## 4.1 GENERIC SKILLS AND ENTREPRENEURSHIP DEVELOPMENT

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**RATIONALE**

Generic Skills and Entrepreneurship Development is one of the courses from "Human Science" subject area. Generic skills have emerged as an important component of employability skills, which enable an individual to become and remain employable over lifetime and to lead happy and prosperous life. Entrepreneurship development aim at developing conceptual understanding for setting-up one's own business venture/enterprise. This aspect of Human Resource Development has become equally important in the era, when wage employment prospects have become meager.
Both the subject areas are supplementary to each other and soft skills are required to be developed in diploma passouts for enhancing their employability and self confidence.

**DETAILED CONTENTS**

1. Introduction to Generic Skills (4 hrs)

    1.1 Importance of Generic Skill Development (GSD)
    1.2 Global and Local Scenario of GSD
    1.3 Life Long Learning (LLL) and associated importance of GSD.

2. Managing Self (8 hrs)

    2.1 Knowing Self for Self Development
        - Self-concept, personality, traits, multiple intelligence such as language intelligence, numerical intelligence, psychological intelligence etc.

    2.2 Managing Self - Physical
        - Personal grooming, Health, Hygiene, Time Management

    2.3 Managing Self – Intellectual development

        - Information Search: Sources of information
        - Listening: Effective Listening
        - Speaking: Effective Oral Communication
        - Reading: Purpose of reading, different styles of reading, techniques of systematic reading; Note Taking: Importance and techniques of note taking
        - Writing: Correspondence - personal and business

    Note: Practical sessions should be coupled with teaching of effective listening, speaking, reading and writing.

2.4 Managing Self – Psychological

- Stress, Emotions, Anxiety-concepts and significance (Exercises related to stress management)
- Techniques to manage the above

3. Managing in Team (6 hrs)

3.1 Team - definition, hierarchy, team dynamics
3.2 Team related skills- sympathy, empathy, co-operation, concern, lead and negotiate, work well with people from culturally diverse background
3.3 Communication in group - conversation and listening skills

4 Task Management (3 hrs)

4.1 Task Initiation, Task Planning, Task execution, Task close out
4.2 Exercises/case studies on task planning towards development of skills for task management

5. Problem Solving (5 hrs)

5.1 Prerequisites of problem solving- meaningful learning, ability to apply knowledge in problem solving
5.2 Different approaches for problem solving.
5.3 Steps followed in problem solving.
5.4 Exercises/case studies on problem solving.

6. Entrepreneurship

6.1 Introduction (22 hrs)

- Concept/Meaning and its need
- Competencies/qualities of an entrepreneur
- Entrepreneurial Support System e.g., District Industry Centres (DICs), Commercial Banks, State Financial Corporations, Small Industries Service Institute (SISIs), Small Industries Development Bank of India (SIDBI), National Bank of Agriculture and Rural Development (NABARD), National Small Industries Corporation (NSIC) and other relevant institutions/organizations at State/National level.

6.2 Market Survey and Opportunity Identification (Business Planning)

- How to start a small scale industry
- Procedures for registration of small-scale industry
- List of items reserved for exclusive manufacture in small-scale industry
- Assessment of demand and supply in potential areas of growth.
- Understanding business opportunity
- Considerations in product selection
- Data collection for setting up small ventures.

6.3 Project Report Preparation

- Preliminary Project Report
- Techno-Economic Feasibility Report
- Exercises on Preparation of Project Report in a group of 3-4 students

**INSTRUCTIONAL STRATEGY**

This subject will require a blend of different teaching and learning methods beginning with lecture method. Some of the topics may be taught using question answer, assignment, case studies or seminar. In addition, expert lectures may be arranged from within the institution or from management organizations. Conceptual understanding of Entrepreneurship, inputs by teachers and outside experts will expose the students so as to facilitate in starting ones own business venture/enterprise. The teacher will discuss success stories and case studies with students, which in turn, will develop managerial qualities in the students. There may be guest lectures by successful diploma holding entrepreneurs and field visits also. The students may also be provided relevant text material and handouts.

**RECOMMENDED BOOKS**


1. Soft Skills for Interpersonal Communication by S.Balasubramaniam; Published by Orient BlackSwan, New Delhi
2. Generic skill Development Manual, MSBTE, Mumbai.
3. Lifelong learning, Policy Brief (www.oecd.orf)
4. Lifelong learning in Global Knowledge Economy, Challenge for Developing Countries – World Bank Publication
5. Towards Knowledge Society, UNESCO Paris Publication
6. Your Personal Pinnacle of Success by DD Sharma, Sultan Chand and Sons, New Delhi
7. Human Learning, Ormrod
8. A Handbook of Entrepreneurship, Edited by BS Rathore and Dr JS Saini; Aapga Publications, Panchkula (Haryana)
9. Entrepreneurship Development by CB Gupta and P Srinivasan, Sultan Chand and Sons, New Delhi
10. Handbook of Small Scale Industry by PM Bhandari


**SUGGESTED DISTRIBUTION OF MARKS**

| Topic No. | Time Allotted (hrs) | Marks Allotted (%) |
|---|---|---|
| 1. | 4 | 5 |
| 2. | 8 | 15 |
| 3. | 6 | 10 |
| 4. | 3 | 10 |
| 5. | 5 | 10 |
| 6. | 22 | 50 |
| **Total** | **48** | **100** |

## ENTREPRENEURIAL AWARENESS CAMP

This is to be organized at a stretch for two to three days during fourth semester. Lectures will be delivered on the following broad topics. There will be no examination for this subject

1. Who is an entrepreneur?
2. Need for entrepreneurship, entrepreneurial career and wage employment
3. Scenario of development of small scale industries in India
4. Entrepreneurial history in India, Indian values and entrepreneurship
5. Assistance from District Industries Centres, Commercial Banks. State Financial Corporations, Small industries Service Institutes, Research and Development Laboratories and other financial and development corporations
6. Considerations for product selection
7. Opportunities for business, service and industrial ventures
8. Learning from Indian experiences in entrepreneurship (Interaction with successful entrepreneurs)
9. Legal aspects of small business
10. Managerial aspects of small business

# MICROPROCESSORS
## [Common in Computer Engg., I.T., ECE, ELTX. (μP)]

| L | T | P |
|---|---|---|
| 4 | - | 3 |

**RATIONALE**

The study of microprocessors in terms of architecture, software and interfacing techniques leads to the understanding of working of CPU in a microcomputer. The development in microprocessors of 32 bit architecture brings them face-to-face with mainframe finding employment in R&D, assembly, repair and maintenance of hardware of microprocessors and computers.

Microprocessors find application in process control industry. They also form a part of the electronic switching system between source and destination in long distance telecommunications. Thus the microprocessor is an area of specialization. Students of electronics and related engineering branches often use microprocessors to introduce programmable control in their projects, in industrial training.

**DETAILED CONTENTS**

1. Evolution of Microprocessor (04 hrs)

   Typical organization of a microcomputer system and functions of its various blocks. Microprocessor, its evolution, function and impact on modern society

2. Architecture of a Microprocessor (With reference to 8085 microprocessor) (12 hrs)

   Concept of Bus, bus organization of 8085, Functional block diagram of 8085 and function of each block, Pin details of 8085 and related signals, Demultiplexing of address/data bus generation of read/write control signals, Steps to execute a stored programme

3. Memories and I/O interfacing (10 hrs)

   Memory organization, Concept of memory mapping, partitioning of total memory space. Address decoding, concept of I/O mapped I/O and memory mapped I/O. Interfacing of memory mapped I/O devices. Concept of stack and its function. Basic RAM Cell, N X M bit RAM, Expansion of word length and capacity, static and dynamic RAM, basic idea of ROM, PROM, EPROM and EEPROM.

4. Programming (with respect to 8085 microprocessor) (16 hrs)

   Brief idea of machine and assembly languages, Machines and Mnemonic codes. Instruction format and Addressing mode. Identification of instructions as to which addressing mode they belong. Concept of Instruction set. Explanation of the instructions of the following groups of instruction set. Data transfer group, Arithmetic Group, Logic Group,

Stack, I/O and Machine Control Group. Programming exercises in assembly language. (Examples can be taken from the list of experiments).

5. Instruction Timing and Cycles (08 hrs)

Instruction cycle, machine cycle and T-states, Fetch and execute cycle.

6. Interrupts (04 hrs)

Concept of interrupt, Maskable and non-maskable, Edge triggered and level triggered interrupts, Software interrupt, Restart interrupts and its use, Various hardware interrupts of 8085, Servicing interrupts, extending interrupt system

7. Data transfer techniques (04 hrs)

Concept of programmed I/O operations, sync data transfer, async data transfer (hand shaking), Interrupt driven data transfer, DMA, Serial output data, Serial input data

8. Peripheral devices (06 hrs)

8255 PPI and 8253 PIT, 8257 DMA controller, 8279 Programmable KB/Display Interface, 8251 Communication Interface Adapter, 8155/8156

**LIST OF PRACTICALS**

1. Familiarization of different keys of 8085 microprocessor kit and its memory map
2. Steps to enter, modify data/program and to execute a programme on 8085 kit
3. Writing and execution of ALP for addition and sub station of two 8 bit numbers
4. Writing and execution of ALP for multiplication and division of two 8 bit numbers
5. Writing and execution of ALP for arranging 10 numbers in ascending/descending order
6. Writing and execution of ALP for 0 to 9 BCD counters (up/down counter according to choice stored in memory)
7. Interfacing exercise on 8255 like LED display control
8. Interfacing exercise on 8253 programmable interval timer
9. Interfacing exercise on 8279 programmable KB/display interface like to display the hex code of key pressed on display
10. Study and use of interfacing 8 bit A/D card and D/A card in sampling, wave generation, multiplexer, de-multiplexer and counter
11. Use of 8085 emulator for hardware testing

**INSTRUCTIONAL STRATEGY**

The digital systems in microprocessors have significant importance in the area of electronics. Adequate competency needs to be developed by giving sufficient practical knowledge in microprocessors (programming as well as interfacing). Help may be taken in the form of charts, simulation packages to develop clear concepts of the subject. Programming exercises other than the given in the list may be given to the students.

**RECOMMENDED BOOKS**


1. Microprocessor Architecture, Programming and Applications with 8080/8085 by Ramesh S Gaonker, Willey Eastern Ltd. New Delhi
2. Introduction to Microprocessor by Mathur ,Tata McGraw Hill Education Pvt Ltd , New Delhi
3. Microprocessor and Microcontrollers by Dr BP Singh, Galgotia Publications, New Delhi
4. Microprocessor and Applications by Badri Ram: Tata McGraw Hill Education Pvt Ltd , New Delhi
5. Microprocessor and Microcomputers by Refiquzzaman, Prentice Hall of India Ltd., New Delhi.
6. Digital Logic and Computer Design by Mano, M Morris; Prentice Hall of India, New Delhi
7. Digital Electronics and Applications by Malvino Leach; Publishers McGraw Hills, New Delhi
8. Digital Integrated Electronics by Herbert Taub and Donals Sachilling; Prentice Hall of India Ltd., New Delhi
9. Digital Electronics by Rajaraman; Prentice Hall of India Ltd., New Delhi
10. Digital Electronics and Microprocessor by Rajiv Sapra, Ishan Publication, Ambala


**SUGGESTED DISTRIBUTION OF MARKS FOR FACILITATING THE PAPER SETTER**

| Topic No. | Topic | Time Allotted (Hrs) | Marks Allotted (%) |
|---|---|---|---|
| 1. | Evolution of Microprocessor | 04 | 5 |
| 2. | Architecture of a Microprocessor (With reference to 8085 microprocessor) | 12 | 20 |
| 3. | Memories and I/O interfacing | 10 | 15 |
| 4. | Programming (with respect to 8085 microprocessor) | 16 | 25 |
| 5. | Instruction Timing and Cycles | 08 | 10 |
| 6. | Interrupts | 04 | 5 |
| 7. | Data transfer techniques | 04 | 5 |
| 8. | Peripheral devices | 06 | 15 |
| **Total** | | **64** | **100** |