4.1 ANALOG ELECTRONICS – II

L	T	P
4	-	3

RATIONALE

Having attained basic knowledge of electronic devices like diodes, transistors, and elementary circuits, in second semester, this course will enable the students to learn about the use of transistors in analog circuits like power amplifier, multistage amplifier, oscillators, wave shaping circuits and in multivibrators etc. It also gives information about timer, operational amplifier, voltage regulator, ICs and their applications for effective functioning of equipment used in the field of electronic service industry.

DETAILED CONTENTS

1. Multistage Amplifiers (08 hrs)

   a) Need for multistage amplifier
   b) Gain of multistage amplifier
   c) Different types of multistage amplifier like RC coupled, transformer coupled, direct coupled, and their frequency response and bandwidth

2. Large Signal Amplifier (10 hrs)

   a) Difference between voltage and power amplifiers
   b) Importance of impedance matching in amplifiers
   c) Class A, Class B, Class AB, and Class C amplifiers
   d) Single ended power amplifiers, push-pull amplifier, and complementary symmetry push-pull amplifier

3. Feedback in Amplifiers (10 hrs)

   a) Basic principles and types of feedback
   b) Derivation of expression for gain of an amplifier employing feedback
   c) Effect of feedback (negative) on gain, stability, distortion and bandwidth of an amplifier
   d) RC coupled amplifier with emitter bypass capacitor
   e) Emitter follower amplifier and its applications

4. Sinusoidal Oscillators (10 hrs)

a) Use of positive feedback

b) Barkhausen criterion for oscillations

c) Different oscillator circuits-tuned collector, Hartley Colpitts, phase shift, Wien's bridge, and crystal oscillator. Their working principles and simple numerical problems

d) Series and parallel resonant circuits and bandwidth of resonant circuits

e) Single and double tuned voltage amplifiers and their frequency response characteristics

5. Wave Shaping Circuits (04 hrs)

a) General idea about different wave shapers

b) RC and RL integrating and differentiating circuits with their applications

c) Diode clipping and clamping circuits and simple numerical problem on the circuits

6. Multivibraor Circuits (08 hrs)

a) working principle of transistor as switch

b) Concept of multi-vibrator: astable, monostable, and bistable and their applications

c) Block diagram of IC555 and its working

d) IC555 as monostable and astable multi-vibrator

7. Operational Amplifiers (08 hrs)

a) Characteristics of an ideal operational amplifier and its block diagram

b) Definition of differential voltage gain, CMMR, PSRR, slew rate and input offset current

c) Operational amplifier as an inverter, scale changer, adder, subtractor, differentiator, and integrator

d) Concept of Schmitt trigger circuit and sample/hold circuit using operational amplifier and their applications

8. **Regulated DC Power Supplies** (06 hrs)

   a) Concept of DC power supply. Line and load regulation

   b) Concept of fixed voltage, IC regulators (like 7805, 7905), and variable voltage regulator like (IC 723)

   c) Idea of SMPS

LIST OF PRACTICALS

1. Plot the frequency response of two stage RC coupled amplifier and calculate the bandwidth and compare it with single stage amplifier
2. To measure the gain of push-pull amplifier at 1KHz
3. To measure the voltage gain of emitter follower circuit and plot its frequency response
4. Plot the frequency response curve of Hartley and Colpitts Oscillator
5. Plot the frequency response curve of phase shift and Wein bridge Oscillator
6. To observe the output waveforms of series and shunt clipping circuits
7. To observe the output for clamping circuits
8. To observe the output waveform of a Bistable multivibrator
9. Use of IC 555 as monostable multivibrator and observe the output for different values of RC
10. Use of IC 555 as astable multivibrator and observe the output at different duty cycles
11. To use IC 741 (op-amplifier) as
    i) Inverter
    ii) Adder
    iii) Subtracter
    iv) Integrator
12. To realize positive and negative fixed voltage AC power supply using three terminal voltage regulator IC (7805, 7812, 7905)

RECOMMENDED BOOKS

1. Basic Electronics and Linear Circuits by NN Bhargava, Tata McGraw Hills, New Delhi
2. Electronics Principles by Malvino, Tata McGraw Hills, New Delhi
3. Electronic Devices and Circuits by Millman and Halkias, McGraw Hills, New Delhi
4. Basic Electronics by Grob, Tata McGraw Hills, New Delhi
5. Art of Electronics by Horowitz
6. Electronic Principles by Sahdev, Dhanpat Rai and Sons, New Delhi.
7. Electronic Circuit Theory by Boylstead
8. Electronic Devices and Circuits by BL Theraja, S Chand and Co Ltd. New Delhi
9. Operational Amplifiers and Linear Integrated Circuits by Ramakant A. Gaykwad
10. Electronics Devices and Circuits by Rama Reddy, Narosa Publishing House Pvt. Ltd., New Delhi
11. Electronics Devices and Circuits-II by Naresh Gupta, Jyotesh Malhotra and Harish C. Saini, Eagle Prakashan, Jalandhar

SUGGESTED DISTRIBUTION OF MARKS FOR FACILITATING THE PAPER SETTER

Topic No.	Topic	Time Allotted (Hrs)	Marks Allocation
1.	Multistage Amplifiers	08	10
2.	Large Signal Amplifier	10	20
3.	Feedback in Amplifiers	10	15
4.	Sinusoidal Oscillators	10	20
5.	Wave Shaping Circuits	04	5
6.	Multivibrator Circuits	08	10
7.	Operational Amplifiers	08	15
8.	Regulated DC Power Supplies	06	5
Total		**64**	**100**

4.2 COMMUNICATION ENGINEERING - I

L	T	P
4	-	2

RATIONALE

Study of principles of communication systems leads to further study of audio and video systems, line communication and microwave communication systems. Thus the diploma holders getting employment in areas of R&D, production, servicing and maintenance of various communication systems will utilize these basic principles immensely.

DETAILED CONTENTS

1. **AM/FM Transmitters** (08 hrs)

   a) Classification of transmitters on the basis of power and frequency

   b) Concept of low level and high level modulation, Block diagram of low and high level modulation, AM Transmitters and working of each stage.

   c) Block diagram and working principles of reactance transmitter and Armstrong FM transmitters.

2. **AM / FM Radio Receivers** (20 hrs)

   a) Brief description of crystal and TRF receiver

   b) Block diagram and working principle of super hetrodyne AM receiver, function of each block and typical wave at I/P and O/P of each block. Advantages of super heterodyne reception.

   c) Performance characteristics of a radio receiver - sensitivity, selectivity, fidelity, S/N ratio, image rejection ration and their measurement procedure.

   d) Selection criteria for intermediate frequency (IF), Concepts of simple and delayed AGC.

   e) Block diagram of an FM receiver, function of each block and wave forms at input and output of different blocks. Need for limiting and de-emphasis in FM reception.

   f) Block diagram of communication receivers, differences with respect to broadcast receivers.

3. **Antennas** (20 hrs)

   Physical concept of radiation of electromagnetic energy from a dipole, Concept of polarization of EM waves, electromagnetic spectrum and its various ranges: VLF, LF, HF, VHF, UHF, Micro-wave

a) Definition and physical concepts of the terms used with antennas like point source, gain, directivity, aperture, effective area, radiation pattern, beam angle, beam width and radiation resistance.

b) Types of antennas : brief description, characteristics and typical applications of

- half wave dipole
- medium wave (mast) antenna
- yagi and ferrite rod antenna

c) Brief description of broadside and end fire arrays, their radiation pattern and applications (without analysis); brief idea about rhombic antenna and disc antenna.

4. **Propagation** (16 hrs)

a) Basic idea about different modes of radio wave propagation, ground wave propagation, space wave communication and sky wave propagation and troposcatter (duct propagation their characteristics and typical areas of applications (e.g. medium wave, short wave, radio and TV communication etc.)

b) Basic idea of field strength in case of ground wave propagation and space wave propagation

c) Explanation of terms – critical frequency, maximum usable frequency (MUF) and skip distance

d) Noise in Radio communication, signal fading

LIST OF PRACTICALS

1. To plot the sensitivity characteristics of a radio receiver and determine the frequency of maximum sensitivity
2. To plot the selectivity characteristics of a radio receiver
3. To align AM broadcast radio receiver
4. To study the faults in radio receiver
5. To measure the DC/AC voltage at different points of a radio receiver
6. Installation of directional antenna for best reception
7. Installation of dish antenna for best reception

RECOMMENDED BOOKS

1. Electronic Communication by Kennedy, Tata McGraw Hill Publishers, New Delhi

2. Electronic Communication System by Reddy & Coolen, Prentice Hall of India

3. Electronic Communication System by KS Jamwal, Dhanpat Rai & Sons, Delhi

SUGGESTED DISTRIBUTION OF MARKS FOR FACILITATING THE PAPER SETTER

Topic No.	Topic	Time Allotted (Hrs)	Marks Allocation
1.	AM/FM Transmitters	08	10
2.	AM/FM Radio receivers	20	20
3.	Antennas	20	20
4.	Propagation	16	15
Total		**64**	**100**

4.3 DIGITAL ELECTRONICS - II

L	T	P
4	-	3

RATIONALE

Digital design is a vital area in electronics with a lot of scope in industry and research. This subject involves conventional and sequential circuit designs both of which are very important fields. This subject forms the basis for research and development of digital systems. This subject will enable the students to learn concept of logic families, A/D D/A converters, memories, Circuits & ALU etc.

DETAILED CONTENTS

1. Logic Families (14 hrs)

   a) Logic family classification. TTL, ECL, MOS, CMOS. Types of integration SSI,MSI, LSI, VLSI

   b) Characteristics of TTL and CMOS and the comparison. Propagation delay. Speed, noise margin. Logic levels., power dissipation, fan-in, fan-out, power supply requirements

   c) Open collector and totem pole output circuits, operation of a standard TTL, CMOS, NAND, NOR gates

   d) CMOS to TTL interfacing and TTL to CMOS interfacing LAMP/LED interfacting

   e) Introduction to tri-state devices tri-state buffer and invertor circuits. Examples of unidirectional and bi-directional bus with tri-state interfacing.

2. A/D and D/A Converters (10 hrs)

   a) DA Converters : Performance characteristics of D/A converters, binary resister network and resistance ladder network methods of D/A converters and applications

   b) A/D Converters : Performance characteristics of A/D converters, single slope, dual slope, successive approximation and parallel A/D converters

3. Memories (14 hrs)

   Memory organisation, classification of semi conductor memories, ROM, PROM, DROM, EPROM, EEPROM, RAM. CCD memories, content addressable memory, programmable logic devices, PROM at PLD, programmable logic array (PLA) programmable array logic (PAL), field programmable gate array (FPGA), familiarization with common ICs(2716, 2732, 2114)

4. Combinational Circuits (08 hrs)

   Minimisation of Boolean expressions using K-map method, tabular method of function minimization, Quine Mcclaaskey method

5. Sequential Circuits (10 hrs)

   Essential components of sequential circuit, synchronous and asynchronous sequential circuits, classification of sequential circuits (Meely and Moore Machine), design of counters using J-K and R-S flip-flops.

6. Arithmetic and Logic Unit (08 hrs)

   Basic idea about arithmetic logic unit w.r.t. IC 74181 and applications, implementation of binary multiplication, division, subtraction and addition

LIST OF PRACTICALS

1. Verify the operation of D/A converter
2. Verify the operation of A/D converter
3. Verify the writing and reading operation of RAM IC
4. Design J-K Flip-flop counter and verify its truth table
5. Familiarity with the use of EPROM programs and UV index
6. Exercise on programming of EPROM
7. Using PLA design and implement a combinational circuit like full adder
8. Design and implement full adder and full subtractor
9. Verify the logical operation, arithmetic operation of binary numbers using IC741981
10. Design of combination circuit using ROM

RECOMMENDED BOOKS

1. Digital Systems and Applications by RJ Tocci, Prentice Hall of India, New Delhi
2. Digital Electronics by RP Jain, Tata McGraw Hill, New Delhi
3. Digital Electronics by KS Jamwal, Dhanpat Rai & Co., New Delhi
4. Digital Logic Designs by Morris Mano, Prentice Hall of India, New Delhi

5. Digital Designs by CJ Roth, Jaico Publication
6. Digital Designs by Z Kohavi
7. Digital Electronics by Terry LM Bartlet
8. Digital Electronics by Rajaraman V, Prentice Hall of India, New Delhi
9. Digital Fundamentals by Malvino and Leachy, Tata McGraw Hill Publishers, New Delhi
10. Digital Systems by Sanjay K Bose, Wiley Eastern (P) Ltd., New Delhi

SUGGESTED DISTRIBUTION OF MARKS FOR FACILITATING THE PAPER SETTER

Topic No.	Topic	Time Allotted (Hrs)	Marks Allocation
1.	Logic Families	14	25
2.	A/D and D/A Converters	10	15
3.	Memories	14	20
4.	Combinational circuits	08	15
5.	Sequential circuits	10	15
6.	Arithmetic and Logic Circuits	08	10
Total		**64**	**100**

4.4 POWER ELECTRONICS

L	T	P
4	–	2

RATIONALE

Power electronics play a very vital role in the field of electronics and control engineering. It is specially applied in the modern industries as they mostly use efficient, effective and precise controls as the old magnetic and electrical control schemes have largely become obsolete. A diploma holder in electronics and instrumentation and control has to maintain the panels used in modern control processes. It is obvious that the knowledge of components such as thyristors, and other semiconductors devices used in such control circuits is very essential for them in order to supervise the work efficiently and effectively. Looking into its usefulness and importance, this subject has been incorporated in the curriculum.

DETAILED CONTENTS

1. Introduction to thyristors and other power Electronics devices (12 hrs)

    1.1 Construction, working principles of SCR, two transistor analogy of SCR, V-I characteristics of SCR
    1.2 SCR specifications and ratings
    1.3 Different methods of SCR Triggering
    1.4 Different commutation circuits for SCRs
    1.5 Series and parallel operations of SCRs
    1.6 Basic idea about the selection of heat sinks for thyristers
    1.7 Construction and working principle of Diacs and Triacs and their V-I characteristics
    1.8 Construction, working and ratings of Gate Turn Off (GTO) thyristors
    1.9 Characteristics of SCR, Diac,Triac, Programmable Uni-junction Transistor (PUT), ASCR, RCT, LASCR, SCS
    1.10 Contribution and working of UJT and its application as relaxation oscillator
    1.11 Comparison between BJT and SCR
    1.12 Construction, working and characteristics of MOSFET, IGBT, MLT, their specifications and ratings

2. Application of SCR and Triacs (8 hrs)

    2.1 Illumination control
    2.2 Temperature control
    2.3 Battery charger
    2.4 Fan regulators
    2.5 Emergency light using SCR
    2.6 Speed control of DC and universal motor
    2.7 LDR operated SCR circuit
    2.8 Switched mode power supply

2.9 Uninterrupted power supply
2.10 Solid state relays

3. Controlled Converters (14 hrs)

3.1 Half wave controlled rectifier with resistive load
3.2 Half wave controlled rectifier with inductive load
3.3 Full wave half controlled rectifier with resistive load
3.4 Full wave half controlled rectifier with inductive load
3.5 Full wave fully controlled rectifier with resistors as well as inductive load
3.6 Three-phase half wave fully controlled rectifier with resistive and inductive load
3.7 Three phase full wave fully controlled and half controlled with resistive as well as inductive loads
3.8 Dual converters and their applications

4. Inverters (8 hrs)

4.1 Voltage and current source inverters
4.2 Working principle of single phase series and parallel inverter
4.3 Working principle of single phase bridge inverter
4.4 Working principle of three phase bridge inverter

5. Choppers (8 hrs)

5.1 Working principle of Choppers
5.2 Classification of Choppers
5.3 Step-up Chopper
5.4 A.C Chopper

6. Cyclo Converter (4 hrs)

Working principle of single phase and three phase cyclo converter

7. Electric Drive Control (10 hrs)

7.1 D.C. drive control
a) Speed control of dc series motor using bridge rectifier
b) Speed control of dc shunt motor using bridge rectifier
c) Speed control of dc motor using choppers
d) Study of control scheme for speed control of a separately excited d.c motor above and below the base speed

7.2 A.C drive control
a) Speed control of induction motors using phase control
b) Speed control of induction motors using variable frequency control
c) Speed control of induction motor using slip power recovery schemes

LIST OF PRACTICALS

1. Testing of components like SCR Triac, BJT, UJT, MOSFET
2. To plot and verify V-I characteristics of an SCR
3. To plot and verify V-I characteristics of a Triac
4. To plot V-I characteristics of UJT
5. To plot V-I Characteristics of a DIAC
6. Assembly and testing of illumination control circuit using SCR
7. Assembly of street lights circuit using LDR and Triac
8. Assembly of speed control circuit for a d.c. motor
9. Assembly of three phase bridge rectifier using two SCR and two diodes
10. Assembly of three phase bridge rectifier using diodes
11. Assembly of transistorized emergency light cum battery charger circuit

INSTRUCTIONAL STRATEGY

The teacher may encourage students to perform practical simultaneously with teaching of theory for better understanding of the subject and verification of theoretical concepts. The various components must be shown to the students for identification and also be tested. Practical applications of the various circuits and devices should be discussed in the class. The available video films on the subject must be shown to the students.

RECOMMENDED BOOKS

1. Industrial Electronics and Control by SK Bhattacharya and S Chatterji; New Age Publishers, New Delhi
2. Electrical and Electronic Measurements by A.K.Sawhney, Dhanpat Rai and Sons, New Delhi
3. Power Electronics – Principles and Application by J Michael Jacob; Vikas Publishing House, New Delhi
4. Power Electronics by M.H. Rashid.

5. Power Electronics by P.C. Sen, Tata McGraw Hill Publishers, New Delhi

6. Thyristors by M.S. Berde, Khanna Publishers, New Delhi

7. Thyristors and Thyristors by Sugandhi and Sugandhi.

8. Power Electonics by P.S. Bhimbhrah, Khanna Publishers, New Delhi

9. Fundamentals of Power Electronics by S. Rama Reddy, Narosa Publishing House, New Delhi

SUGGESTED DISTRIBUTION OF MARKS FOR FACILITATING THE PAPER SETTER

Topic No.	Topic	Time Allotted (Hrs)	Marks Allocation
1.	Introduction to thyristors and other power Electronics devices	12	20
2.	Application of SCR and Triacs	10	15
3.	Controlled Converters	12	20
4.	Inverters	08	10
5.	Choppres	08	15
6.	Cycloconverters	04	05
7.	Electric Drive control	10	15
Total		**64**	**100**

4.5 INSTRUMENTATION

L	T	P
4	-	2

RATIONALE

This subject deals with the various electronic instruments, their construction and working which control the various parameters and operations in different industries. Electrical supervisor employed in maintenance of electrical equipment, machinery is required to diagnose faults, rectify them and test the total system for satisfactory performance. Thus there is a need of introducing diploma holders to the basics of Instrumentation.

DETAILED CONTENTS

1. Measurements (06 hrs)

   Importance of measurement, Basic measuring systems, advantages and limitations of each measuring systems, generalized measurement system, signal conditioning and display devices

2. Transducers (08 hrs)

   Theory, construction and use of various transducers such as (resistance inductance, capacitance, electromagnetic, piezo electric, optical etc.) Introduction to smart transducers

3. Measurements of Displacement and Strain (10 hrs)

   Displacement Measuring Devices: wire wound potentiometer, LVDT, strain gauges, different strain gauges such as inductance type, resistive type, wire and foil etc. Gauge factor, gauge materials, and their selections, sources of errors and its compensations. Use of electrical strain gauges, strain gauge bridges and amplifiers.

4. Force and Torque Measurement (10 hrs)

   Different types of force measuring devices and their principles, load measurement by using elastic Transducers and electrical strain gauges. Load cells, proving rings. Measurements of torque by brake, dynamometer, speed measurements; different methods, devices.

5. Pressure Measurement (08 hrs)

   Bourdon pressure gauges, electrical pressure pick ups and their principle, construction ,application and use of pressure cells.

6. Flow Measurement (06 hrs)

Basic principles of magnetic and ultrasonic flow meters

7. Measurement of Temperature (08 hrs)

Bimetallic thermometer, pressure thermometers, thermoelectric thermometers, resistance thermometer, thermocouple, thermisters and pyrometer, errors in temperature measurements in rapidly moving fluids. Temperature recorders

8. Measurement of other non electrical quantities such as humidity, pH value, sound, (06 hrs)

9. Elements of telemetry and data acquisition system (02 hrs)

INSTRUCTIONAL STRATEGY

The teacher should explain the scope of various measuring devices and their practical application in the field. The transducers and measuring devices must be shown to the students and they should be trained in the selection, operation, maintenance and calibrations. Frequent visits to nearby process industries will be of immense help to the students

LIST OF PRACTICALS

1) Measurement and plot of characteristics of optical devices like photodiodes photocells
2) Characteristics of light operated switch using photo transistor and LDR
3) Measurement of strain using strain gauge
4) Measurement of pressure using pressure cell
5) Measurement of sound level using sound level meter
6) Measurement of temperature using themistor and thermocouples
7) Measurement of load using load cell
8) Measurement of humidity using humidity meter
9) Measurement of linear and angular displacement
10) Measurement of flow rate using flow sensors
11) Measurement of angular distance using linear variable capacitor

RECOMMENDED BOOKS

1. Electronic Measurement and Instrumentation by Dr Rajendra Prasad

2. Electrical and Electronics Measurement and Instrumentation by AK Sawhney, Dhanpat Rai and Co., New Delhi

3. Electronic Instrumentation and Measurement Techniques by WD Cooper, AD Helfrick Prentice Hall of India Pvt. Ltd. New Delhi

4. Electronics Tests and Measurement Techniques by Rajiv Sapra

SUGGESTED DISTRIBUTION OF MARKS FOR FACILITATING THE PAPER SETTER

Topic No.	Topic	Time Allotted (Hrs)	Marks Allocation
1.	Measurement	06	5
2.	Transducers	08	10
3.	Measurements of Displacement and Strain	10	20
4.	Force and Torque Measurement	08	15
5.	Pressure Measurement	10	10
6.	Flow Measurement	06	10
7.	Measurement of Temperature	08	15
8.	Measurement of other non electrical quantities such as humidity, pH level etc.	06	10
9.	Elements of telemetry and data acquisition system	02	5
Total		**64**	**100**

4.6 MINOR PROJECT WORK

L	T	P
-	-	4

RATIONALE

Minor project work aims at exposing the students to various developments taking place in the field of electronics and related areas in addition to developing interest in the students about the, working and fabrication of electronics devices. The project may be selected from utility items pertain to their laboratories or homes. It would enable first hand experience of components, their purchase, assembly, testing and trouble shooting. It would also boost up confidence of the students in repairing and maintenance of electronics gadgets. There should not be more than 2-3 students for each project. A report must be prepared with a hard and soft copy.

The purpose of this subject is also to give practice to the students in elementary design and fabrication of simple electronic circuits. The topics of assembly, soldering, testing, and documentation have been included to give overall picture of the process of manufacturing of electronic devices.

The teacher may guide/ help students to identify their minor project work and chalk out their plan of action well in advance preferably at the beginning of 4th semester

For this purpose, the concerned teachers must identify curriculum related industrial problems which should be expository in nature and ask students (individual/group) to carry out their investigation/ activity such that enough industrial exposure is gained by them during this process.

Some of the projects are listed below which is just a guideline for selecting the minor project. Students can also select any other project with the advice of his teacher.

1. Regulated power supply
2. Timers using 555 and other oscillators
3. Touch plate switches – transistorized or 555 based
4. Door bell/cordless bell
5. Clapping switch and IR switch
6. Blinkers
7. Sirens and hooters
8. Single hand AM or FM
9. Electronic toy gun, walker, blinkers
10. Electronic dice
11. Cell charger, battery charger, mobile charger
12. Fire/smoke/intruder alarm
13. Liquid level controller
14. Counters
15. Combination locks
16. Electronics musical instruments
17. Telephone handset
18. Audio amplifiers

19. Tape recorders
20. Automatic stabilizer/CVT
21. Emergency light
22. Design and manufacture of transformer
23. Fan regulator
24. Triac using Fan Regulator
25. 555 using lighting delay Circuits
26. Temperature sensor based fabrication
27. Design and fabricate transistor switch to operate an LED.
28. Design and Fabricate a single stage Amplifier for I kHz

This minor project work of 64 hours duration will carry 100 marks. 50 marks in external assessment will be given by industrial/field supervisors and 50 marks of internal assessment by the teacher supervising this training.

The Minor Project work if taken at a stretch may require to place a student with a relevant industry for a period of 1-2 weeks for collection of information and exposure to the industrial process will carry a total of 100 marks.

The components and criteria of evaluation will include the following :

	Criteria	**Weightage**
a)	Punctuality and regularity	15%
b)	Initiative in learning new things	15%
c)	Relationship with people	15%
d)	Report writing and seminar	55%

ENTREPRENEURIAL AWARENESS CAMP

The employment opportunities for diploma holders especially in public sector are dwindling. The diploma holders need to explore the possibilities of becoming entrepreneurs. For this, they must be acquainted with entrepreneurial development, scope of setting up small scale industry, existing business opportunities, financial support available and various aspects of managing business. In this context, an entrepreneurial awareness camp is suggested. During the camp, experts from various organizations such as banks, financial corporations, service institutes etc. may be invited to deliver expert lectures. Successful entrepreneurs may also be invited to interact with the students. In addition, the students may be encouraged to read papers or give seminar during the camp on Entrepreneurship Development and related topics.

The camp is to be organized preferably at a stretch for two to three days during 4th semester(second year). Expert Lectures will be delivered on the following broad topics. There will be no examination for this subject/camp.

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