GUJARAT TECHNOLOGICAL UNIVERSITY

INDUSTRIAL ENGINEERING (15)
ENTREPRENEURSHIP DEVELOPMENT AND PRODUCTIVITY ENGINEERING
SUBJECT CODE: 2151501
B.E. 5th SEMESTER

Type of course: Core

Prerequisite: No specific pre-requisite, primary understanding of business management concepts and finance

Rationale: In the present global economic scenario, better spread of economy is essential for holistic societal development. Entrepreneurship is pretty ingenious in India, and especially, in western India. This subject targets to provide insights on identifying entrepreneurial traits of the recipients through psychometric tests, and benchmarking with real life success stories, and then build up technical, financial, managerial understanding for the entrepreneurial venture and business plan development.

Productivity engineering being the perennial input to any engineering endeavor. The subject deals with conceptualizing productivity in various sectors and means to improve productivity.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks						Total Marks
L	T	P	C	Theory Marks			Practical Marks			
				ESE (E)	PA (M)		ESE (V)		PA (I)	
					PA	ALA	ESE	OEP		
4	0	2	6	70	20	10	20	10	20	150

Content:

Sr. No.	Content	Total Hrs	% Weightage
1	Entrepreneurship • Introduction • Concept of Entrepreneurship • Significance of Entrepreneurship • Need, Scope and Philosophy Case studies, Psychometric analysis, Traits identification and measurement	**12**	20%
2	Entrepreneurial support system Factors responsible for developing Entrepreneurship Enterprising attitude Creativity Achievement motivation Business development Plan Techno managerial feasibility and analysis Funding and sources Case studies.	**20**	30 %
3	Production and Productivity, Factor of Productivity, Productivity measurement, Enterprise level and Micro level Productivity, Productivity	**12**	20%

	and economic growth, Role of workers, Trade unions and management productivity.		
4	Productivity in agriculture and Industrial sectors, Indian scenario for productivity, Reasons for low productivity, Areas for improving productivity – low cost technology, Appropriate technology, Energy resources, Import substitutions, Flexible production.	**12**	20%
5	Sharing the gains of Productivity – Productivity movements – Indian global, National productivity councils. Industrial engineering and productivity techniques, Historical growth of Industrial engineering.	**8**	10%

Suggested Specification table with Marks (Theory):

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
30	40	10	10	5	5

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom's Taxonomy)

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

Reference Books:

1. A practical guide to industrial entrepreneurs – S.B. Srivastava (Sultanchand & sons).
2. A hand book of Entrepreneurship – B.S.Rathore & J.S.Saini (Apga publications).
3. Productivity & social environment – K.Shreenivasan (Asia Publication House).
4. Productivity – Krish Pennethur (NPC, New Delhi).
5. Human aspects of work and productivity – B.J.Ramrakhiani (Applied publisher).
6. Works Organization and Management – S.K.Basu, K.C.Sahu, N.K.Datta (Oxford & IBH Publishers).
7. Productivity Journals.

Course Outcome:

After learning the course the students should be able to:

- Have a fair idea of entrepreneurial needs and its fit in global economy.
- Understanding of best practices
- Feasibility analysis for entrepreneurial venture.
- Productivity concepts, analysis, and improvement techniques.

List of Experiments:

1. Concept of Entrepreneurship and traits identification.
2. Psycho-sociological analysis of entrepreneur.
3. Analysis of case study.
4. Psychological test – I
5. Psychological test – II

6. Productivity Measurements
7. Productivity Improvement
8. Productivity in Agricultural sector
9. Productivity in Service sector
10. Productivity Engineering Case study.
11. Case study.

Design based Problems (DP)/Open Ended Problem:

- Psycho-analytical tests

Major Equipment:

No special equipment required.

List of Open Source Software/learning website:

www. nptel.ac.in

ACTIVE LEARNING ASSIGNMENTS: Preparation of power-point slides, which include videos, animations, pictures, graphics for better understanding theory and practical work – The faculty will allocate chapters/ parts of chapters to groups of students so that the entire syllabus to be covered. The power-point slides should be put up on the web-site of the College/ Institute, along with the names of the students of the group, the name of the faculty, Department and College on the first slide. The best three works should submit to GTU.