MANIPAL INSTITUTE OF TECHNOLOGY MANIPAL (A constituent unit of MAHE, Manipal)

I SEMESTER M.TECH. CONSTRUCTION ENGINEERING AND MANAGEMENT END SEMESTER EXAMINATION, DECEMBER - 2023 SUBJECT: RESOURCE MANAGEMENT [CIE 5116]

Time:

MAX. MARKS: 50

Q.No			Marks	CO	BL				
1A.	CI Co %	Classify the Material Items given into ABC and XYZ classes and formulate a Control Matrix. Take the ordering cost as 15 % and the carrying cost as 20 % of the unit cost.						1	4
		ltem	Unit Cost (Rs.)	No. of Orders per year	Quantity Used in thousands	Average Units of Inventory Held			
		Concrete Blocks	47	15	30	2,000 blocks			
		Structural Steel	55,000	10	3	200 tons			
		Glass Panes	915	25	5	200 square meters			
		Insulation Material	5000	20	2.5	120 rolls			
		Electrical Wiring	560	30	50	1,500 meters			
		Ceramic Tiles	57	40	10	300 square feet			
		Plumbing Fixtures	150	15	1	100 units			
1B.	Pr	epare a chart follow	ing the B	risch Syste	m of Coding for combinations from		1	1	3
	any given 'Main group' categories: Concrete, Steel, and Building Blocks.								
2A.	Th	ne time series data	6	2	4				
	Es	stimate forecasted p							
	AI	pha=0.3							
	Y1	Y1: 509, 503, 455, 474, 396, 500, 506, 392, 358, 506, 494, 501							
	Y2	: 486, 453, 472, 596,							
2B.	In modelling the intricacies associated with the construction industry, how can							4	3
	the general structure of a queuing system be modified? Illustrate.						4		

3A.	Forecasted prices of steel	;	2	4		
	intervals. Prepare an exper	6				
	following periodic intervals.	;				
	and maximum storage capa					
	18500 17000 16700 18600 1)				
	16600 17500 15250 18450 16					
3B.	A project manager needs building with sustainable th and environmentally friendly and Environmental Design) faces challenges such as changes in regulatory requi Employ the Transformation the above scenario to succ	4	3	3		
4A.	45,000 m ³ of coarse aggree It is scheduled for 980 day site is Rs.600. The Orderin is 5% of the unit cost. The S m ³ , and the Reliability Coe and the maximum lead tir incorporating the 'stock abo	7	3	6		
	2	66	3			
	3	40	5			
	4	52	4			
	5	64	3			
4B.	Illustrate with construction Little's Law of waiting line the	3	4	3		
5A.	Explain the 5S lean project construction industry.	5	5	3		
5B.	Explain the principle, the M Processes, from the Ericss	5	5	5		
