



**Bachelor of Business Administration BBA (General) - Semester- II**

<b>Course Code</b>	<b>UM02 SE BBA03</b>	<b>Title of the Course</b>	<b>Industrial Safety Management</b>
<b>Total Credits of the Course</b>	<b>03</b>	<b>Hours per Week</b>	<b>03</b>

<b>Course Objectives</b>	1. To impart basic knowledge of industrial safety.
	2. To create awareness of various industrial hazards among students.
	3. Conducting preventive measures for industrial safety in an organization.

<b>Course Content</b>		
<b>Unit</b>	<b>Description</b>	<b>Weightage (%)</b>
<b>1.</b>	<b>Introduction to Industrial safety:</b> <ul style="list-style-type: none"><li><input type="checkbox"/> History and development of safety movement, Safety programs, Need for safety,</li><li><input type="checkbox"/> Safety legislation: Acts and rules, Safety standards and codes, Safety policy: safety organization and responsibilities and authorities of different levels.</li><li><input type="checkbox"/> Accident sequence theory, Nature of Accident, Process of accident, Causes of accidents,</li><li><input type="checkbox"/> Accident prevention and control techniques, Plant safety inspections, Job safety</li><li><input type="checkbox"/> Analysis and investigation of accidents, First aid, Financial costs-direct and indirect,</li><li><input type="checkbox"/> Social costs of accidents, Compilation procedure for financial costs, Cost data,</li></ul>	<b>25 %</b>
<b>2.</b>	<b>Industrial safety management:</b> <p>Management Principles, Levels of Management-Lower, Middle and Top,</p> <ul style="list-style-type: none"><li><input type="checkbox"/> Types of Management –Line and Staff, Authority,</li><li><input type="checkbox"/> Accountability and Responsibility of Management.</li><li><input type="checkbox"/> Span of Management, Delegation and decentralization of authority.</li><li><input type="checkbox"/> Role of Management in Industrial Safety:</li><li><input type="checkbox"/> Planning for Safety- Definition, Purpose, Nature, Scope and Procedure.</li><li><input type="checkbox"/> Range of planning, Types of plans, Management By Objectives (MBO),</li><li><input type="checkbox"/> Policy formulation and implementation</li><li><input type="checkbox"/> <b>Organizing for Safety:</b> Definition, need, nature and principles, Health and Environment, Organization structure, functions and responsibilities,</li><li><input type="checkbox"/> <b>Directing Safety:</b> Definition, process, principles and techniques, Leadership–</li></ul>	<b>25 %</b>





<b>3.</b>	<b>Hazards at workplace:</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Industrial fires, Dispersion modelling, Chemistry of fire, Fire Triangle, Flammability</li> <li><input type="checkbox"/> characteristics of liquids and gases, Classification of fires, Deflagration and detonation, Vapour Cloud Explosion (VCE), Runaway reaction and control methods,</li> <li><input type="checkbox"/> Dust explosion, factors of pentagon, causes of dust explosions and</li> <li><input type="checkbox"/> Controls Fire and Explosion prevention methods.</li> <li><input type="checkbox"/> <b>Fire and explosion:</b></li> <li><input type="checkbox"/> Industrial fires, Dispersion modelling, Chemistry of fire, Fire Triangle, Flammability</li> <li><input type="checkbox"/> characteristics of liquids and gases, Classification of fires, Deflagration and detonation, Vapour Cloud Explosion (VCE), Runaway reaction and control methods,</li> </ul>	<b>25 %</b>
<b>4.</b>	<b>Safety in plant operation and maintenance:</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Safe procedures for plant start-up and shut-down,</li> <li><input type="checkbox"/> Pipeline colour coding for identification of contents,</li> <li><input type="checkbox"/> Safety precautions for working on pipelines,</li> <li><input type="checkbox"/> Safety in preventive and emergency maintenance work,</li> <li><input type="checkbox"/> Pressure relief systems and breather valves,</li> <li><input type="checkbox"/> Flare system, Mechanism of Mechanical Failure that lead to a Loss of containment.</li> <li><input type="checkbox"/> Prevention strategy.</li> </ul>	<b>25 %</b>
<b>Teaching –Learning Methodology</b>	These are teacher-centered methods, learner-centered methods, content focused methods and interactive/participative methods.	

<b>Evaluation Pattern</b>		
<b>Sr. No.</b>	<b>Details of the Evaluation</b>	<b>Weightage</b>
1.	Internal Written(As per CBCSR.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Quizzes, Seminars, Assignments, Attendance(As per CBCS R.6.8.3)	15%
3.	University Examination	70%

<b>Course Outcomes</b>	
<b>1.</b>	Students will get basic information about workplace hazards and preventive measures.
<b>2.</b>	Role of management for industrial safety.





3.	Rules and Regulations of Government for prevention of industrial accidents.
4.	Safety measures in plant and maintenance of equipments.

<b>Suggested References</b>	
Sr. No.	References
1	Fundamentals of Industrial safety & health by K.U. Mistry.
2	Factories Act, 1948
3	Accident Prevention Manual for Industrial Operations (ISBN: 978-08-7-912024-5) , National Safety Council , 1121, Spring Lake Drive, Itasca, Illinois 60143 USA
4	Industrial Safety Hand Book, William Handley, Megraw-Hill.
5	Industrial Safety Management- By L.M.Deshmukh- TaTa Mc-graw hill
6	Techniques of Safety Management (ISBN: 978-18-8-558139-6), Dan Petersen, McGraw-Hill Book Co. Ltd., New York, N.Y. USA,
7	Industrial Safety and Environment, A.K.Gupta, Laxmi Publications, New Delhi.
8	Industrial Safety: Concepts and Practices , K.T. Kulkarni, Pune Vidyarthi Griha Prakashan, 1786, Sadashiv Peth, Pune.
9	Industrial Safety, Health and Environment Management Systems, R.K.Jain and Sunil S.Rao, Khanna publishers , New Delhi (2006)

On-line resources to be used if available as reference material	
1.	<a href="https://uploadssl.webflow.com/5e64c5ff68556aceba38e5ef/5ea2c235516d97575664c8bd_TD_26_18_E.pdf">https://uploadssl.webflow.com/5e64c5ff68556aceba38e5ef/5ea2c235516d97575664c8bd_TD_26_18_E.pdf</a>
2.	<a href="https://theintactone.com/2019/08/10/mcie-u4-topic-4-span-of-management/">https://theintactone.com/2019/08/10/mcie-u4-topic-4-span-of-management/</a>
3.	<a href="https://vanguard-fire.com/what-are-the-5-different-classes-of-fires/">https://vanguard-fire.com/what-are-the-5-different-classes-of-fires/</a>
4.	<a href="https://nigen.com/pipeline-safety-topics-precautions-for-working/">https://nigen.com/pipeline-safety-topics-precautions-for-working/</a>

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