GUJARAT TECHNOLOGICAL UNIVERSITY, AHMEDABAD, GUJARAT

COURSE CURRICULUM
COURSE TITLE: INDUSTRIAL MANAGEMENT & ORGANIZATIONAL BEHAVIOUR
(COURSE CODE: 3355504)

Diploma Programme in which this course is offered	Semester in which offered
Fabrication Technology	5th Semester

1. RATIONALE

The Diploma holder of Fabrication Technology programme should be familiar with management and organization behavioural techniques since they work in supervisory capacity in Industries. They are supposed to handle workforce and develop team spirit in them. They are also supposed to have industrial communicative ability to deal with juniors as well as senior managerial officers. This course will provide learning and practice of such abilities.

2. LIST OF COMPETENCY

The course content should be taught and curriculum should be implemented with the aim to develop required skills in the students so that they are able to acquire following competency:

- **Manage works, materials, and human resources by using concepts and principles of Industrial management and organizational behavior to improve the productivity, quality and work culture.**

3. COURSE OUTCOMES (CO's):

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

i. Describe scope of industrial management in fabrication industry / organization.
ii. Perform supervisory and managerial skill in fabrication industry / organization.
iii. Maintain good interpersonal relation in fabrication industry / organization.
iv. Prepare and execute production plans in fabrication industry.
v. Motivate & train junior personnel for their career development.
vi. Solve industrial disputes arising due to behavioural problems.
vii. Become employable personality

4. TEACHING AND EXAMINATION SCHEME

Teaching Scheme (In Hours)			Total Credits (L+T+P)	Examination Scheme				
				Theory Marks		Practical Marks		Total Marks
L	T	P	C	ESE	PA	ESE	PA	150
4	0	2	6	70	30	20	30	

Legends : L-Lecture; **T** – Tutorial/Teacher Guided Student Activity; **P** - Practical; **C** – Credit ; **ESE** - End Semester Examination; **PA** - Progressive Assessment.

5. COURSE CONTENT DETAIL

Unit	Major Learning Outcomes (out comes in cognitive)	Topics and Sub-topics
Unit- I Basic Concept of Management	1a. Describe concepts of management. 1b. Explain characteristics, process and functions of management. 1c. Explain importance of Managerial skills.	**Basic Concepts Of Management** 1.1 Introduction, 1.2 Definition of management, 1.3 Process of management, 1.4 Characteristic of management 1.5 Management functions 1.6 Difference & Relationship between Administration & Management. 1.7 Level Of management, 1.8 Managerial skills
Unit - II Material Management & Purchasing	2a. Describe concepts of material management. 2b. Explain Inventory control concepts 2c. Explain Inventory control techniques. 2d. Perform ABC analysis for given inventory 2e. Plan optimum procurement quantity	**Material Management** 2.1 Concept of Materials management 2.2 Procurement or purchasing 2.3 Purchase organization 2.4 Purchase modes / techniques 2.5 Purchasing procedure 2.6 Stores & material control 2.7 Receipt & issue of materials 2.8 Stores records 2.9 Inventory 2.10 Inventory control 2.11 Inventory classification 2.12 Inventory management 2.13 Objectives of inventory control 2.14 Function of inventory 2.15 Economic Order Quantity 2.16 ABC analysis 2.17 Material requirement planning (MRP-1)
Unit- III Production Planning & Control	3a. Explain objectives, functions, and organisation of planning & control management. 3b. Describe production systems. 3c. Explain principles of sound production control systems.	***Production Planning & Control:*** 3.1 Introduction, 3.2 Definition of PPC, 3.3 Objective Of PPC, 3.4 Function of PPC, 3.5 Organization of PPC department, 3.6 Routing, Scheduling, Production Control, 3.7 Principle of Sound

Unit	Major Learning Outcomes (out comes in cognitive)	Topics and Sub-topics
		production control System, 3.8 Type of production system
Unit- IV Industrial Communication	4a. Describe communication skills. 4b. Explain elements of good speaking. 4c. Explain elements of good presentation. 4d. Explain elements of good of good writing ability. 4e. Describe importance and features good listening ability.	***Industrial Communication:*** 4.1 Communication Skills: Reading, Listening, Speaking, Writing & negotiation. 4.2 Effective speaking : Elements of communications like purpose, man, media & massage 4.2 Elements of good speaking : speed, clarity of speech, voice, eye contact, expressing feelings and holding attentions 4.3 Preparation for the presentation : Introduction, main them, summary and conclusion, preparation of visual aids, plan the matter on visual aids carefully, the last word, other forms of communications 4.4 Telephonic communication : Introduction, making calls, receiving calls, managing telephone conversions, new technology 4.5 Written communication : Introduction, elements of writing, readability, correctness, appropriateness , writing and thoughts, conclusions 4.6 Commandments for good listening.
Unit- V Industrial Psychology	5a Describe aims and objectives of Industrial psychology. 5b Explain theories of motivation. 5c Explain handling of industrial disputes and worker grievances. 5d State importance of high morale and god industrial relation amongst workers. 5e Distinguish between individual and group behaviour.	***Indistrial Psychology:*** 5.1 Introduction 5.2 Scope of Industrial psychology 5.3 Human Behaviour 5.3.1 Individual behaviour 5.3.2 Group behavior 5.4 Aims & Objective of Industrial Psychology 5.5 Human Relation

Unit	Major Learning Outcomes (out comes in cognitive)	Topics and Sub-topics
		5.6 Theories of motivation 5.7 Morale 5.8 Industrial relations 5.9 Industrial Dispute 5.10 Handling & Workers Grievances 5.11 Workers Participation In management 5.12 Industrial discipline
Unit- VI Leadership And Supervision	6a. Explain function and quality of leadership. 6b. Describe duties and qualities of supervisor. 6c. Distinguish between leadership and management.	***Leadership And Supervisory:*** 6.1 Introduction 6.2 Definition of leadership 6.3 Function of Leadership 6.4 Qualities of leadership 6.5 Leader ship vs. Management 6.6 Supervision 6.7 Duties of foreman 6.8 Essential Qualities Of foreman.
Unit- VII Recruitment, Training and Development of Manpower	7a. Describe Selection and Recruitment Procedure. 7b. Describe how to identify training needs of workers. 7c. Explain need, guidelines, Objectives, methods, and advantages, and of Training and Development.	***Recruitment, Training And Development Of Manpower:*** 7.1 Meaning & definition of recruitment 7.2 Sources Of recruitment 7.3 Scientific selection 7.4 Selection procedure 7.5 Control of manpower / labour turnover 7.6 Introduction & Need for training 7.7 Training need identification/assessment (TNA) 7.8 Objective of training 7.9 Advantage of training, 7.10 Guideline for training worker, 7.11 Various methods of training a worker 7.12 Foreman / Supervisory training

6. SUGGESTED SPECIFICATION TABLE WITH HOURS & MARKS (THEORY)

Unit No.	Unit Title	Teaching Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total
I	Basic Concept of Management	4	-	05	-	5
II	Material Management & Purchasing	10	04	04	04	12
III	Production Planning & Control	8	-	05	05	10
IV	Industrial Communication	8	-	05	05	10
V	Industrial Psychology	8	-	05	05	10
VI	Leadership and Supervision	8	-	05	05	10
VII	Recruitment, Training and Development of Manpower	10	04	03	06	13
		56	**08**	**32**	**30**	**70**

Legends: R = Remember; U = Understand; A = Apply and above levels (Bloom's Revised taxonomy)

Note: Suggested specification table shall be treated as a general guidance for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

7. SUGGESTED LIST OF EXERCISE/PRACTICAL/EXPERIMENTS

The practical/exercises should be properly designed and implemented with an attempt to develop different types of skills **(outcomes in psychomotor and affective domain)** so that students are able to acquire the competencies/programme outcomes. Following is the list of practical exercises for guidance.

Note*: Here only outcomes mainly in psychomotor domain are listed as practical/exercises. However, if these practical/exercises are completed appropriately, they would also lead to development of certain outcomes in affective domain which would in turn lead to development of* ***Course Outcomes*** *related to affective domain. Thus over all development of* ***Programme Outcomes (****as given in a common list at the beginning of curriculum document for this programme) would be assured.*

Faculty should refer to that common list and should ensure that students also acquire outcomes in affective domain which are required for overall achievement of Programme Outcomes/Course Outcomes

.

S. No.	Unit No.	Exercise / Practical (Outcomes in psychomotor, cognitive and affective domain)	Approx. Hours. Required
1	I	Draw a diagram to explain process of management and describe characteristics of management of fabrication industry by using concept of management	4
2	I	(A) Draw organization chart for small scale fabrication industry and state responsibilities of every level. (B) Draw organization chart for medium scale fabrication industry and state responsibilities of every level.	8

		(C) Draw organization chart for large scale fabrication industry and state responsibilities of every level.	
3	II	Prepare following forms used in fabrication industries : (A) Purchase requisition (B) Purchase order (C) Material receive report (D) Material clearance report cum rejection note (E) Material issue requisition (F) BIN or stock card (G) Stores ledger account	8
4	II	Calculate EOQ for given data	4
5	II	Perform ABC analysis from given data	2
6	III	A. Prepare PPC chart for fabrication of pressure vessel. B. Prepare route sheet and operation sheet for given job.	4
7	V	Form various formal and informal groups of students and assign them different group activities and ask student to comment on group dynamics in both type of groups..	4
8	IV	Prepare a written communication report to inform your head regarding accident occurred in your shop	2
9	IV	Role play about telephonic conversations in different situations	2
10	IV	A. Perform an exercise on how to become a good listener. B. Perform an exercise on how to have effective speaking.	4
11	V	Prepare a chart for hierarchy of motivation from given write up.	2
12	V	Compare MecGregor motivation theory of X and Y from given data	2
13	VI	Identify duties and qualities required for a supervisor / foreman in fabrication industries from given list of qualities.	2
14	VII	A. Prepare an application and CV for the post of supervisor in fabrication industry B. Prepare an application for tendering resignation from the post of supervisor in fabrication industry	4
Total Hrs (Perform any practical for total 28 hours so that most units are covered.)			**52**

8. SUGGESTED LIST OF PROPOSED STUDENT ACTIVITIES

Following is the list of proposed student activities:

i. Prepare model answers to questions.
ii. Explore internet and prepare seminar presentation including PPT presentation on given topics from syllabus and beyond the syllabus

9. SPECIAL INSTRUCTIONAL STRATEGIES (if any)

i. Arrange visit to some nearby fabrication industry and show different management system being practiced.
ii. Use role play, group discussion and case study methods to actively involve students in various topics.

iii. Arrange expert lecture on different aspects of industrial management and organisational behaviour.

10. SUGGESTED LEARNING RESOURCES

A. List of Books

S.No.	Title of Books	Author	Publication
1	Industrial Engineering and Production Management	M.Mahajan	Dhanpatrai Pub. Pvt. Ltd.
2	Industrial Management and Organizational Behaviour	K.K. Ahuja	Khanna Pub. Pvt. Ltd.
3	Organizational Behavior Concept Theory and Practices	Nirmal Sing	Deep And Deep Pub. Pvt. Ltd.
4	Organizational Behavior	Dr. K. Aswathappa	Himaliya Pub. Pvt. Ltd.
5	Industrial Engineering & Management	O.P. Khanna	Dhanpatrai & Sons

B. List of Major Equipment/ Instrument

i. Computer Systems

C. List of Software/Learning Websites

i. Microsoft excel
ii. Project management soft ware
iii. Inventory Management Software

11. COURSE CURRICULUM DEVELOPMENT COMMITTEE

Faculty Members from Polytechnics

- **Prof. P.B. Pathak,** I/C HOD**,** Dept of Fabrication Technology, Sir B.P.I., Bhavnagar
- **Prof. B. K. Gandhi,** Sr. Lecturer, Dept of Fabrication Technology, Sir B.P.I., Bhavnagar
- **Prof. S. Y. Merchant**, Sr. Lecturer, Dept of Fabrication Technology, Sir B.P.I., Bhavnagar

Co-coordinator and Faculty Members from NITTTR Bhopal

- **Dr. A. K. Sarathe,** Associate Professor Deptt. of Mechanical Engineering
- **Dr. C. K. Chugh**, Professor Deptt. of Mechanical Engineering

`