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

Autonomous Institute Affiliated to VTU

October 2024 Supplementary Examinations

Programme: B.E.

Branch: Institutional Elective

Course Code: 22MD6OE1ER

Course: ERGONOMICS

Semester: VI

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.

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.			UNIT - I	CO	PO	Marks
	1	a)	Was ergonomics invented or discovered, or is it just a buzzword for what happens anyway? Discuss.	CO2	PO1	10
		b)	Discuss a report that explains to a design engineer why anthropometric data should be used in the design of human-machine systems. Give examples from everyday life to support your arguments.	CO2	PO2	10
			UNIT - II			
	2	a)	"Ergonomic workstation design encourages good posture". Justify the statement with examples of factors that influence working posture.	CO2	PO2	10
		b)	"All tasks have three sets of requirements that influence workspace design". Explain the statement.	CO3	PO2	10
			OR			
	3	a)	"Carpal tunnel syndrome (CTS) is associated with forceful and repetitive work alone or in combination with other factors". Justify the same.	CO2	PO2	10
		b)	Discuss the methods of reducing shoulder stress.	CO2	PO2	10
			UNIT - III			
	4	a)	What are the factors affecting physical work capacity? Discuss	CO2	PO2	10
		b)	Discuss about the factors influencing the ability to work in the heat and basic steps in heat stress management.	CO2	PO2	10
			UNIT - IV			
	5	a)	Explain why the ability to discern detail (visual acuity) is reduced in poor light?	CO1	PO1	10

	b)	What disorders does a human face when he /she are exposed to vibration? Explain.	CO1	PO2	10
		UNIT - V			
6	a)	Analyze the design of examples of the following domestic appliances. Identify and comment on the design of the controls, the displays and the relationship between them. <ul style="list-style-type: none"> • A four-burner stove • A video cassette recorder • A food mixer • A microwave oven. What feedback do the devices provide users to indicate response adequacy? 	CO3	PO6	10
	b)	Discuss some of the problems associated with medical device design that can increase the likelihood of error.	CO3	PO6	10
		OR			
7	a)	Discuss Human-computer interaction styles advantages and disadvantages.	CO3	PO6	10
	b)	Discuss Psychological measures of mental workload.	CO3	PO6	10
