GUJARAT TECHNOLOGICAL UNIVERSITY (GTU)

Competency-focused Outcome-based Green Curriculum-2022(COGC-2022)
Semester-IV

CourseTitle: Industrial Management
(Course Code: 4345203)

Diploma programme in which this course is offered	Semester in which offered
Ceramic Technology	4th Semester

1. RATIONALE

Diploma students of ceramic technology disciplines are expected to work during most of their career at middle level. They are also expected to deal with workforce and management problems. In the present era of competition, optimum utilization of the resources with achieving higher productivity is essential for any industry to survive. Quality and cost controls are also other important factors which contribute to the day to day supervision issues. This course aims to deal effectively with such issues.

2. COMPETENCY

The course content should be taught and implemented with the aim to develop different types of managerial skills so that student is able to acquire following competency

Management practices in industries using latest management techniques with safety.

3. COURSE OUTCOMES (COs)

The theory should be taught and practical should be carried out in such a manner that students are able to acquire different learning outcomes in cognitive, psychomotor and affective domain to demonstrate following course outcomes.

i. Use system and organization concepts in job.
ii. Explain material requirement planning and store keeping procedure.
iii. Explain moral, measures and procedure observed in industry towards safety.
iv. Apply recent practices adopted in industrial management.
v. Able to prevent and take necessary action during industrial accident.

4. TEACHING AND EXAMINATION SCHEME

Teaching Scheme (In Hours)			Total Credits (CI+T/2+P/2)	Examination Scheme				
				Theory Marks		Practical Marks		Total Marks
CI	T	P	C	CA	ESE	CA	ESE	
3	0	0	3	30*	70	00	00	100

(*): Out of 30 marks under the theory CA, 10 marks are for assessment of the micro-project to facilitate integration of COs and the remaining 20 marks is the average of 2

tests to be taken during the semester for the assessing the attainment of the cognitive domain UOs required for the attainment of the COs.
Legends: ***L****-Lecture;* ***T****– Tutorial/Teacher Guided Theory Practice;* ***P*** *-Practical;* ***C*** *– Credit,* ***CA*** *- Continuous Assessment;* ***ESE*** *-End Semester Examination.*

5. UNDERPINNING THEORY

The major Underpinning Theory is formulated as given below and only higher level UOs of *Revised Bloom's taxonomy* are mentioned for development of the COs and competency in the students by the teachers.(Higher level UOs automatically include lower level UOs in them). If required, more such higher level UOs could be included by the course teacher to focus on attainment of COs and competency.

Unit	Unit Outcomes (UOs) (4 to 6 UOs at Application level)	Topics and Sub-topics
Unit – I Concept of System and Management	1a. Explain the objectives of industrial management. 1b. Explain concepts of system. 1c. Discuss management and Explain its functions.	1.1 Definition of system 1.2 Types of systems 1.3 System parameters 1.4 System variable 1.5 System behavior 1.6 Fundamentals of management 1.7 Functions of management
Unit – II Material Management	2a. Discuss importance of material management. 2b. Explain purchase procedure and system. 2c. List out various functions of storekeeping 2d. Compare methods of storekeeping.	2.1Definitions, Functions, Importance of material management, Relationship with other departments 2.2Objectives of purchase, Purchase systems, Purchase procedure, Terms and various forms used in purchase department. 2.3Functions of storekeeping classification of stores as centralized and decentralized with their advantages, disadvantages and application.
Unit– III Organization Structure and Organizational Dynamics	3a. Describe organization structure 3b. Explain various factors for structure 3c. Describe various management processes. 3d. Classify the organization 3e. Explain factors affecting Organizational culture	3.1. Definition, Goals, Factors considered in formulating structure 3.2. Division of labor, Scalar and functional processes, Span of control, Delegation of authority, Centralization and Decentralization. 3.3. Types, advantages, disadvantages, flexibility and applications of organization structure. 3.4 Organizational culture and factors affecting organization culture

Unit	Unit Outcomes (UOs) (4 to 6 UOs at Application level)	Topics and Sub-topics
Unit– IV Recent Trends in IM.	4a.Describe recent practices being adopted in industrial management.	4.1 ERP (Enterprise resource planning) - concept, features and applications. 4.2 Important features of MS Project. 4.3 Logistics- concept need and benefits. 4.4 Just in Time (JIT)-concept and benefits. 4.5 Supply chain management-concept and benefits.
Unit– V Moral and Industrial Safety	5a.Discuss moral and relate it with productivity 5b.Identify factors affecting Job satisfaction. 5c. Define Industrial safety and causes for accident.	5.1 Moral: factors affecting moral. 5.2 Relationship between moral and productivity. 5.3 Effect of high and low morale. 5.4 Job satisfaction, factors influencing job satisfaction. 5.5 Direct and indirect losses due to an accident-Personal protective devices for preventions of accidents.

***Note**:The UOs need to be formulated at the 'Application Level' and above of Revised Bloom's Taxonomy' to accelerate the attainment of the COs and the competency.*

6. SUGGESTED SPECIFICATION TABLE FOR QUESTION PAPER DESIGN

Unit No.	Unit Title	Teaching Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total Marks
I	Concept of System and Management	8	05	05	00	10
II	Material Management	10	06	07	07	20
III	Organization Structure and Organizational Dynamics	08	05	05	04	14
IV	Recent Trends in IM.	8	04	04	06	14
V	Moral and Industrial Safety	8	02	05	05	12
Total		**42**	**22**	**26**	**22**	**70**

***Legends:** R=Remember, U=Understand, A=Apply and above (Revised Bloom's taxonomy)*
***Note**: This specification table provides general guidelines to assist student for their learning and to teachers to teach and question paper designers/setters to formulate test items/questions assess the attainment of the UOs. The actual distribution of marks at different taxonomy levels (of R, U and A) in the question paper may vary from above table.*

7. SUGGESTED STUDENT ACTIVITIES

Following is the list of proposed student activities. These could be individual and group based.

a) Each student will give an activity to prepare Comparative statement, placing the purchase order with necessary terms and conditions.
b) Identify any one product, being manufactured in local industry, Study the process they are following for manufacturing the product, submit hand written report.
c) Each student should prepare a detailed project report on selected product.
d) Course/topic based presentation, Assignments, Group discussion.

7. SUGGESTED LEARNING RESOURCES

S. No.	Title of Book	Author	Publication with place, year and ISBN
1	Industrial Engineering & Management	O. P. Khanna	Dhanpat Rai Publications, New Delhi, 1980
2	Business organization & management	M.C.Shukla	S. Chand & Co., New Delhi, 1970
3	Factory Management & business organization	A.S Despande	Vora & Co. Publishers Pvt. Ltd., Mumbai, 1962
4	Safety Management in Industry	Krishnan.N V	Jaico Publishing House, Bombay, 1997

8. SUGGESTED LEARNING WEBSITES/RESOURCES

1. www.youtube.com/watch?v=iPZlQ3Zx5zc
2. www.youtube.com/watch?v=SF53ZZsP4ik
3. www.pitt.edu/~super7/30011-31001/30961.ppt
4. www.newagepublishers.com/samplechapter/001386.pdf
5. www.youtube.com/watch?v=jFDWlKayrTc&list=PLbRMhDVUMngdXebaRB59KdKwstzuAovua

9. PO-COMPETENCY-CO MAPPING

Semester IV	Industrial Management (Course Code: 4345203)						
	POs						
Competency & Course Outcomes	PO 1 Basic & Discipline specific knowledge	PO 2 Problem Analysis	PO 3 Design/ development of solutions	PO 4 Engineering Tools, Experimentation &Testing	PO 5 Engineering practices for society, sustainability & Environment.	PO 6 Project Management	PO 7 Life-long learning
Competency	Management practices in industries using latest management techniques with safety.						
Course Outcomes CO a) Use system and organization concepts in job. .	3	1	1	1	1	-	1
CO b) Explain material requirement planning and store keeping procedure. .	3	1	2	1	1	1	2
CO c) Explain moral and measures and procedure observed in industry towards safety.	3	2	2	2	2	2	2
CO d) Apply recent practices adopted in industrial management.	3	1	2	2	2	2	2
CO e) Able to prevent and take necessary action during industrial accident.	2	1	1	2	3	1	2

Legend: '**3**' for high, '**2**' for medium, '**1**' for low or '**-**' for the relevant correlation of each competency, CO, with PO/ PSO

10. COURSE CURRICULUM DEVELOPMENT COMMITTEE

GTU Resource Persons

S. No.	Name and Designation	Institute	Contact No.	Email
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