oriented Software Engineering	PE-IV S353 - Production Planning and Control  S365 - Rapid Prototyping
24-07-2021 (Saturday)	OE-II S376 - Satellite Technology	OE-II S433 - Green Buildings  S436 - Modern Construction Systems and Techniques  S151 - Building Technology	OE-II S296 - Managing Innovation and Entrepreneurship	OE-II S140 - Automobile Electronics  S425 - Web Technologies  S246 - Evolutionary Computing Techniques  S371 - Robot Engineering	OE-II S180 - Database Management Systems  S373 - Robotics and Automation	OE-II S370 - Renewable Energy Sources	S270 - Industrial Management	OE-II S409 - Total Quality Management  S273 Innovation and Entrepreneurship

Note: Any omissions or clashes in the time table may please be informed to the Controller of Examinations immediately.

Date: 02-07-2021

  
CONTROLLER OF EXAMINATIONS

  
PRINCIPAL

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B.Tech. (VIII Semester) Regular/Supplementary Examinations

**S376-SATELLITE TECHNOLOGY**

(AE)

Time : 3 hours

Max. Marks : 75

**PART-A**

(Compulsory question)

Q.No	Questions	Marks	CO	BL
1(a)	Define spin stabilization.	1M	CO1	L2
(b)	State and Explain Kepler's Second law.	1M	CO1	L2
(c)	Discuss about passive thermal control systems.	1M	CO3	L2
(d)	Define a Gyroscope.	1M	CO4	L1
(e)	Write Short Notes on Ga-As Cells.	1M	CO1	L1
(f)	Write short notes on Geo synchronous orbit.	2M	CO3	L1
(g)	Illustrate Bi elliptic Transfer.	2M	CO1	L2
(h)	Write about the launch loads.	2M	CO3	L1
(i)	Discuss about Mass Expulsion Systems.	2M	CO2	L2
(j)	Write Short notes on power generation and power storage in a satellite.	2M	CO4	L2

**PART-B**

(Answer any FOUR questions. All questions carry equal marks)

2	Briefly explain the elements of Satellite communications with neat sketch.	15M	CO2	L4
3(a)	Derive expression for velocity required to transfer from one orbit to other orbit using Hohmann Transfer.	7M	CO3	L4
(b)	Find the period of revolution of a satellite if the perigee and apogee altitudes are 250 and 300 km, respectively.	8M	CO3	L3
4(a)	Explain briefly the structural and separation loads.	7M	CO3	L4
(b)	Differentiate between active and passive thermal control systems.	8M	CO3	L4
5(a)	Explain the working of Rate integrated gyros with neat sketch.	7M	CO3	L2
(b)	Differentiate between Spinning satellite stabilization and momentum wheel Stabilization.	8M	CO3	L4
6.	For satellite communications, explain the following (i) Thermal noise (ii) Antenna noise temperature (iii) System noise temperature (iv) Inter- modulation noise (v) Interference.	15M	CO2	L4
7.	Explain briefly various Communication bands employed in Satellite Communication.	15M	CO4	L4
8(a)	List out Applications of Satellites.	7M	CO4	L2
(b)	Discuss the Importance of Launch time and place on the Satellite Launch.	8M	CO4	L2

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B.Tech. (VIII Semester) Regular/Supplementary Examinations

**S106-ADVANCED PROPULSION SYSTEMS**

(AE)

Time : 3 hours

Max. Marks : 75

**PART-A**

(Compulsory question)

Q.No	Questions	Marks	CO	BL
1(a)	Define and differentiate between total impulse and specific impulse.	1M	CO1	L1
(b)	Explain Limitations of turbojet/ram jet engines at high speeds.	1M	CO1	L1
(c)	Write short notes on Nuclear propulsion.	1M	CO2	L2
(d)	Write short notes on Break through propulsion.	1M	CO2	L2
(e)	Explain about the Hall effect thruster.	1M	CO3	L2
(f)	Explain about the ion propulsion system.	2M	CO3	L2
(g)	Explain about the bi propellant thrusters.	2M	CO4	L2
(h)	Explain about micro mono propellant thrusters.	2M	CO4	L2
(i)	Explain about mmetalized propallents.	2M	CO4	L2
(j)	Explain about micro PPT thrusters.	2M	CO4	L2

**PART-B**

(Answer any FOUR questions. All questions carry equal marks)

2(a)	Draw a neat sketch of a scramjet engine and explain the function of each component.	7M	CO1	L6
(b)	Explain different types of high speed propulsion system. What is the basis of their classification?	8M	CO1	L4
3(a)	Write short notes on: (i) Inter-relation between vehicle velocity and structural/propellant mass (ii) Space Tethers.	7M	CO2	L2
(b)	Write short notes on: (i) Break through propulsion (ii) Nuclear propulsion.	8M	CO2	L2
4(a)	What is the function of a Reaction Control System (RCS)? State different maneuvers conducted by RCS.	7M	CO3	L2
(b)	Explain the operation of Resisto-jet and Arc-jet engines with neat diagrams. What are applications of electro-thermal thrusters?	8M	CO3	L4
5(a)	Explain the term guaranteed minimum performance.	7M	CO4	L4
(b)	Explain the working principals of micro ion thrusters.	8M	CO4	L4
6(a)	Explain the working principal of solar sails with neat sketches.	7M	CO4	L4
(b)	Explain the working principal of tether propulsion with neat sketches.	8M	CO4	L4
7(a)	Explain need a combined cycle engine. With a neat sketch explain the working of Air Turbo Rocket (ATR) engine.	7M	CO2	L4
(b)	Define and describe various correction factors used in computing the performance parameters of a chemical rocket system.	8M	CO3	L4
8(a)	Explain the need for Reaction control system (RCS).	7M	CO3	L4
(b)	Explain the functioning of a LACE engine with a neat diagram.	8M	CO3	L4



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B.Tech. (VIII Semester) Regular/Supplementary Examinations

**S349-PRINCIPLES OF MANAGEMENT**

(ASE)

Time : 3 hours

Max. Marks : 75

**PART-A**

(Compulsory question)

Q.No	Questions	Marks	CO	BL
1(a)	Define management.	1M	CO1	L1
(b)	What about your view relating to administration?	1M	CO2	L1
(c)	Define Staffing.	1M	CO3	L1
(d)	Assess leadership behavior in your point of view.	1M	CO4	L1
(e)	What is the need of assuming the human behavior?	1M	CO5	L1
(f)	List -out the challenges of management.	2M	CO1	L2
(g)	State about subjective and collective decisions.	2M	CO2	L1
(h)	List demerits of internal sources of recruitment.	2M	CO3	L1
(i)	How do say about qualities of a Democratic leader?	2M	CO4	L1
(j)	Define MBO.	2M	CO5	L1

**PART-B**

(Answer any FOUR questions. All questions carry equal marks)

2(a)	List-out the different levels of management and its significance.	7M	CO1	L1
(b)	Describe the objectives of scientific management of FW Taylor.	8M	CO1	L1
3(a)	Demonstrate the various Steps in decisions making process.	7M	CO2	L1
(b)	Identify various modern approaches in decision making.	8M	CO2	L1
4(a)	Describe the term selection and outline various steps in selection process.	7M	CO3	L2
(b)	Demonstrate the performance appraisal and its importance in organizational setting.	8M	CO3	L1
5(a)	Categorize democratic and authoritarian leadership styles in Indian context.	7M	CO4	L1
(b)	Enumerate the communication with its significance and barriers in organizational setting.	8M	CO4	L2
6(a)	Illustrate the different kinds of features of controlling.	7M	CO5	L1
(b)	Summarize the different types of controlling techniques.	8M	CO5	L2
7(a)	Explain the MBO – process and advantages in management point of view?	7M	CO1	L1
(b)	How do you say about managerial grid approach in work environment perspective?	8M	CO3	L1
8(a)	What are the current trends and issues in management?	7M	CO1	L1
(b)	Assess the essential qualities of a Participative and beaurocratic leaders.	8M	CO4	L2



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**S433-GREEN BUILDINGS**

(CE)

Time : 3 hours

Max. Marks : 75

**PART-A**

(Compulsory question)

Q.No	Questions	Marks	CO	BL
1(a)	List out the typical features of green building.	1M	CO1	L1
(b)	Define passive energy system.	1M	CO2	L1
(c)	Name the advantages of geothermal energy in India.	1M	CO3	L1
(d)	List out the factors influencing building acoustics.	1M	CO4	L1
(e)	Name the distributed across six categories in LEED Rating system.	1M	CO5	L1
(f)	Summarize the energy system in green building.	2M	CO1	L2
(g)	Name the types of building envelopes.	2M	CO2	L1
(h)	List out the various types of renewable energies.	2M	CO3	L1
(i)	Summarize the humidity in local climatic conditions.	2M	CO4	L2
(j)	List out the categories considered in LEED rating system.	2M	CO5	L1

**PART-B**

(Answer any FOUR questions. All questions carry equal marks)

2(a)	Discuss various features involved in Green building.	7M	CO1	L2
(b)	Differentiate between conventional building and Green Building.	8M	CO1	L2
3(a)	Illustrate the principle and operation of active energy systems used in green buildings.	7M	CO2	L3
(b)	Distinguish between passive and active energy systems highlighting the advantages and disadvantages.	8M	CO2	L2
4.	Elaborate the concept and the application of geothermal energy in India, along with list out its advantages.	15M	CO3	L2
5(a)	Explain the following terms (i) Precipitation (ii) Topography of the area.	7M	CO4	L2
(b)	List out the factors considered for improving comfort conditions due to climatic variations in green building constructions.	8M	CO4	L1
6(a)	Elaborate the green rating system used for integrated habitat assessment.	7M	CO5	L2
(b)	Mention the different stages in Green Rating system for Integrated Habitat Assessment and briefly explain.	8M	CO5	L1
7(a)	Describe the salient features of obtaining green building material from fiber reinforced cement and its applications.	7M	CO1	L2
(b)	Discuss the salient features of obtaining green building material from lime, pozzolona, and lime mortar.	8M	CO1	L2
8(a)	Explain water conservation options in green building.	8M	CO2	L2
(b)	Discuss indoor air quality in green building.	7M	CO2	L2



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B.Tech. (VIII Semester) Regular/Supplementary Examinations

**S438-RURAL ROAD TECHNOLOGY**

(CE)

Time : 3 hours

Max. Marks : 75

**PART-A**

(Compulsory question)

Q.No	Questions	Marks	CO	BL
1(a)	Label the factors controlling the alignment.	1M	CO1	L1
(b)	Quote the camber recommended in cement concrete Road.	1M	CO2	L1
(c)	Describe the purpose of applying tack coat in bituminous road construction.	1M	CO3	L1
(d)	Define embankment.	1M	CO4	L1
(e)	List the type of cracks formed in the cement concrete roads.	1M	CO5	L1
(f)	List the various types of engineering surveys.	2M	CO1	L1
(g)	Show the typical rigid pavement with a neat sketch showing its vital components.	2M	CO2	L1
(h)	Describe shoulders.	2M	CO3	L1
(i)	List any two differences of fly ash over lime fly ash pavements.	2M	CO4	L1
(j)	List the examples of surface defects in pavements.	2M	CO5	L1

**PART-B**

(Answer any FOUR questions. All questions carry equal marks)

2.	Explain in brief the various classifications of rural roads with its salient components as per IRC standards with neat sketches.	15M	CO1	L2
3(a)	Illustrate the modern construction materials used for the construction of pavements. Explain their characteristics and usage in detail.	7M	CO2	L3
(b)	Discuss the factors governing the structural design of pavements.	8M	CO2	L2
4(a)	Summarize the limitations of CBR method of pavement design.	7M	CO3	L2
(b)	Outline the construction procedure of a flexible pavement. Explain the equipment required for various layers while constructing the flexible pavement.	8M	CO3	L4
5(a)	Explain the engineering properties to be determined before undertaking fly ash embankment construction.	7M	CO4	L2
(b)	Illustrate the factors influencing Lime fly ash properties.	8M	CO4	L3
6.	Categorize the various methods of pavement evaluation.	15M	CO5	L4
7(a)	Show the requirements of ideal alignment.	7M	CO1	L3
(b)	Discuss briefly lime fly ash pavement behavior and performance.	8M	CO4	L2
8(a)	Outline the desirable properties of aggregates.	7M	CO2	L4
(b)	Illustrate with neat sketches any four different types of pavement distress normally occur in flexible pavement with its preventive measures.	8M	CO5	L3



20 JUL 2021

H.T.No

R14

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B.Tech. (VIII Semester) Regular/Supplementary Examinations

**S338-PAVEMENT ANALYSIS AND DESIGN ENGINEERING  
(CE)**

Time : 3 hours

Max. Marks : 75

The codes IRC-37-2001 and IRC-58-2002 are allowed.

Assume any suitable missing data. State your assumptions clearly.

**PART-A**

(Compulsory question)

Q.No.	Questions	Marks	CO	BL
1(a)	Name the factors affecting the pavement design.	1M	CO1	L1
(b)	List out the parameters required for evaluating the pavement thickness by group index method.	1M	CO2	L1
(c)	Mention formula for calculating the friction stress in plain concrete.	1M	CO3	L1
(d)	List out the failures of flexible pavement.	1M	CO4	L1
(e)	List any two additives in soil lime stabilized pavements.	1M	CO5	L1
(f)	Mention the advantages of CBR test of soil.	2M	CO1	L1
(g)	State the methods of flexible pavement design.	2M	CO2	L2
(h)	List the design elements of rigid pavement.	2M	CO3	L1
(i)	Name the devices used for evaluating roughness of the pavement.	2M	CO4	L2
(j)	State the principle of mechanical soil stabilization method.	2M	CO5	L1

**PART-B**

(Answer any FOUR questions. All questions carry equal marks)

2(a)	Describe the various types of stresses that are to be considered in flexible pavement design.	7M	CO1	L2
(b)	Discuss the effects of repeated application of loads on pavements.	8M	CO1	L2
3(a)	Describe briefly various methods for designing flexible pavement.	7M	CO2	L2
(b)	Determine the total thickness of flexible pavement assuming single layer elastic theory using the following data: Design wheel =4200kg, Tyre pressure=6.0kg/cm <sup>2</sup> , Elastic modulus=150kg/cm <sup>2</sup> , Permissible deflection=0.25cm.	8M	CO2	L5
4.	Design the size and spacing of dowel bars at the expansion joints of a cement concrete pavement thickness 25cm with radius of relative stiffness 80cm for a design wheel load of 5000kg. Assume load capacity of dowel system as 40 % of the design wheel load. Joint width is 2.0 cm, permissible shear and flexural stresses in dowel bar are 1000 and 1400kg/cm <sup>2</sup> respectively and permissible bearing stress in CC is 100kg/cm <sup>2</sup> .	15M	CO3	L6



### S338-PAVEMENT ANALYSIS AND DESIGN ENGINEERING

5(a)	Illustrate typical failures in flexible pavements starting from (i) sub-grade (ii) sub base or base course and (iii) surface course	7M	CO4	L2
(b)	Discuss the importance of preventive maintenance in road works.	8M	CO4	L2
6(a)	Explain briefly about the classification of geo-synthetics.	7M	CO5	L2
(b)	Summarize various advantages of stabilization with reference to highway pavements.	8M	CO5	L2
7.	Enumerate various soil stabilization techniques used for strengthening pavements. Explain each of the techniques in detail.	15M	CO5	L2
8(a)	Briefly explain the various techniques adopted for evaluation of highway pavements.	7M	CO4	L2
(b)	The CBR value of soil is 8%. Calculate total thickness of a pavement using design curve developed by IRC and formula developed by the U.S corps of engineers.	8M	CO2	L5

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H.T.No

24 JUL 2021

R14

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B.Tech. (VIII Semester) Regular/Supplementary Examinations

**S296-MANAGING INNOVATION AND ENTREPRENEURSHIP**  
(CSE)

Time : 3 hours

Max.Marks : 75

**PART-A**

(Compulsory question)

Q.No	Questions	Marks	CO	BL
1(a)	Describe Innovation.	1M	CO1	L1
(b)	Define entrepreneur.	1M	CO2	L1
(c)	List the sources of new ideas.	1M	CO3	L1
(d)	Explain financial plan.	1M	CO4	L2
(e)	Demonstrate channel of distribution.	1M	CO5	L2
(f)	Define Creativity.	2M	CO1	L1
(g)	What is modern entrepreneurship?	2M	CO2	L1
(h)	Illustrate Joint Venture.	2M	CO3	L2
(i)	Recall internet advertising.	2M	CO4	L1
(j)	What is product pricing?	2M	CO5	L1

**PART-B**

(Answer any FOUR questions. All questions carry equal marks)

2(a)	Discuss about the innovation process and the sources of innovation.	7M	CO1	L1
(b)	What is the role of innovation in the economy development? Explain.	8M	CO1	L1
3(a)	Explain various entrepreneurial traits.	7M	CO2	L2
(b)	Demonstrate the role of entrepreneurship in economics development.	8M	CO2	L2
4(a)	Explain the process of product planning and development.	7M	CO3	L2
(b)	What are the features and evaluation of joint ventures?	8M	CO3	L1
5(a)	Explain the nature and scope of business plan.	7M	CO4	L2
(b)	Explain in detail the role of e-commerce in entrepreneurship.	8M	CO4	L2
6(a)	Illustrate the role of production management in a company and explain the best production techniques are useful in a company.	7M	CO5	L2
(b)	What is the marketing segmentation? How does it influence the performance of a company?	8M	CO5	L1
7(a)	What are the types of business organization? Explain in detail.	7M	CO3	L1
(b)	How do you explain the differences between an entrepreneur and a manager?	8M	CO2	L1
8(a)	How the financial business plan is written? Explain.	7M	CO4	L1
(b)	Explain the nature and scope of business plan. What are the factors to be considered in its formulation?	8M	CO4	L2

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B.Tech. (VII Semester) Regular/Supplementary Examinations

**S157-CLOUD COMPUTING**

**(CSE)**

Time : 3 hours

Max. Marks : 75

**PART-A**

(Compulsory question)

Q.No	Questions	Marks
1(a)	Define cloud computing.	1M
(b)	Define virtualization.	1M
(c)	List the parameters required to interact with Amazon EC2.	1M
(d)	Define SAGA.	1M
(e)	List the 5 phases of SLA life cycle.	1M
(f)	What are the issues to be faced to get the advantages of cloud computing?	2M
(g)	List the 5 characteristics of IaaS cloud service providers.	2M
(h)	What is a Comet cloud?	2M
(i)	List the main features of MapReduce Framework.	2M
(j)	What are the two levels at which performance penalty happens in cloud?	2M

**PART-B**

(Answer any FOUR questions. All questions carry equal marks)

2(a)	Explain the features available with Virtual Infrastructure Manager.	7M
(b)	Explain Hardware virtualization.	8M
3(a)	Explain the Scheduling techniques for advance reservation of capacity in a cloud environment.	7M
(b)	What is the motivation for creating RVWS framework? Explain how a cloud computing environment can be enhanced using cluster as a service.	8M
4(a)	Explain Aneka resource provisioning procedure over Amazon EC2.	7M
(b)	Define dynamic service. Explain the process of developing dynamic services in T- system.	8M
5(a)	Explain the workflow structure of Evolutionary Multi objective Optimizations.	7M
(b)	Explain the design objectives of IDEAS with SAGA.	8M
6(a)	Explain traditional approaches in SLO management.	7M
(b)	Explain the component diagram of policy based automated management system.	8M
7(a)	What are the requirements of a cloud ready application that can be executed on a hybrid cloud? (implementation guidelines).	7M
(b)	Explain Comet cloud architecture.	8M
8(a)	Explain three major approaches for provisioning Infrastructure SLAs.	7M
(b)	What is EUCALYPTUS? Explain the architecture of EUCALYPTUS with its features.	8M

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B.Tech. (VII Semester) Regular/Supplementary Examinations

**S329-OPERATIONS RESEARCH**

Time : 3 hours

(CSE & IT)

Max. Marks : 75

**PART-A**

(Compulsory question)

Q.No	Questions	Marks	CO	BL
1(a)	Define Operations Research.	1M	CO1	L1
(b)	Describe Degeneracy in transportation.	1M	CO2	L3
(c)	Difference between deterministic and probabilistic method.	1M	CO5	L2
(d)	Explain the necessity of waiting line theory.	1M	CO4	L2
(e)	Define objective function in optimization.	1M	CO5	L1
(f)	Define slack, surplus and artificial variables.	2M	CO1	L1
(g)	Differentiate between Assignment and Transportation problems.	2M	CO2	L2
(h)	Define EOQ.	2M	CO5	L1
(i)	Explain about group replacement.	2M	CO4	L2
(j)	Describe the applications of optimization.	2M	CO5	L3

**PART-B**

(Answer any FOUR questions. All questions carry equal marks)

2(a)	Solve the following L.P.P by using Graphical method. Max $Z=3X_1 + 4X_2$ Subjected to $5X_1 + 4X_2 \leq 200$ $3X_1 + 5X_2 \leq 150$ $5X_1 + 4X_2 \geq 100$ $8X_1 + 4X_2 \geq 80$ $X_1, X_2 \geq 0$	7M	CO1	L3																																				
(b)	Solve the following LPP using Two phase simplex Method. Max $Z= 4X_1 + 5X_2 - 3X_3$ Subjected to $X_1 + X_2 + X_3 = 10$ $X_1 - X_2 \geq 1$ $2X_1 + 3X_2 + X_3 \leq 40$ $X_1, X_2, X_3 \geq 0$	8M	CO1	L3																																				
3(a)	Solve the following Transportation Problem to minimize the cost. Find the initial solution by VAM method. <table><tr><td></td><td>P</td><td>Q</td><td>R</td><td></td></tr><tr><td>A</td><td>7</td><td>3</td><td>6</td><td>5</td></tr><tr><td>B</td><td>4</td><td>6</td><td>8</td><td>10</td></tr><tr><td>C</td><td>5</td><td>8</td><td>4</td><td>7</td></tr><tr><td>D</td><td>8</td><td>4</td><td>3</td><td>3</td></tr><tr><td></td><td>5</td><td>8</td><td>10</td><td></td></tr></table>		P	Q	R		A	7	3	6	5	B	4	6	8	10	C	5	8	4	7	D	8	4	3	3		5	8	10		7M	CO2	L3						
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D	8	4	3	3																																				
	5	8	10																																					
(b)	A Salesman has to visit five cities A, B, C, D & E. The intercity distances are given below: <b>From/To (in kms)</b> <table><tr><td></td><td>A</td><td>B</td><td>C</td><td>D</td><td>E</td></tr><tr><td>A</td><td>X</td><td>4</td><td>7</td><td>3</td><td>4</td></tr><tr><td>B</td><td>4</td><td>X</td><td>6</td><td>3</td><td>4</td></tr><tr><td>C</td><td>7</td><td>6</td><td>X</td><td>7</td><td>5</td></tr><tr><td>D</td><td>3</td><td>3</td><td>7</td><td>X</td><td>7</td></tr><tr><td>E</td><td>4</td><td>4</td><td>5</td><td>7</td><td>X</td></tr></table>		A	B	C	D	E	A	X	4	7	3	4	B	4	X	6	3	4	C	7	6	X	7	5	D	3	3	7	X	7	E	4	4	5	7	X	8M	CO2	L3
	A	B	C	D	E																																			
A	X	4	7	3	4																																			
B	4	X	6	3	4																																			
C	7	6	X	7	5																																			
D	3	3	7	X	7																																			
E	4	4	5	7	X																																			



4(a)	Solve the following game whose payoff matrix is given below																																														
	<table><tr><td></td><td>I</td><td>II</td><td>III</td><td>IV</td><td>V</td><td>VI</td></tr><tr><td rowspan="5">Player A</td><td>I</td><td>4</td><td>2</td><td>0</td><td>2</td><td>1</td><td>1</td></tr><tr><td>II</td><td>4</td><td>3</td><td>1</td><td>3</td><td>2</td><td>2</td></tr><tr><td>III</td><td>4</td><td>3</td><td>7</td><td>-5</td><td>1</td><td>2</td></tr><tr><td>IV</td><td>4</td><td>3</td><td>4</td><td>-1</td><td>2</td><td>2</td></tr><tr><td>V</td><td>4</td><td>3</td><td>3</td><td>-2</td><td>2</td><td>2</td></tr></table>		I	II	III	IV	V	VI	Player A	I	4	2	0	2	1	1	II	4	3	1	3	2	2	III	4	3	7	-5	1	2	IV	4	3	4	-1	2	2	V	4	3	3	-2	2	2	7M	CO3	L3
	I	II	III	IV	V	VI																																									
Player A	I	4	2	0	2	1	1																																								
	II	4	3	1	3	2	2																																								
	III	4	3	7	-5	1	2																																								
	IV	4	3	4	-1	2	2																																								
	V	4	3	3	-2	2	2																																								
(b)	A particular item has a demand of 9,000 units per year. The cost of one procurement is Rs. 100/- and the holding cost per unit is Rs. 2.40 per year. The replacement is instantaneous and no shortages are allowed. Determine: (i) Economic lot size, (ii) The number of orders per year, (iii) The time between orders, and (iv) the total cost per year if the cost of one units is Rs.1/-.	8M	CO5	L3																																											
5(a)	Machine A costs Rs. 45,000/- and the operating costs are estimated at Rs. 1000/- for the first year, increasing by Rs. 10,000/- per year in the second and subsequent years. Machine B costs Rs.50000/- and operating costs are Rs. 2000/- for the first year, increasing by Rs. 4000/- in the second and subsequent years. If we now have a machine of type A, should we replace it by B? If so when? Assume both machines have no resale value and future costs are not discounted.	7M	CO4	L1																																											
(b)	A supermarket has 2 boys ringing up sales at the counters. If the service time for each is exponential with mean 4min and people arrive at Poisson distribution at the rate of 10 an hour. Then calculate (i) Probability of having to wait for service (ii) Expected percentage of idle time for each boy (iii) If the customer has to wait, what is the expected length of his waiting time?	8M	CO4	L1																																											
6(a)	Explain the characteristics of dynamic programming.	7M	CO1	L2																																											
(b)	Derive single variable optimization by using necessary and sufficient conditions.	8M	CO1	L1																																											
7(a)	Briefly explain the failure mechanisms of items in replacement model.	7M	CO3	L2																																											
(b)	In a departmental store one cashier is there to serve the customers. And the customers pick up their needs by themselves. The arrival rate is 9 customers for every 5 minutes and the cashier can serve 10 customers in 5 minutes. Assuming Poisson arrival rate and exponential distribution for service rate, calculate: (i) Average number of customers in the system. (ii) Average number of customers in the queue or average queue length. (iii) Average time a customer spends in the system. (iv) Average time a customer waits before being served.	8M	CO3	L3																																											
8(a)	Determine the maximum and minimum values of the function $f(x) = 12x^5 - 45x^4 + 40x^3 + 5$ .	7M	CO1	L3																																											
(b)	Solve the given LPP by using Dynamic Programming. Objective Function $Max Z = 8X_1 + 7X_2$ Subjected to $2X_1 + X_2 \leq 8$ $5X_1 + 2X_2 \leq 15$ & $X_1, X_2 \geq 0$	8M	CO1	L3																																											

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**LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING  
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L.B. Reddy Nagar :: Mylavaram – 521 230 :: Krishna Dist.:A.P.

B.Tech. (VIII Semester) Regular/Supplementary Examinations

**S180-DATABASE MANAGEMENT SYSTEMS**

(EEE)

Time : 3 hours

Max. Marks : 75

**PART-A**

(Compulsory question)

Q.No	Questions	Marks	CO	BL
1(a)	What are the three levels of data abstraction?	1M	CO1	L1
(b)	List aggregate functions supported in SQL.	1M	CO2	L1
(c)	What is 2NF?	1M	CO3	L1
(d)	Define transaction.	1M	CO4	L1
(e)	Define hashing.	1M	CO5	L1
(f)	List disadvantages of file systems.	2M	CO1	L1
(g)	Differentiate between Schema and Instance.	2M	CO2	L2
(h)	Explain the need of schema refinement.	2M	CO3	L2
(i)	Give advantages of checkpointing.	2M	CO4	L1
(j)	List various types of storage devices used for storing databases.	2M	CO5	L1

**PART-B**

(Answer any FOUR questions. All questions carry equal marks)

2(a)	What is Data modeling? Explain relational data model.	7M	CO1	L2
(b)	Differentiate between File system and Database System.	8M	CO1	L2
3(a)	What is meant by referential integrity? Explain.	7M	CO2	L2
(b)	Give syntax for DML commands? Show their operations with an example.	8M	CO2	L2
4(a)	Compare BCNF with 3NF. Quote examples.	7M	CO3	L2
(b)	Explain 4NF with examples.	8M	CO3	L2
5(a)	Discuss log based recovery protocol and check pointing.	7M	CO4	L2
(b)	Explain Two Phase- Locking protocol. Discuss its disadvantages.	8M	CO4	L2
6(a)	Make a comparison of hash file organization with heap file organization.	7M	CO5	L4
(b)	Differentiate between the following: (i) Primary Index and Secondary Index (ii) Dense Index and Sparse Index.	8M	CO5	L3
7(a)	Discuss about different levels of data abstraction with neat diagram.	7M	CO1	L2
(b)	Consider the following relation schema: Sailors(sid: integer, sname: string, rating: integer, age: real) Boat(bid: integer, bname: string, color: string) Reserves(sid: integer, bid: integer, day: date) Write the following queries in SQL. (i) Find the average age of the sailor who are eligible for voting for each rating level that has at least two sailors. (ii) Find the name of sailors who have reserved both red and a green boat. (iii) Find the sailor_id of sailors who have reserved a red boat	8M	CO2	L3
8(a)	Consider the following relation R(A,B,C,D,E) and FD's A->BC, C->A, D->E, F->A, E->D is the decomposition of R into R1(A, C, D), R2(B, C, D) AND R3(E,F,D) lossless.	8M	CO3	L3
(b)	Explain time stamp based protocol for concurrency control in detail.	7M	CO4	L2



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L.B. Reddy Nagar :: Mylavaram – 521 230 :: Krishna Dist.: A.P.

B.Tech. VIII Semester Regular/Supplementary Examinations

**S263-HVDC TRANSMISSION**

(EEE)

Time : 3 hours

Max. Marks : 75

**PART-A**

(Compulsory questions)

- 1(a) What is the advantage of negative polarity in HVDC transmission systems? [1M]
- (b) What is meant by peak inverse voltage? [1M]
- (c) What is meant by commutation? [1M]
- (d) What is the purpose of bypass valve? [1M]
- (e) What are uncharacteristic harmonics? [1M]
- (f) Mention any two modern trends in DC transmission. [2M]
- (g) What are the converter parameters? [2M]
- (h) What is the use of surge arrester in HVDC? [2M]
- (i) What is the effect of corona on HVDC system? [2M]
- (j) Draw single tuned filter circuit and its impedance characteristic. [2M]

**PART-B**

(Answer any FOUR questions. All questions carry equal marks)

- 2(a) Explain about the advantages and disadvantages of HVDC transmission. [7M]
- (b) What are the modern trends in DC transmission explain each? [8M]
- 3(a) Draw and explain about the schematic diagram of typical HVDC converter station in detail. [8M]
- (b) Explain about choice of best circuit for HVDC converters and mention the assumptions of bridge converter. [7M]
- 4(a) Give brief description about complete characteristics of 6 pulse converter. [8M]
- (b) What are the drawbacks of individual phase control scheme? [7M]
5. Explain about the converter control characteristics for both positive and negative current margin. [15M]
- 6(a) Explain about the following  
(i) Arc through (ii) Misfire (iii) Arc back (iv) Commutation failure. [8M]
- (b) What are the basic principles of overvoltage protection in a converter station? [7M]
- 7(a) Explain how harmonics are generated in HVDC converter and methods to minimize them. [7M]
- (b) What are the different types of filters? Explain about tuned filters in detail. [8M]
- 8(a) Explain about causes of telephone interference and methods to reduce it. [8M]
- (b) What are the main functions of smoothing reactors explain? [7M]



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L.B. Reddy Nagar:: Mylavaram – 521 230 :: Krishna Dist.: A.P.

B.Tech. (VIII Semester) Regular/Supplementary Examinations

**S230-ENERGY CONSERVATION AND AUDIT**

(EEE)

Time : 3 hours

Max. Marks : 75

**PART-A**

(Compulsory question)

Q.No	Questions	Marks	CO	BL
1(a)	Define energy audit.	1M	CO1	L1
(b)	What factors affect the efficiency of transformer?	1M	CO2	L1
(c)	What is reactive power compensation?	1M	CO3	L1
(d)	Define luminance.	1M	CO4	L1
(e)	Define EMS.	1M	CO5	L1
(f)	What is the need for energy audit?	2M	CO1	L1
(g)	Discuss the concept of energy efficient motors.	2M	CO2	L6
(h)	Why capacitor bank is used in reactive power management?	2M	CO3	L1
(i)	Illustrate the applications of electronic ballast.	2M	CO4	L2
(j)	List out the energy conservation methods for commercial building.	2M	CO5	L4

**PART-B**

(Answer any FOUR questions. All questions carry equal marks)

2.	What are the steps involved in the following i) Preliminary energy audit ii) Detailed energy audit. Explain in detail with examples.	15M	CO1	L6
3(a)	Explain the general consideration in selection of motors in detail.	7M	CO2	L2
(b)	Discuss merits and demerits of energy efficient motors.	8M	CO2	L6
4(a)	Justify the different points to be consider for optimal location of capacitor.	8M	CO3	L5
(b)	Explain different types of Industrial loads.	7M	CO3	L5
5(a)	Explain types of lighting schemes for energy conservation.	8M	CO4	L5
(b)	Explain different power quality issues in lighting systems.	7M	CO4	L5
6(a)	Discuss how the energy efficiency is affected by water heating.	7M	CO5	L6
(b)	Discuss how the energy efficiency is affected by Air conditioning.	8M	CO5	L6
7(a)	What is mean by tariff? Explain different types of tariff.	7M	CO1	L1
(b)	Explain the operation of following instruments i) Pyro meter ii) Lux meter iii) Thermo couple iv) Tong tester	8M	CO1	L5
8(a)	What are the different losses in capacitor?	7M	CO3	L1
(b)	Define harmonics. What is the effect of harmonics on lighting system?	8M	CO3	L1

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**LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING  
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L.B. Reddy Nagar :: Mylavaram – 521 230 :: Krishna Dist.: A.P.

B.Tech. (VIII Semester) Regular/Supplementary Examinations

**S270 - INDUSTRIAL MANAGEMENT  
(IT)**

Time : 3 hours

Max. Marks : 75

**PART-A**

(Compulsory question)

Q.No	Questions	Marks	CO	BL
1(a)	Define the concept of Management.	1M	CO1	L1
(b)	Draw the product layout.	1M	CO2	L1
(c)	Describe control charts for variables.	1M	CO3	L1
(d)	What is termination of employment?	1M	CO4	L2
(e)	State the meaning of Project.	1M	CO5	L1
(f)	What is esprit de corps?	2M	CO1	L2
(g)	List out factors affecting for Plant location.	2M	CO2	L1
(h)	What are the objectives of purchasing function?	2M	CO3	L1
(i)	Distinguish wages and salaries.	2M	CO4	L2
(j)	What is project crashing?	2M	CO5	L2

**PART-B**

(Answer any FOUR questions. All questions carry equal marks)

2(a)	Discuss the functions of management.	7M	CO1	L2																					
(b)	Differentiate line and staff organization structures.	8M	CO1	L2																					
3(a)	What is plant location? What factors affect plant location?	7M	CO2	L2																					
(b)	Enumerate various steps involved in Method study.	8M	CO2	L2																					
4.	ABC corporation has got a demand of particular part as 10,000 units per year. The cost per unit is Rs. 2 and it costs Rs. 36 to place an order and to process the delivery. The inventory carrying cost is estimated at 9 percent of cost per unit. Determine: (i) Economic order quantity (EOQ) (ii) Optimum number of orders to placed per annum (iii) Minimum total cost of inventory per annum.	15M	CO3	L3																					
5(a)	Describe the procedure of recruitment.	7M	CO4	L2																					
(b)	What is performance appraisal? Explicate its process.	8M	CO4	L2																					
6.	Activities and their durations of an engineering project are given below. Draw the network diagram and calculate floats. Identify the critical path and find total Project duration. <table><tr><td>Activity</td><td>A</td><td>B</td><td>C</td><td>D</td><td>E</td><td>F</td></tr><tr><td>Preceding activity</td><td>----</td><td>A</td><td>B</td><td>A</td><td>D</td><td>C,E</td></tr><tr><td>Duration</td><td>4</td><td>6</td><td>5</td><td>4</td><td>3</td><td>3</td></tr></table>	Activity	A	B	C	D	E	F	Preceding activity	----	A	B	A	D	C,E	Duration	4	6	5	4	3	3	15M	CO5	L3
Activity	A	B	C	D	E	F																			
Preceding activity	----	A	B	A	D	C,E																			
Duration	4	6	5	4	3	3																			
7(a)	What is work study? What are its benefits?	7M	CO2	L2																					
(b)	How do you understand Herzberg's two factor theory of motivation?	8M	CO1	L2																					
8(a)	What is acceptance sampling? Distinguish single and double sampling plans.	7M	CO3	L2																					
(b)	Distinguish promotion and demotion. State the reasons for transferring employees.	8M	CO4	L2																					

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B.Tech. (VIII Semester) Regular/Supplementary Examinations

**S326-OBJECT ORIENTED SOFTWARE ENGINEERING**  
(IT)

Time : 3 hours

Max. Marks : 75

**PART-A**

(Compulsory question)

Q.No	Questions	Marks	CO	BL
1(a)	What is class diagram?	1M	CO1	L1
(b)	Define entity.	1M	CO2	L1
(c)	Distinguish between system design and object design.	1M	CO3	L2
(d)	List out any two mapping activities.	1M	CO4	L1
(e)	Define extreme programming (XP).	1M	CO5	L1
(f)	Compare testing and debugging.	2M	CO1	L2
(g)	Define Reengineering.	2M	CO2	L1
(h)	What is coupling?	2M	CO3	L1
(i)	Differentiate between error and bug.	2M	CO4	L2
(j)	Compare versions and configurations.	2M	CO5	L2

**PART-B**

(Answer any FOUR questions. All questions carry equal marks)

2(a)	Construct and explain the use case diagram of online reservation system by using generalization or aggregation relationship.	7M	CO1	L3
(b)	Design the class diagram of library management system and discuss in detail.	8M	CO1	L3
3(a)	Demonstrate the activities involved in requirements elicitation.	7M	CO2	L3
(b)	Discuss in detail about generalization and specialization in analysis concepts.	8M	CO2	L2
4(a)	Explain in detail about services and subsystem interfaces.	7M	CO3	L2
(b)	Describe in detail about system design activities.	8M	CO3	L1
5(a)	List out any three mapping concepts and discuss about in detail.	7M	CO4	L1
(b)	Compare all the testing techniques with one another with its pros and cons.	8M	CO4	L2
6(a)	List out the advantages and disadvantages of waterfall model and discuss in detail.	7M	CO5	L1
(b)	Differentiate between spiral model and prototype model.	8M	CO5	L2
7(a)	Design the class diagram and use case diagram for hospital management system and discuss in detail.	8M	CO1	L3
(b)	What is an Process and Project? Differentiate with example.	7M	CO1	L1
8(a)	Outline the advantages and disadvantages of white box testing.	8M	CO4	L3
(b)	Explain about the classic life cycle model.	7M	CO5	L2



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B.Tech. (VIII Semester) Regular/Supplementary Examinations

**S409-TOTAL QUALITY MANAGEMENT**

(ME)

Time : 3 hours

Max. Marks : 75

**PART-A**

(Compulsory question)

Q.No	Questions	Marks	CO	BL
1(a)	Explain quality costs.	1M	CO1	L1
(b)	List the Maslow's hierarchy of needs.	1M	CO2	L1
(c)	Explain the concept of six sigma.	1M	CO3	L2
(d)	Define FMEA.	1M	CO4	L1
(e)	What is ISO 9000:2000 quality system?	1M	CO5	L1
(f)	What is quality council?	2M	CO1	L1
(g)	Define performance appraisal.	2M	CO2	L1
(h)	Compare population and sample.	2M	CO3	L2
(i)	What is Total Productive Maintenance?	2M	CO4	L1
(j)	What is documentation?	2M	CO5	L1

**PART-B**

(Answer any FOUR questions. All questions carry equal marks)

2(a)	What are the barriers to TQM implementation?	7M	CO1	L1
(b)	Explain briefly the evolution of total quality management.	8M	CO1	L2
3(a)	Explain the Herzberg two-factor theory.	7M	CO2	L2
(b)	Define PDSA and explain the phases of PDSA cycle with suitable illustration.	8M	CO2	L1
4(a)	Explain the new seven tools of quality management.	7M	CO3	L2
(b)	Explain in detail the process capability.	8M	CO3	L2
5(a)	Define benchmarking. Explain various types of benchmarking.	7M	CO4	L1
(b)	What is QFD? Explain the benefits of QFD.	8M	CO4	L1
6(a)	What is ISO 9000? Explain various ISO 9000 series of standards.	7M	CO5	L1
(b)	Define internal audit. Explain the objectives of internal audit.	8M	CO5	L1
7(a)	What is Six Sigma? What are the phases of six sigma process? Explain.	7M	CO3	L1
(b)	What is 5S's and explain the benefits of 5S?	8M	CO2	L1
8(a)	What is FMEA? Explain the stages of FMEA?	7M	CO4	L1
(b)	Compare ISO 9000 with TS 16949 quality system.	8M	CO5	L2

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B.Tech. (VIII Semester) Regular/Supplementary Examinations

**S353-PRODUCTION PLANNING AND CONTROL**

(ME)

Time : 3 hours

Max. Marks : 75

**PART-A**

(Compulsory question)

Q.No	Questions	Marks	CO	BL
1(a)	Routing is one of the functions of Production Planning and control (PPC). Justify.	1M	CO1	L3
(b)	Establishing a new product in any organization requires the application of qualitative forecasting technique, defend.	1M	CO2	L2
(c)	Mention at least two applications of in-process- inventory.	1M	CO3	L2
(d)	Brief out 'level strategy' in aggregate planning.	1M	CO4	L1
(e)	Give an outline of expediting.	1M	CO5	L1
(f)	Mention the applications of job production system.	2M	CO1	L2
(g)	Distinguish time series and casual forecasting models.	2M	CO2	L2
(h)	Describe the Kanban System.	2M	CO3	L1
(i)	Illustrate forward scheduling.	2M	CO4	L2
(j)	Aggregate planning is medium range planning. Discuss.	2M	CO5	L2

**PART-B**

(Answer any FOUR questions. All questions carry equal marks)

2(a)	Explicate the relationship of PPC with other departments.	7M	CO1	L2																																												
(b)	Production Planning and control is the nerve centre of the organization. Elucidate.	8M	CO1	L2																																												
3(a)	Define the terms MAD, MSE, MAPE and Bias with respect to forecasting of demand.	7M	CO2	L3																																												
(b)	A dealer for electrical appliances forecasts the demand for the Geyser at the rate of 500 per month for the next three months. The actual demands turned out to be 400, 560 and 700. Calculate the forecast error and bias, comment on the same.	8M	CO2	L4																																												
4(a)	What is a bill of material? Draw a typical bill of material chart. Explain how it is useful.	7M	CO3	L3																																												
(b)	An engine manufacturing company stocks the items as shown in the following table in its stores. The unit prices, annual consumption quantity in terms of units/year are also given in the same table. Classify the items into A, B and C categories and mention nature of control one has to exercise on each category.	8M	CO3	L5																																												
	<table><tr><td>Component Code</td><td>Description</td><td>Price/Unit</td><td>Unit/Year</td></tr><tr><td>C001</td><td>Connecting rod</td><td>500</td><td>600</td></tr><tr><td>C002</td><td>Crank case</td><td>4000</td><td>600</td></tr><tr><td>C003</td><td>Cylinder</td><td>2000</td><td>600</td></tr><tr><td>C004</td><td>Cylinder head</td><td>3000</td><td>600</td></tr><tr><td>C005</td><td>Crank shaft</td><td>4000</td><td>600</td></tr><tr><td>C006</td><td>Cam</td><td>500</td><td>1200</td></tr><tr><td>C007</td><td>Nozzle</td><td>500</td><td>600</td></tr><tr><td>C008</td><td>Valve set</td><td>1000</td><td>1200</td></tr><tr><td>C009</td><td>Fuel injection pump</td><td>1500</td><td>600</td></tr><tr><td>C010</td><td>Exhaust pipe</td><td>500</td><td>600</td></tr></table>				Component Code	Description	Price/Unit	Unit/Year	C001	Connecting rod	500	600	C002	Crank case	4000	600	C003	Cylinder	2000	600	C004	Cylinder head	3000	600	C005	Crank shaft	4000	600	C006	Cam	500	1200	C007	Nozzle	500	600	C008	Valve set	1000	1200	C009	Fuel injection pump	1500	600	C010	Exhaust pipe	500	600
Component Code	Description				Price/Unit	Unit/Year																																										
C001	Connecting rod				500	600																																										
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C004	Cylinder head				3000	600																																										
C005	Crank shaft				4000	600																																										
C006	Cam				500	1200																																										
C007	Nozzle				500	600																																										
C008	Valve set				1000	1200																																										
C009	Fuel injection pump	1500	600																																													
C010	Exhaust pipe	500	600																																													



### S353-PRODUCTION PLANNING AND CONTROL

5(a)	Illustrate the Schedule chart used for large sized products such as construction of a Railway coach.	7M	CO4	L3																							
(b)	<p>A company has orders for five jobs ABCD and E that must be processed sequentially through two work centres baking and decoration. The time in hours required for the jobs is shown below. Determine the schedule of sequence that minimizes the total elapsed time for the five jobs and present it in the form of the Gantt chart.</p> <table><tr><th rowspan="2">Work centers</th><th colspan="5">Time required jobs (Hrs)</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th></tr><tr><td>Baking</td><td>5</td><td>4</td><td>8</td><td>7</td><td>6</td></tr><tr><td>Decoration</td><td>3</td><td>9</td><td>2</td><td>4</td><td>6</td></tr></table>	Work centers	Time required jobs (Hrs)					A	B	C	D	E	Baking	5	4	8	7	6	Decoration	3	9	2	4	6	8M	CO4	L4
Work centers	Time required jobs (Hrs)																										
	A	B	C	D	E																						
Baking	5	4	8	7	6																						
Decoration	3	9	2	4	6																						
6(a)	Explicate how you present production delays.	7M	CO5	L2																							
(b)	Your Examination starting date is given on 15 <sup>th</sup> March. List out important activities and write a master schedule for the activities, so that examination can be taken on 15 <sup>th</sup> April successfully. Apply aggregate planning strategies.	8M	CO5	L6																							
7(a)	How do you layout your workshop by considering production planning and control objectives?	7M	CO1	L5																							
(b)	<p>A firm uses simple exponential smoothing with <math>\alpha = 0.2</math> to forecast demand. The forecast for the first week of January was 200 units, whereas the actual demand turned out to be 220 units.</p> <p>(i) Forecast demand for the second week of January.</p> <p>(ii) Assume that the demand for the second week of January turned out to be 230 units. Forecast the demand up-to February third week, assuming the sub-sequential demand as 235, 230, 250, 200 and 262 units.</p>	8M	CO2	L4																							
8(a)	How to manage inventories in Transport Corporation Work Shops? Explain.	7M	CO3	L6																							
(b)	<p>A company has ordered for five jobs P, Q, R, S and T that must be processed sequentially through two work centers baking and decoration. The time in hours required for jobs is shown below. Determine the schedule of sequence that minimizes the total make span time for five jobs and present it in the form of a Gantt chart.</p> <table><tr><th rowspan="2">Operations</th><th colspan="5">Time required for jobs (in hours)</th></tr><tr><th>P</th><th>Q</th><th>R</th><th>S</th><th>T</th></tr><tr><td>Turning</td><td>6</td><td>5</td><td>5</td><td>10</td><td>5</td></tr><tr><td>Milling</td><td>6</td><td>7</td><td>6</td><td>2</td><td>9</td></tr></table>	Operations	Time required for jobs (in hours)					P	Q	R	S	T	Turning	6	5	5	10	5	Milling	6	7	6	2	9	8M	CO4	L5
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	P	Q	R	S	T																						
Turning	6	5	5	10	5																						
Milling	6	7	6	2	9																						

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H.T.No

20 JUL 2021

R14

**LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING**  
(AUTONOMOUS)

L.B. Reddy Nagar :: Mylavaram – 521 230 :: Krishna Dist.: A.P.

B.Tech. (VIII Semester) Regular/Supplementary Examinations

**S343-POWER PLANT ENGINEERING**

(ME)

Time : 3 hours

Max. Marks : 75

**PART-A**

(Compulsory question)

Q.No	Questions	Marks	CO	BL
1(a)	What is the function of cooling tower?	1M	CO1	L1
(b)	Give importance of super charging.	1M	CO2	L1
(c)	List any two Nuclear Fuels.	1M	CO3	L1
(d)	How wind energy is converted into electrical energy?	1M	CO4	L1
(e)	Write the equation for Plant Capacity Factor.	1M	CO5	L1
(f)	What is energy? What are its different forms?	2M	CO1	L1
(g)	List the essential components of diesel power plant.	2M	CO2	L1
(h)	Mention the advantages of Boiling water reactor.	2M	CO3	L1
(i)	Draw the line diagram of Thermo ionic Energy conversion system.	2M	CO4	L1
(j)	What is the significance of load curves?	2M	CO5	L1
<b>PART-B</b>				
(Answer any FOUR questions. All questions carry equal marks)				
2(a)	Classify and explain the working of mechanical dust collectors.	7M	CO1	L2
(b)	Draw a chart showing operations and devices used in coal handling plant.	8M	CO1	L3
3(a)	Draw a neat line diagram of a diesel power plant showing all the systems and explain the working.	7M	CO2	L3
(b)	With neat sketches and equations explain the regeneration and reheating methods employed to improve the performance of gas turbine power plant.	8M	CO2	L2
4(a)	What is Hydrological cycle? Explain its significance in locating the site and design of hydro electric power plants.	7M	CO3	L2
(b)	Enumerate and explain the essential components of a nuclear reactor.	8M	CO3	L3
5(a)	Describe Solar power plant with neat sketch.	7M	CO4	L2
(b)	What do you understand by MHD? Explain the working principle of MHD with neat sketch.	8M	CO4	L3
6(a)	Explain water pollution caused by thermal plants.	7M	CO5	L2
(b)	What are the various costs involved in power plant? Discuss briefly.	8M	CO5	L2
7(a)	Sketch and explain liquid metal cooled reactor and also mention its advantages.	7M	CO3	L2
(b)	What are the basic coal ingredients? How do they affect furnace design?	8M	CO1	L2
8(a)	Give a brief note on Connected load, Maximum demand and Demand factor.	7M	CO5	L2
(b)	Mention the advantages and disadvantages of diesel power plant over a gas turbine power plant.	8M	CO2	L2

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