M.C.M.(with Credits)-Regular-Semester 2012 Sem III MCM234 - Paper-IV : Research Methodology and Operational Techniques

P. Pages: 2

Time : Three Hours

* 3 9 0 0 *

Max. Marks: 80

GUG/W/16/3034

	Note	 All questions are of Draw neat and lab Avoid vague answ only. 	compulsory a elled diagran vers and write	and carry early early early early and wherever a the answe	qual mari r necessa ers releva	ks. ry. int and sp	pecific to	questions	
1.	-)	EITHER Define Recench methodal	E	·		dia n in D	1		c
	a)	Define Research methodology. Explain in detail the motivation in Research.							đ
	b)	What is meant by sin P of research? Explain.							8
				OR					
	c)	Explain in detail various approaches of research methodology.							8
	d)	Explain, How you can develop a research proposal?							8
2.		EITHER							
	a)	Explain in detail the importance of quantitative Techniques.							8
	b)	Calculate Mean, Median and Mode for the following series.							
		Size. 10-20 10-	30 10-40	10-50	10-60	10-70	10-80	10-90	
		Frequency 4 16	56	97	124	137	146	150	
				OR					
	c)	Explain in detail the concept and application of decision tree.						8	
	(b	Find the mean deviation and standard deviation of following							8
	2)	Income Thousand 10 20 30 40 50 60							
		Age of Person	n 49	62 40	29 32	70			
3.		EITHER							
	a)	Discuss in detail about the concept of linear programming.							8
	b)	Obtain the initial basic solu	tion by Mat	rix minima	method	for the fo	llowing	transporta	tion 8

Problem.						
From	Х	Y	Ζ	Supply		
То						
A	4	8	8	76		
В	16	24	16	82		
С	8	16	35	77		
Demand	72	102	41			

	c)	Solve the following LPP by simplex method Maximize $Z = 7x_1 + 5x_2$ Subject to $x_1 + 2x_2 \le 6$ $4x_1 + 3x_2 \le 12$	8		
	4)	Where x_1 and $x_2 \ge 0$	O		
	u)	model.	0		
4.		EITHER			
	a)	Define simulation. What is the use of computers in simulation?			
	b)	Using following data obtain EOQ and the total variable cost associated with policy of ordering quantities of that size. Annual demand = 20000 units ordering cost/Rs. 150 per order carrying cost per unit per order = Rs. 0.24	8		
		OR			
	c)	What are various element of queuing system? Explain in detail.	8		
	d)	 Train arrive at yard every 15 minutes and the service time is 33 minutes. If the line capacity of the yard is to 4 train, find i) The probability that yard is empty ii) The average number of trains in the system. 	8		
5		Attempt all the questions			
5.	a)	Explain in brief the objectives of Research methodology.	4		
	b)	What is the need of Quantitative Techniques?	4		
	c)	Write a short note on project management.	4		
	d)	Explain in brief various terminology of Inventory control.	4		
