Total No. of Questions : 6]	SEAT No.:
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APR-17/BE/Insem.-20 **B.E.** (Mechanical Engineering) INDUSTRIAL ENGINEERING

(2012 Pattern) (Elective - III(C)) (Semester - II)					
Hour]			[Max. Marks	: 30	
ons to the car	ndidates :				
Answer Q	l. or Q2, Q3 or Q4, Q	95 or Q6.			
Figures to	the right indicate fu	ll marks.			
Assume su	itable data if necessa	ry.			
Define span of control and delegation of authority.					
Define te	Define term:productivity and factors affecting productivity. OR				
Write sho	Write short note on : Craig Harris Model.				
Explain Line Organization, line and staff organization and Matrix organization.[6]					
Explain with example, method study symbols for recording facts. [6]					
Write short note on : SIMO chart. [4]					
0.11					
Differentiate between time study and work sampling. [4]					
		•	1 0		
Explain following terms - predetermined motion time standards. [5]					
b) Following are the element times of a machining operation. The corresponding					
rating and relaxation allowances are given in table as below. [5]					
Element	Observed Time	Performance	Ralaxation		
	(Min)	Rating	Allowance(%)		
)	Hour] Jons to the can Answer QI Figures to Assume su Define sp Define ter Write sho Explain Li Explain v Write sho Different Explain for Following rating and	Hour] Jons to the candidates: Answer Q1. or Q2, Q3 or Q4, Q4 Figures to the right indicate full Assume suitable data if necessar Define span of control and of Define term:productivity and Write short note on: Craig H Explain Line Organization, line Explain with example, meth Write short note on: SIMO Write short note on 'Multiple Differentiate between time services are the element time rating and relaxation allowand Element Observed Time	Hour] Ions to the candidates: Answer Q1. or Q2, Q3 or Q4, Q5 or Q6. Figures to the right indicate full marks. Assume suitable data if necessary. Define span of control and delegation of author Define term:productivity and factors affecting OR Write short note on: Craig Harris Model. Explain Line Organization, line and staff organization Explain with example, method study symbols Write short note on: SIMO chart. OR Write short note on 'Multiple Activity Chart' Differentiate between time study and work sam Explain following terms - predetermined motion Following are the element times of a machining operating and relaxation allowances are given in table Element Observed Time Performance	Max. Marks fons to the candidates: Answer Q1. or Q2, Q3 or Q4, Q5 or Q6. Figures to the right indicate full marks. Assume suitable data if necessary. Define span of control and delegation of authority. Define term:productivity and factors affecting productivity. OR Write short note on: Craig Harris Model. Explain Line Organization, line and staff organization and Matrix organization Explain with example, method study symbols for recording facts. Write short note on: SIMO chart. OR Write short note on 'Multiple Activity Chart' Differentiate between time study and work sampling. Explain following terms - predetermined motion time standards. Following are the element times of a machining operation. The correspond rating and relaxation allowances are given in table as below. Element Observed Time Performance Ralaxation	

Element	Observed Time	Performance	Ralaxation
	(Min)	Rating	Allowance(%)
1	0.15	80	13
2	0.05	85	13
3	0.55	90	10
4	1.00	95	12
5	0.1	90	13

Calculate normal time, standard time for this job assuming contingency allowance of 3% of normal time.

OR

- Q6) a) What is allowance? Explain different types of allowances with example.[6]
 - b) A work-study sample of a manufacturing activity conducted over a 40-hour period shows that a worker with an 85% rating produced 12 parts. The worker's idle time was 10% and the allowance factor was 12% [4]

Find the normal and standard time for this activity.



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