

U.S.N.

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

Autonomous Institute Affiliated to VTU

**May / June 2025 Semester End Main Examinations****Programme: B.E.****Semester: VIII****Branch: Institutional Elective****Duration: 3 hrs.****Course Code: 22CV8OEOSH / 21CV8OEOSH****Max Marks: 100****Course: Occupational Safety and Health Administration**

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

<b>Important Note:</b> 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>UNIT - I</b>	<b>CO</b>	<b>PO</b>	<b>Marks</b>
	1	a)	Describe the general concepts of management planning for safety and productivity optimization.	CO 1	PO 1, 6	<b>6</b>
		b)	Explain the Incident Recall Technique and its role in accident prevention.	CO 1	PO 1,8	<b>8</b>
		c)	Describe job safety analysis and its steps.	CO 1	PO 1,6	<b>6</b>
			<b>OR</b>			
	2	a)	Discuss in detail the Occupational Safety and Health Act and its implications.	CO 1	PO 6,8	<b>10</b>
		b)	Elaborate on Workmen compensation act and Factory act 1948.	CO 1	PO 6,12	<b>10</b>
			<b>UNIT - II</b>			
	3	a)	Define the term "accident." Classify various types of industrial accidents.	CO 2	PO 1,6	<b>6</b>
		b)	Illustrate the accident investigation process using a flowchart.	CO 2	PO 2,4	<b>8</b>
		c)	Explain the direct and indirect costs involved in industrial accidents.	CO 2	PO 8,11	<b>6</b>
			<b>OR</b>			
	4	a)	Explain the systematic procedure for accident reporting and documentation.	CO 2	PO 6,10	<b>7</b>
		b)	Discuss the role of management in reducing accident rates.	CO 2	PO 9,12	<b>6</b>
		c)	Explain the supervisory role in accident investigation	CO 2	PO 1,2	<b>7</b>

		<b>UNIT - III</b>			
5	a)	Explain the fire triangle and factors influencing fire development.	CO 2	PO 1,2	<b>10</b>
	b)	Explain the key components of fire rescue operations and evaluate the significance of conducting regular fire drills	CO 2	PO 8,10	<b>10</b>
		<b>OR</b>			
6	a)	Classify fire types and describe suitable extinguishing methods for each.	CO 2	PO 1,5	<b>10</b>
	b)	Explain the function of fire hydrants, monitors, hoses, and fire stoppers.	CO 2	PO 5,6	<b>10</b>
		<b>UNIT - IV</b>			
7	a)	Define risk. Differentiate between voluntary and involuntary risk.	CO 3	PO 1,12	<b>6</b>
	b)	Differentiate between Fault Tree and Event Tree analysis with diagrams.	CO 3	PO 2,4	<b>10</b>
	c)	Define ergonomics and describe its objectives.	CO 3	PO 8,10	<b>4</b>
		<b>OR</b>			
8	a)	Explain the Preliminary Hazard Analysis (PHA) technique.	CO 3	PO 2,12	<b>6</b>
	b)	Explain Musculoskeletal Disorders (MSD) and ergonomic solutions.	CO 3	PO 8,10	<b>6</b>
	c)	Discuss ergonomic design principles for computer workstations.	CO 3	PO 5,8	<b>8</b>
		<b>UNIT - V</b>			
9	a)	Explain the cause and symptoms of Carpal tunnel syndrome and trigger finger	CO 3	PO 1,12	<b>10</b>
	b)	Explain routes of entry of toxic substances into the body and their physiological effects.	CO 3	PO 1,8	<b>10</b>
		<b>OR</b>			
10	a)	Discuss the short-term and long-term effects of toxic substances on the human body.	CO 3	PO 1,12	<b>10</b>
	b)	Discuss occupational diseases and how to prevent them through engineering controls.	CO 3	PO 5,6	<b>10</b>

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