# Lesson Plan

**Name of Faculty:** Ms. Nidhi
**Discipline:** Electronics and Communication Engineering
**Semester:** 4th
**Subject: ENGLISH & COMMUNICATION SKILLS-II**

**Lesson Plan Duration:** 15 weeks (15th Jan. to 30th April 2026)
**Work Load (lectures/Practical) per week (in hours):** Lectures- 02, Practical- 02

| Week | Theory | | Practical | |
|---|---|---|---|---|
| | Lecture Day | Topic(Including Assignments) | Practical Day | Topic |
| 1st | 1 | 1. Modern means of Communication (Video Conferencing, e-mail, Teleconferencing), | 1 | 1. Reading Practice of the above lessons in the Lab Activity classes. 2. Comprehension exercises of unseen passages along with the given lessons. |
| | 2 | 1. Correspondence: Enquiry letters, placing orders, complaint letters. | 2 | 1. Vocabulary enrichment and grammar exercises based on the above selective readings. |
| 2nd | 1 | 1.Prepositions 2.Conjunctions | 1 | 1. Situational Conversation: Requesting and responding to requests; Expressing sympathy and condolence. 2. Warning; Asking and giving information. |
| | 2 | 1. Presentation Skills: How to prepare and deliver a good presentation 2.Telephone Etiquettes | 2 | 1. Getting and giving permission. |
| 3rd | 1 | 1.Life Sketch of Dr. Abdul Kalam 2.The Portrait of a Lady - Khushwant Singh 3.Effective Communication Skills: 7 C's of Communication | 1 | 1. Asking for and giving opinions. 2. A small formal and informal speech. |
| | 2 | 1.Report Writing 2.Memos | 2 | 1. Seminar. |
| 4th | 1 | 1.Telephone Etiquettes | 1 | 1. Debate. 2. Unseen Comprehension Passages and vocabulary enhancement. |
| | 2 | 2. Idioms and Phrases | 2 | 1. Interview Skills: Preparing for the Interview and guidelines for success in the Interview and significance of acceptable body-language during the Interview. |
| 5th | | **First sessional Tests (Tentative)** | 1 | First sessional Tests (Tentative) |
| | | | 2 | First sessional Tests (Tentative) |

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| 6th | 1 | 1.The Doctor's Word by R K Narayan | 1 | 1. Written and Oral Drills will be undertaken in the class to facilitate a holistic linguistic competency among learners. |
| | 2 | 1.Non-verbal Communication – Significance, Types and Techniques for Effective Communication<br><br>2.Circulars | 2 | |
| 7th | 1 | 1. Pairs of words (Words commonly misused and confused) | 1 | Revision & Practice |
| | 2 | 1. Importance of developing employable and soft skills | 2 | 1. Participation in a GD, Functional and Non-functional roles in GD, case studies and role plays. |
| 8th | 1 | 1. Speech by Dr Kiran Bedi at IIM Indore2007 Leadership Concepts. | | Revision & Practice |
| | 2 | 1.Barriers and Effectiveness in Listening Skills | | 1. Presentations, using audio-visual aids (including power-point). |
| 9th | 1 | 1. Press Release | | Revision & Practice |
| | 2 | 2. Inspection Notes and tips for Note-taking | | Revision & Practice |
| 10th | | **Second Sessional Tests (Tentative)** | 1 | Revision & Practice |
| | | | 2 | Revision & Practice |
| 11th | 1 | 1. The Bet - by Anton Chekov | 1 | Telephonic interviews, face to face interviews. |
| | 2 | 1. Barriers and Effectiveness in Speaking Skill | 2 | Revision & Practice |
| 12th | 1 | 1. Corrigendum writing | 1 | Presentations as Mode of Communication: Persuasive Presentations using multi-media aids |
| | 2 | 1. Translation of Administrative and Technical Terms in Hindi or Mother tongue | 2 | Revision & Practice |
| 13th | 1 | Unit 1st Revision | 1 | Revision & Practice |
| | 2 | 1. Cover Letter<br><br>2. Drawing inferences | 2 | Revision & Practice |
| 14th | 1 | 1. Translation of Administrative and Technical Terms in Hindi or Mother tongue | 1 | Revision & Practice |
| | 2 | 1. Resume Writing: Definition, Kinds 0f Resume, Difference between Bio-data and Curriculum Vitae and Preparing a Resume for Job/ Internship | 2 | Revision & Practice |
| 15th | | **Third Sessional Test(Tentative)** | 1 | Third Sessional Test(Tentative) |
| | | | 2 | Third Sessional Test(Tentative) |
| 16th | 1 | 1. Group discussions: Concept and fundamentals of GD, and learning Group Dynamics.<br><br>2. Revision | 1 | Revision & Practice |
| | 2 | 1. Case Studies and Role Plays<br><br>2. Revision | 2 | Revision & Practice |

# Lesson Plan

**Name of Faculty:** Ms. Divya Chopra
**Discipline:** Electronics and Communication Engineering
**Semester:** 4th
**Subject: MICROPROCESSOR AND MICRO-CONTROLLERS**

**Lesson Plan Duration:** 15 weeks (15th Jan. to 30th April 2026)
**Work Load (lectures/Practical) per week (in hours):** Lectures- 03, Practical- 04

| Week | Theory | | Practical | |
|------|--------|--|-----------|--|
| | Lecture Day | Topic (Including Assignments) | Working week | Topic |
| 1st | 1 | Introduction to Microprocessors and Microcontrollers, applications | 1 | Understand 8051 Development Board |
| | 2 | Microcomputer vs Microprocessor vs Microcontroller | | |
| | 3 | Selection criteria of microcontrollers, Processor Architecture | | |
| 2nd | 1 | History and features of 8051 | 2 | Generating Hex file using Keil Complier |
| | 2 | 8051 Architecture – Block Diagram | | |
| | 3 | Pin Diagram, Pin functions, crystal and reset circuits | | |
| 3rd | 1 | Types of Programming Languages for 8051 | 3 | Programming and Interfacing of RELAY and Buzzer. |
| | 2 | Advantages of Programming in C | | |
| | 3 | Addressing Modes of 8051 | | |
| 4th | 1 | Instruction set of 8051 – Data Transfer, Arithmetic Instr. | 4 | Programming to interface switches and LEDs |
| | 2 | Logical Instr., Branch Instr. And example programs using instruction set; Data Types and Time Delay in 8051. | | |
| | 3 | I/O programming in 8051 using C; Introduction to Keil Compiler and Hex file generation process. | | |
| 5th | | **1st Sessional Tests (Tentative)** | 5 | Viva-Voce |
| 6th | 1 | Timers and registers, Timer/Counter logic | 6 | Programming and Interfacing of LCD. |
| | 2 | Timer modes and configuration. | | |
| | 3 | Programming of 8051 Timers | | |
| 7th | 1 | Programming Timer 1 using C | 7 | Programming for A/D converter, result on LCD. |
| | 2 | Timer-based interrupt overview | | |
| | 3 | Revision of Unit- III | | |
| 8th | 1 | Introduction to serial communication | 8 | Revision & Practice |
| | 2 | Serial ports of 8051 – SCON, SBUF; Modes of serial communication | | |
| | 3 | 8051 connection to RS-232 | | |
| 9th | | **2nd Sessional Tests (Tentative)** | 9 | Viva -Voce |

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| **10th** | **1** | Basics of interrupts, Interrupt types and programming | **10** | Programming for D/A converter, result on LCD. |
| | **2** | LED and switch interfacing | | |
| | **3** | LCD Interfacing | | |
| **11th** | **1** | Revision/Assignments | **11** | Interfacing Stepper Motor with 8051 |
| | **2** | Keyboard Interfacing | | |
| | **3** | Interfacing ADC | | |
| **12th** | **1** | Revise number of questions | **12** | Revision and Practice |
| | **2** | Conduct a test | | |
| | **3** | Revision and practice | | |
| **13th** | **1** | Interfacing DAC | **13** | Interfacing Different Sensors with 8051 |
| | **2** | Sensor Interfacing and Signal Conditioning | | |
| | **3** | Discuss the doubts related to the interfacing. | | |
| **14th** | | **3rd Sessional Test (Tentative)** | **14** | Assessment of students |
| **15th** | **1** | Revision /Assignments | **15** | Revision and Practice |
| | **2** | Revision and Practice | | |

# Lesson Plan

**Name of Faculty:** Ms. Sonia
**Discipline:** Electronics and Communication Engineering
**Semester:** 4th
**Subject: COMMUNICATION SYSTEMS**

**Lesson Plan Duration:** 15 weeks (19th Jan. to 30th April 2026)
**Work Load (lectures per week (in hours)):** Lectures- 03

| Week | Lecture Day | Theory<br>Topic (Including Assignment/ Test) |
|------|-------------|----------------------------------------------|
| 1st | 1 | Introduction to Communication Systems, need, block diagram of basic communication system, real-life examples |
| | 2 | Classification of transmitters based on modulation, service, frequency, and power. |
| | 3 | Block diagram of AM transmitters and working of each stage. |
| 2nd | 1 | Introduction to FM, advantages over AM, FM generation basics |
| | 2 | Reactance FET FM transmitter – block diagram and working principle. |
| | 3 | Armstrong FM transmitter – block diagram, working, merits.<br>Discussion and Assignment |
| 3rd | 1 | Superheterodyne AM receiver – Principle and Working with Block diagram |
| | 2 | Function of each block and typical waveforms at input and output of each block |
| | 3 | FM receiver – block diagram, limiter, FM detectors |
| 4th | 1 | Receiver performance characteristics – sensitivity, selectivity, fidelity |
| | 2 | S/N ratio, image rejection ratio, measurement procedures |
| | 3 | Automatic Gain Control – simple AGC and delayed AGC |
| 5th | | **1st Sessional Tests (Tentative)** |
| 6th | 1 | Electromagnetic spectrum and its various ranges: VLF, LF, MF, HF, VHF, UHF, Microwave |
| | 2 | Radiation from dipole antenna, Polarization of EM waves |
| | 3 | Antenna parameters – gain, directivity, aperture, beamwidth, effective area. |
| 7th | 1 | Radiation pattern, Radiation Resistance, Loss Resistance. |
| | 2 | Types of antennas- Half wave Dipole, Folded Dipole--characteristics and applications |
| | 3 | Patch and Loop Antenna--characteristics and applications |
| 8th | 1 | Ferrite Rod Antenna--characteristics and applications |
| | 2 | Yagi and Dish Antenna--characteristics and applications |
| | 3 | Revision/Assignment |
| 9th | | **2nd Sessional Tests (Tentative)** |
| 10th | 1 | Different modes of wave propagation and typical areas of application |
| | 2 | Ground wave propagation and its characteristics |
| | 3 | Space wave communication – line of sight propagation, standard atmosphere. |
| 11th | 1 | Sky wave propagation, ionosphere structure and layers. |
| | 2 | Explanation of terms - virtual height, critical frequency, skip distance. |
| | 3 | Maximum usable frequency, Multiple Hop Propagation |

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| 12th | 1 | Numerical Problems | |
| | 2 | Revision/Assignments | |
| | 3 | Evaluation of students by having a class test. | |
| 13th | 1 | Basic idea about satellite communication; Meaning of Terms: orbit, apogee, perigee | |
| | 2 | Geo-stationary satellite and its need. | |
| | 3 | Block diagram and explanation of a satellite communication link. | |
| 14th | | **3rd Sessional Test (Tentative)** | |
| 15th | 1 | Introduction to VSAT and its features. | |
| | 2 | Revision and Practice | |

# Lesson Plan

**Name of Faculty:** Ms. Divya Chopra
**Discipline:** Electronics and Communication Engineering
**Semester:** 4th
**Subject: MOOC (LINUX OPERATING SYSTEM)**

**Lesson Plan Duration:** 15 weeks (15th Jan to 30th April 2026)
**Work Load ((lectures per week (in hours)):** Lectures- 02

| Week | Lecture Day | Theory<br>Topic (Including Assignment/ Test) |
|------|-------------|----------------------------------------------|
| 1st | 1 | Introduction to Operating Systems, need and functions |
| | 2 | Introduction to Linux, history, features, advantages, distributions. |
| 2nd | 1 | Linux Architecture – Kernel, Shell, File system. |
| | 2 | Linux login, logout, desktop environment, terminal usage. |
| 3rd | 1 | Basic commands: pwd, ls, clear, date, cal. |
| | 2 | Revision/Assignment |
| 4th | 1 | File system structure, absolute and relative paths. |
| | 2 | Evaluation of students by taking Class test. |
| 5th | | **1st Sessional Tests (Tentative)** |
| 6th | 1 | Commands: mkdir, rmdir, cd, touch, cp, mv, rm |
| | 2 | Commands: cat, more, less, head, tail |
| 7th | 1 | File permissions – read, write, execute<br>Commands: chmod, chown |
| | 2 | Users and groups concept |
| | 3 | Discussion by doing Multiple Choice Questions. |
| 8th | 1 | Commands: useradd, userdel, groupadd, passwd. |
| | 2 | Searching files using find and locate. |
| | 3 | Revision/Assignment |
| 9th | | **2nd Sessional Tests (Tentative)** |
| 10th | 1 | Filters and pipes: grep, sort, wc, pipe operator. |
| | 2 | Introduction to Linux networking; Commands: ping, ipconfig/ip , netstat. |
| 11th | 1 | Shell basics, environment variables; Basic shell commands. |
| | 2 | Linux utilities: calculator, text viewer, system monitor. |
| 12th | 1 | Open-source software and applications in Linux. |
| | 2 | Revision/Assignments |
| 13th | 1 | MCQ's |
| | 2 | Evaluation of students by taking Class test. |
| 14th | | **3rd Sessional Test (Tentative)** |
| 15th | 1 | Revision and Practice. |

# Lesson Plan

**Name of Faculty:** Ms. Sunita Saini
**Discipline:** Electronics and Communication Engineering
**Semester:** 4th
**Subject: POWER ELECTRONICS**

**Lesson Plan Duration:** 15 weeks (15th Jan to 30th April 2026)
**Work Load (lectures/Practical) per week (in hours):** Lectures- 03, Practical- 04

| Week | Theory | | Practical | |
|---|---|---|---|---|
| | Lecture Day | Topic | Practical Day | Topic |
| Week 1 | 1 | **Unit1: Introduction to power electronics devices** | 1 | To plot V-I characteristics of SCR |
| | 2 | Construction and working principle of SCR | | |
| | 3 | Two taransistor analogy and V-I characteristics of SCR | | |
| Week 2 | 1 | SCR specifications and ratings | 2 | File check |
| | 2 | Different types of SCR ratings | | |
| | 3 | Different commutation circuits for SCR | | |
| Week 3 | 1 | Series and parallel operation of SCR | 3 | To plot V-I characteristics of TRIAC |
| | 2 | Construction and working principle of DIAC, TRIAC and their V-I characteristics | | |
| | 3 | Construction, working principle and V-I characteristics of UJT. UJT as relaxation oscillator | | |
| Week 4 | 1 | GTO, PUT and MOSFET | Day 4 | File check |
| | 2 | Selection of heat sink for the thyristors | | |
| | 3 | Applications of SCR | | |
| Week 5 | | **1st Sessional Test (Tentative)** | Day 5 | To plot V-I characteristics of UJT |
| Week 6 | Day 16 | 2.2 Single phase half wave controlled rectifier with load (R, R-L) | Day 6 | File check |
| | Day 17 | 2.3 Single phase half controlled full wave rectifier with load (R, R-L) | | |
| | Day 18 | 2.4 Fully controlled full wave bridge rectifier | | |
| Week 7 | Day 19 | 2.5 Single phase full wave centre tap rectifier | Day 7 | To plot V-I characteristics of DIAC |
| | Day 20 | **Test Unit 2** | | |
| | Day 21 | **Unit 3: Inverters, Choppers, Dual Converters and cyclo converters** | | |
| Week 8 | Day 22 | 3.1 Principle of operation of basic inverter circuits | Day 8 | File check |
| | Day 23 | 3.2 concepts of duty cycle | | |
| | Day 24 | 3.3 Series and parallel inverters and their applications | | |
| Week 9 | Day 25 | **2nd Sessional** | Day 9 | |

| | Day 26 | **2nd Sessional** | | |
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| | Day 27 | Choppers: Introduction; 5Types of choppers (Class A, Class B, Class C and class D) Step up and step down choppers. | | |
| Week 10 | Day 28 | Dual Converters and cyclo converters: Introduction | Day 10 | Study of UJT relaxation oscillator and observe I/P and O/P waveforms |
| | Day 29 | Types and basic working principle of dual converters | | |
| | Day 30 | Types and basic working principle of cyclo converters and applications | | |
| Week 11 | Day 31 | **Test Unit 3** | Day 11 | Observation of wave shape of voltage at relevant point of single-phase half wave controlled rectifier and effect of change of firing angle |
| | Day 32 | **Unit 4: Thyristorised Control of Electric drives** | | |
| | Day 33 | DC drive control i) Half wave drives | | |
| Week 12 | Day 34 | ii) Full wave drives | Day 12 | File check |
| | Day 35 | iii) Full wave drives | | |
| | Day 36 | iv) Chopper drives | | |
| Week 13 | Day 37 | Speed control of DC motorusing choppers | Day 13 | Observation of wave shape of voltage at relevant point of single-phase full wave controlled rectifier and effect of change of firing angle |
| | Day 38 | AC drive control i) Phase control | | |
| | Day 39 | Constant V/F operation; Cycloconverter/Inverter drives. | | |
| Week 14 | | **3rd Sessional** | Day 14 | File check |
| Week 15 | Day 43 | UPS: Block Diagram; Specifications of on-line UPS; Off line and Smart UPS | Day 15 | Observation of wave shape of voltage at relevant point of TRIAC based AC phase control circuit |
| | Day 44 | Concept of high voltage DC transmission | | |