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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.

<b>UNIT - I</b>			<b>CO</b>	<b>PO</b>	<b>Marks</b>
1	a)	Was ergonomics invented or discovered, or is it just a buzzword for what happens anyway? Discuss.	CO2	PO1	<b>10</b>
	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	<b>10</b>
<b>UNIT - II</b>					
2	a)	“Ergonomic workstation design encourages good posture”. Justify the statement with examples of factors that influence working posture.	CO2	PO2	<b>10</b>
	b)	“All tasks have three sets of requirements that influence workspace design”. Explain the statement.	CO3	PO2	<b>10</b>
<b>OR</b>					
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	<b>10</b>
	b)	Discuss the methods of reducing shoulder stress.	CO2	PO2	<b>10</b>
<b>UNIT - III</b>					
4	a)	What are the factors affecting physical work capacity? Discuss	CO2	PO2	<b>10</b>
	b)	Discuss about the factors influencing the ability to work in the heat and basic steps in heat stress management.	CO2	PO2	<b>10</b>
<b>UNIT - IV</b>					
5	a)	Explain why the ability to discern detail (visual acuity) is reduced in poor light?	CO1	PO1	<b>10</b>

**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.

	b)	What disorders does a human face when he /she are exposed to vibration? Explain.	CO1	PO2	<b>10</b>
		<b>UNIT - V</b>			
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. • 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	<b>10</b>
	b)	Discuss some of the problems associated with medical device design that can increase the likelihood of error.	CO3	PO6	<b>10</b>
		<b>OR</b>			
7	a)	Discuss Human–computer interaction styles advantages and disadvantages.	CO3	PO6	<b>10</b>
	b)	Discuss Psychological measures of mental workload.	CO3	PO6	<b>10</b>

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