R19

IV B.TECH II SEM

SUPPLEMENTARY EXAMINATIONS

APRIL 2025

NARASARAOPETA ENGINEERING COLLEGE
(AUTONOMOUS)

IV B.Tech II Semester Supple. Examinations, April-2025

Sub Code: 19BCE8TH01 CONSTRUCTION TECHNOLOGY AND MANAGEMENT

Time: 3 hours (CE) Max. Marks: 60

Note: Answer All FIVE Questions. All Questions Carry Equal Marks (5 X 12 = 60M)

Q.No		Questions	KL	CO	M
1		Unit-I			
	a	i)Explain the key causes of project failure in construction projects and discuss how project management helps in overcoming them.	K2	1	6M
		ii)Describe the steps for drawing a network diagram in a project using the PERT/CPM technique. Include the rules and Fulkerson's law in your explanation.	K2	1	6M
		OR			
	b	i)Discuss the main differences between PERT and CPM? Discuss the applicability of both in different project management scenarios.	K2	1	6M
		ii)Discuss the concept of planning, scheduling, and controlling in project management, and how these three processes are interrelated.	K2	1	6M
2		Unit-II			
	a	i)Explain the concept of project updating? Describe the process and importance of updating in managing project timelines and resources.	K2	2	6M
		ii)Explain the relationship between direct costs, indirect costs, and total project costs in project management. How can network optimization help in cost control?	K2	2	6M
		OR			
	b	i)Explain the procedure to calculate earliest and latest allowable occurrence times. Why are these times critical in project scheduling?	K2	2	6M
		ii)Discuss the steps involved in cost optimization through networks in project management, with a focus on resource allocation and time-cost trade-offs.	K2	2	6M
3		Unit-III			
	a	i)What are tender documents? Explain their significance in the bidding process of a construction project.	K2	3	6M
		ii)Explain the important conditions of a contract in construction projects. How do these conditions ensure smooth project execution?	K2	3	6M
		OR			
	b	i)Describe the process of project planning, programming, and scheduling. How does each step contribute to the successful execution of a construction project?	K2	3	6M
		ii)Explain the role of M. Book, R.A Bills, and Muster Roll in project management and how they contribute to effective contract management.	K2	3	6M
4		Unit-IV			
	a	i)Explain resource smoothing and resource leveling? Explain how these techniques help in managing resources effectively in construction projects.	K2	4	6M
		ii)Describe the functions of a material management department in construction. Why is effective material management important for the success of a project?	K2	4	6M
		OR			
	b	i)Discuss the role of NBC Code 2016 in implementing green technologies in construction projects. How does it promote sustainability?	K2	4	6M
		ii)Explain the steps involved in resource allocation and the importance of balancing time, cost, and resource availability in construction projects.	K2	4	6M

5		Unit-V			
	a	i)Discuss the elements of quality control in construction projects and the importance of maintaining high-quality standards.	K2	5	6M
		ii)Explain ISO-9000 certification and its significance in the construction industry.	K2	5	6M
		OR			
	b	i)Discuss the components of an accident prevention program in construction projects and how it contributes to worker safety.	K2	5	6M
		ii)Explain the role of a safety information system in construction projects and how it aids in preventing workplace hazards.	K2	1	6M

KL: Blooms Taxonomy Knowledge Level CO: Course Outcome M:Marks

***

NAKASARAOPETA ENGINEERING COLLEGE
(AUTONOMOUS)

IV B.Tech II Semester Supple. Examinations, April-2025

Sub Code: 19BCE8PE04 **ENVIRONMENTAL IMPACT ASSESSMENT**

Time: 3 hours (CE) Max. Marks: 60

Note: Answer All **FIVE** Questions.

All Questions Carry Equal Marks (5 X 12 = 60M)

Q.No		Questions	KL	CO	M
1		Unit-I			
	a	i) Define EIA and list out the need for EIA.	K1	1	6M
		ii) Briefly discuss the screening and scoping as elements of EIA.	K2	1	6M
		OR			
	b	i) Explain the factors affecting EIA	K1	1	6M
		ii) Discuss the Classification of environmental parameters	K2	1	6M
2		Unit-II			
	a	i) Explain the leopold matrix in detail with suitable example.	K2	2	6M
		ii) Describe the significance of cost benefit analysis in EIA?	K2	2	6M
		OR			
	b	i) Explain matrix methods	K2	2	6M
		ii) Explain the advantages and disadvantages of matrices and overlays	K1	2	6M
3		Unit-III			
	a	i) Differentiate Direct and Indirect impact in vegetation and wildlife impact analysis.	K2	3	6M
		ii) Explain any case study of EIA in detail.	K2	3	6M
		OR			
	b	i) Discuss in detail the impact assessment methodologies	K1	3	6M
		ii) Explain standards for noise quality in detail	K2	3	6M
4		Unit-IV			
	a	i) Explain standards for air quality in detail	K1	4	6M
		ii) Differentiate point and nonpoint sources of water pollution with examples?	K2	4	6M
		OR			
	b	i) Describe the impacts of any two water pollutants.	K2	4	6M
		ii) Explain soil liquefaction and how it caused?	K1	4	6M
5		Unit-V			
	a	i) Discuss the role of an environmental engineering in context with EIA?	K1	5	6M
		ii) Explain environmental management plan in detail.	K2	5	6M
		OR			
	b	i) Discuss the role of an environmental engineering in context with EIA?	K2	5	6M
		ii) Explain the limitations of Environment impact assessment?	K1	5	6M

KL: Blooms Taxonomy Knowledge Level CO: Course Outcome M:Marks

NEC NARASARAOPETA ENGINEERING COLLEGE
(AUTONOMOUS)

IV B.Tech II Semester Supple. Examinations, April-2025

Sub Code: 19BEE8PE04 PROGRAMMABLE LOGIC CONTROLLER & APPLICATIONS

Time: 3 hours (EEE) Max. Marks: 60

Note: Answer All **FIVE** Questions.
All Questions Carry Equal Marks (5 X 12 = 60M)

Q.No		Questions	KL	CO	M
1		**Unit-I**			
	a	i) Describe the four major parts of a PLC system.	K4	1	6M
		ii) Explain the difference between legal (proper) and illegal (improper) PLC ladder programming layouts.	K4	1	6M
		OR			
	b	i) Discuss in detail the coil (output) function of the PLC.	K3	1	6M
		ii) Design the operation of a drill press module and draw the necessary Ladder diagram.	K4	1	6M
2		**Unit-II**			
	a	i) What are the characteristics of PLC registers? Explain the function of any two types of PLC registers in detail.	K2	2	4M
		ii) Using a PLC sequencer and timing, explain the following dishwasher application. a) Soap release solenoid b) Input valve for hot water c) wash impeller operation d) Drain water valve e) Drain pump motor f) Heat element for drying cycle	K3	2	8M
		OR			
	b	i) How do you change the status of bit pattern of a register? Explain	K3	2	6M
		ii) What is module addressing? Explain module addressing used in the PLC?	K4	2	6M
3		**Unit-III**			
	a	i) How many configurations are there for PLC counter functions? Explain.	K4	3	6M
		ii) Design an application to run a motor. A motor run after counter count 100 pulses. A counter counts 100 pulses only after 1 hour of the process starts.	K4	3	6M
		OR			
	b	i) Design construct and test PLC circuits for the following process: A fan, F, is to be turned on when count L goes from 7 down to 0 and when either count M goes up to 14 or count N has not gone all the way from 14 down to 0. One switch or stop button resets the entire process.	K4	3	7M
		ii) Discuss the application of a dual counter for parts to be counted on a conveyor belt. Assume required design considerations	K3	3	5M
4		**Unit-IV**			
	a	i) Explain the JUMP with NON-RETURN with an application	K4	4	6M
		ii) Explain the FAL function of a PLC with a schematic of its operations.	K4	4	6M
		OR			
	b	i) Describe the BIT PICK CONTACT function and its use.	K4	4	6M
		ii) Develop a "coil and contact" (input/output) control system to operate a basic robot.	K3	4	6M

5		**Unit-V**			
	a	Write short notes on the following a) Input output devices connected to PLC b) PLC Analog signal processing c) PLC Master control Relay	K3	5	12M
		OR			
	b	i) Explain the differences between Discrete type PLC and analog type PLC	K4	5	5M
		ii) The linear input of 0 to 80 volts is to be displayed on a 9999 – maximum – count BCD output. Trace 32 volts through the system.	K4	5	7M

KL: Blooms Taxonomy Knowledge Level CO: Course Outcome M:Marks

***