EC8611 TECHNICAL SEMINAR LT P C 0 0 2 1

OBJECTIVES:

• To encourage the students to study advanced engineering developments

• To prepare and present technical reports.

• To encourage the students to use various teaching aids such as overhead projectors, power point presentation and demonstrative models.

METHOD OF EVALUATION:

During the seminar session each student is expected to prepare and present a topic on engineering/ technology, for duration of about 8 to 10 minutes. In a session of three periods per week, 15 students are expected to present the seminar. Each student is expected to present atleast twice during the semester and the student is evaluated based on that. At the end of the semester, he / she can submit a report on his / her topic of seminar and marks are given based on the report. A Faculty guide is to be allotted and he / she will guide and monitor the progress of the student and maintain attendance also. Evaluation is 100% internal.

TOTAL: 30 PERIODS

OUTCOMES:

- Ability to review, prepare and present technological developments
- Ability to face the placement interviews

LIST OF EQUIPMENT FOR A BATCH OF 30 STUDENTS 3 STUDENTS PER EXPERIMENT:

S.NO	NAME OF THE EQUIPMENT	REQUIRED
1	Trainer kit for carrying out LED and PIN diode characteristics, Digital multi meter, optical power meter	2 Nos
2	Trainer kit for determining the mode characteristics, losses in optical fiber	2 Nos
3	Trainer kit for analyzing Analog and Digital link performance, 2 Mbps PRBS Data source, 10 MHz signal generator, 20 MHz Digital storage Oscilloscope	2 Nos
4	Kit for measuring Numerical aperture and Attenuation of fiber	2 Nos
5	Advanced Optical fiber trainer kit for PC to PC communication, BER Measurement, Pulse broadening.	2 Nos
6	MM/SM Glass and plastic fiber patch chords with ST/SC/E2000 connectors	2 sets
7	LEDs with ST / SC / E2000 receptacles – 650 / 850 nm	2 sets
8	PIN PDs with ST / SC / E2000 receptacles – 650 / 850 nm	2 sets
9	Digital Communications Teaching Bundle (LabVIEW/MATLAB/Equivalent software tools)	10 Users
10	Software Define Radio Transceiver Platform with antennas and accessories	2 Nos

EC8811	PROJECT WORK	L T P C
		0 0 20 10

OBJECTIVES:

- To develop the ability to solve a specific problem right from its identification and literature review till the successful solution of the same. To train the students in preparing project reports and to face reviews and viva voce examination.

The students in a group of 3 to 4 works on a topic approved by the head of the department under the guidance of a faculty member and prepares a comprehensive project report after completing the work to the satisfaction of the supervisor. The progress of the project is evaluated based on a minimum of three reviews. The review committee may be constituted by the Head of the Department. A project report is required at the end of the semester. The project work is evaluated based on oral presentation and the project report jointly by external and internal examiners constituted by the Head of the Department.

TOTAL: 300 PERIODS

OUTCOME:

- On Completion of the project work students will be in a position to take up any challenging practical problems and find solution by formulating proper methodology.

CS8392 OBJECT ORIENTED PROGRAMMING L T P C
3 0 0 3

OBJECTIVES:

- To understand Object Oriented Programming concepts and basic characteristics of Java
- To know the principles of packages, inheritance and interfaces
- To define exceptions and use I/O streams
- To develop a java application with threads and generics classes
- To design and build simple Graphical User Interfaces

UNIT I INTRODUCTION TO OOP AND JAVA FUNDAMENTALS 10

Object Oriented Programming - Abstraction – objects and classes - Encapsulation- Inheritance - Polymorphism- OOP in Java – Characteristics of Java – The Java Environment **-** Java Source File -Structure – Compilation. Fundamental Programming Structures in Java – Defining classes in Java – constructors, methods -access specifiers - static members -Comments, Data Types, Variables, Operators, Control Flow, Arrays , Packages - JavaDoc comments.

UNIT II INHERITANCE AND INTERFACES 9

Inheritance – Super classes- sub classes –Protected members – constructors in sub classes- the Object class – abstract classes and methods- final methods and classes – Interfaces – defining an interface, implementing interface, differences between classes and interfaces and extending interfaces - Object cloning -inner classes, Array Lists - Strings

UNIT III EXCEPTION HANDLING AND I/O 9

Exceptions - exception hierarchy - throwing and catching exceptions - built in exceptions, creating own exception, Stack Trace Elements.

Input / Output Basics – Streams – Byte streams and Character streams – Reading and Writing Console – Reading and Writing Files

UNIT IV MULTITHREADING AND GENERIC PROGRAMMING 8

Differences between multi-threading and multitasking, thread life cycle, creating threads, synchronizing threads, Inter thread communication, daemon threads, thread groups.

Generic Programming – Generic classes – generic methods – Bounded Types – Restrictions and Limitations.

UNIT V EVENT DRIVEN PROGRAMMING 9

Graphics programming - Frame – Components - working with 2D shapes - Using color, fonts, and images - Basics of event handling - event handlers - adapter classes - actions - mouse events - AWT event hierarchy - Introduction to Swing – layout management - Swing Components – Text Fields , Text Areas – Buttons- Check Boxes – Radio Buttons – Lists- choices- Scrollbars – Windows –Menus – Dialog Boxes.

TOTAL: 45 PERIODS

OUTCOMES:

Upon completion of the course, students will be able to:

- Develop Java programs using OOP principles
- Develop Java programs with the concepts inheritance and interfaces
- Build Java applications using exceptions and I/O streams
- Develop Java applications with threads and generics classes
- Develop interactive Java programs using swings

8. Astable and monostable multivibrators using NE555 Timer.

9. PLL characteristics and its use as Frequency Multiplier.

10. DC power supply using LM317 and IC723.

SIMULATION USING SPICE:

1. Amplifiers using opamp

2. Active Filters using op-amp

3. Astable and Monostable Multivibrator using opamp and NE555 Timer.

4. Implementation of DA converter using MULTISIM.

5. Astable & Monostable multivibrators and Schmitt Trigger using op-amp in MULTISIM.

TOTAL: 60 PERIODS

COURSE OUTCOMES:

Upon successful completion of course, the students will be able to

CO1 Design filters, amplifiers and oscillators using operational amplifiers.

CO2 Analyze the working of PLL and describe its application as a frequency multiplier.

CO3 Design DC power supply using ICs.

CO4 Analyze the performance of filters, multivibrators, converters and analog multiplier using SPICE

CO5 Design and analyze multivibrators using opamps and 555 Timer ICs.

HS1421 AN INTRODUCTION TO ADVANCED READING AND WRITING

L	T	P	C
0	0	2	1

OBJECTIVES:

The course will enable learners to

- To strengthen the reading skills of students of engineering.
- To enhance their writing skills with specific reference to technical writing
- To develop their critical thinking skills.
- To provide more opportunities to develop their project and proposal writing skills

UNIT I EFFECTIVE READING 6

Reading – Strategies for effective reading-Use glosses and footnotes to aid reading comprehension- Read and recognize different text types-Predicting content using photos and

title. Reading-Read for details-Use of graphic organizers to review and aid comprehension.

UNIT II CRITICAL READING 6

Reading– Understanding pronoun reference and use of connectors in a passage- speed reading techniques. Reading– Genre and Organization of Ideas- Reading– Critical reading and thinking-understanding how the text positions the reader.

UNIT III PARAGRAPH WRITING 6

Writing-Plan before writing- Develop a paragraph: topic sentence, supporting sentences, concluding sentence.-Write a descriptive paragraph Writing-State reasons and examples to support ideas in writing– Write a paragraph with reasons and examples- Write an opinion paragraph

UNIT IV ESSAY WRITING 6

Writing– Elements of a good essay - Types of essays- descriptive-narrative- issue-based-argumentative-analytical.

UNIT V EFFECTIVE WRITING 6

Writing– Email writing- visumes – Job application- Report Writing - Project writing-Writing convincing proposals

TOTAL: 30 PERIODS

COURSE OUTCOMES:

At the end of the course, students will be able to

CO1 Understand how the text positions the reader

CO2 Develop critical thinking while reading a text

CO3 Develop a descriptive paragraph

CO4 Make use of sentence structures effectively when creating an essay.

CO5 Demonstrate proper usage of grammar in writing E-Mails, Job application and project proposals

TEXT BOOKS:

1. Gramer, F, Margot & Colin, S, Ward, 2011, *Reading and Writing (Level 3)* Oxford University Press, Oxford.
2. Debra Daise, CharlNorloff, and Paul Carne, 2011, *Reading and Writing (Level 4)* Oxford University Press: Oxford.

REFERENCE BOOKS:

1. Davis, Jason & Rhonda LIss. 2006 *Effective Academic Writing (Level 3)* Oxford University Press: Oxford.
2. E. Suresh Kumar and et al. 2012, *Enriching Speaking and Writing Skills,* Second Edition, Orient Black swan: Hyderabad.
3. Withrow, Jeans and et al. 2004 *Inspired to Write. Readings and Tasks to develop writing skills*, Cambridge University Press: Cambridge.
4. Goatly, Andrew, 2000 *Critical Reading and Writing*, Routledge: United States of America.
5. Petelin, Roslyn & Marsh Durham, 2004 *The Professional Writing Guide: Knowing Well and Knowing Why*, Business & Professional Publishing: Australia.

WEB RESOURCES:

- http://learnenglishteens.britishcouncil.org/skills/reading
- https://learnenglish.britishcouncil.org/skills/reading
- https://www.readingrockets.org/article/25-activities-reading-and-writing-fun
- https://linguapress.com/advanced.htm

HS8581	PROFESSIONAL COMMUNICATION	L	T	P	C
		0	0	2	1

OBJECTIVES:

The course aims to:

- Enhance the Employability and Career Skills of students
- Orient the students towards grooming as a professional
- Make them Employable Graduates
- Develop their confidence and help them attend interviews successfully.

UNIT I

Introduction to Soft Skills-- Hard skills & soft skills - employability and career Skills—Grooming as a professional with values—Time Management—General awareness of Current Affairs

UNIT II

Self-Introduction-organizing the material - Introducing oneself to the audience – introducing the topic – answering questions – individual presentation practice— presenting the visuals effectively – 5 minute presentations

UNIT III

Introduction to Group Discussion— Participating in group discussions – understanding group dynamics - brainstorming the topic -– questioning and clarifying –GD strategies- activities to improve GD skills

UNIT IV

Interview etiquette – dress code – body language – attending job interviews– telephone/skype interview -one to one interview &panel interview – FAQs related to job interviews

UNIT V

Recognizing differences between groups and teams- managing time-managing stress- networking professionally- respecting social protocols-understanding career management-developing a long-term career plan-making career changes

TOTAL : 30 PERIODS

OUTCOMES:

At the end of the course Learners will be able to:

- Make effective presentations
- Participate confidently in Group Discussions.
- Attend job interviews and be successful in them.
- Develop adequate Soft Skills required for the workplace

Recommended Software

1. Open Source Software
2. Win English

REFERENCES:

1. Butterfield, Jeff Soft Skills for Everyone. Cengage Learning: New Delhi, 2015
2. E. Suresh Kumar et al. Communication for Professional Success. Orient Blackswan: Hyderabad, 2015
3. Interact English Lab Manual for Undergraduate Students,. OrientBalckSwan: Hyderabad, 2016.
4. Raman, Meenakshi and Sangeeta Sharma. Professional Communication. Oxford University Press: Oxford, 2014
5. S. Hariharanetal. Soft Skills. MJP Publishers: Chennai, 2010.

SEMESTER - I

S. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1	MA1102	Applied Mathematics for Communication Engineers	FC	4	4	0	0	4
2	CN1101	Advanced Digital Communication Techniques	PC	3	3	0	0	3
3	CN1102	Advanced Digital Signal Processing	PC	4	3	0	0	3
4	CN1103	Advanced Wireless Communications Systems	PC	3	3	0	0	3
5	CN1104	Communication Networks Modelling and Simulation	PC	3	3	0	0	3
6		Professional Elective - I	PE	3	3	0	0	3
PRACTICALS								
7	CN1111	Communication Systems Laboratory	PC	4	0	0	4	2
			Total	25	19	0	4	21

SEMESTER - II

S. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1	CN1201	Advanced Wireless Networks	PC	3	3	0	0	3
2	CN1202	Cognitive Radio Networks	PC	3	3	0	0	3
3	CN1203	Communication Network Security	PC	3	3	0	0	3
4		Professional Elective - II	PE	3	3	0	0	3
5		Professional Elective - III	PE	3	3	0	0	3
6		Online Course - I	OC	3	3	0	0	3
PRACTICALS								
7	CN1211	Networking Laboratory	PC	4	0	0	4	2
8	CN1221	Term Paper Writing and Seminar	EEC	2	0	0	2	1
			Total	24	18	0	6	21

SEMESTER - III

S. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1	CN1301	Internet of Things	PC	3	3	0	0	3
2		Professional Elective - IV	PE	3	3	0	0	3
3		Professional Elective - V	PE	3	3	0	0	3
4		Open Elective - I	OC	3	3	0	0	3
PRACTICALS								
5	CN1321	Project Work Phase - I	EEC	12	0	0	12	6
			Total	24	12	0	12	18

SEMESTER - IV

S. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
PRACTICALS								
1	CN1421	Project Work Phase - II	EEC	24	0	0	24	12
			Total	24	0	0	24	12