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B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

August 2024 Semester End Main Examinations

Programme: B.E.

Branch: Industrial Engineering and Management

Course Code: 22IM4PCINE

Course: Industrial Engineering

Semester: IV

Duration: 3 hrs.

Max Marks: 100

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

			UNIT - I		CO	PO	Marks
Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.	1	a)	Differentiate between Total Productivity and Partial Productivity. Explain approaches to access productivity of an individual enterprise.		CO1	PO1	06
		b)	Explain the link between wage and incentive with an illustration	CO1 CO2	PO1 PO2		06
		c)	Work study is to be conducted in bottling operations in a carbonated soft drink manufacturing plant in Bangalore, what steps do you take and how do you conduct it?	CO1 CO2	PO1 PO2		08
			UNIT - II				
	2	a)	What are the recording techniques of method study? How do you use them? Explain with an illustration.	CO2 CO3	PO3 PO5		12
		b)	Analyse the importance of application of principles of motion economy with a real world scenario.	CO2 CO3	PO3 PO5		08
			UNIT - III				
	3	a)	Explain the purpose of Work Measurement.	CO1 CO2	PO1 PO2		06
		b)	With an example for each enumerate the need for different Work Measurement Techniques.	CO1 CO2	PO1 PO2		06
		c)	Explain in detail work sampling procedure with its phases.	CO1 CO2	PO1 PO2		08
			OR				
	4	a)	What are the possible criteria for any job to become eligible for selection for Time Study? Explain.	CO1 CO2	PO1 PO2		10

	b)	How to breakdown a job into 'elements' of work and how those elements can be classified?	CO2 CO3	PO3 PO5 PO9	10
		UNIT - IV			
5	a)	What are the broad areas of Ergonomics to be taken up for study by an Industrial Engineer? Explain.	CO1 CO2	PO1 PO2	10
	b)	List and explain the pillars of Ergonomics doctrine.	CO1 CO2	PO1 PO2	10
		OR			
6	a)	Name and explain the nature of stresses and the types of stresses that affect the different systems in human body.	CO1 CO2	PO1 PO2	10
	b)	You are the floor manager of a machine tool manufacturing plant and you observe fatigue in workers assigned different tasks. By what measures and how will you intend to reduce fatigue in them.	CO2 CO3	PO3 PO5 PO9 PO12	10
		UNIT - V			
7	a)	Explain the approach of TQM ideas in relation to traditional approach to quality. How does it influence Industrial Engineering?	CO1 CO2	PO1 PO2	06
	b)	How are the seven wastes identified in JIT manufacturing approach help in increasing productivity? Explain each with an illustration.	CO1 CO2	PO1 PO2	06
	c)	How is 'Value' defined in Value Engineering? Explain the reasons for 'unnecessary costs'?	CO1 CO2	PO1 PO2	08
