

SCHEME OF EXAMINATION FOR B.TECH DEGREE COURSE
Eighth Semester Examination
(Electrical & Electronics Engineering)

S No.	Course No.	Subject	Teaching Schedule				Examination Schedule				Duration of Exam (Hours)
			L	T	P/D	Total	Theory	Sessional	Practical Viva	Total Marks	
1	-----	Departmental Elective- III	3	1	-	4	100	50	-	150	3
2	-----	Departmental Elective- IV	4	1	-	5	100	50	-	150	3
3	EEcT -402E	Modelling & Simulation	4	1	-	5	100	50	-	150	3
4	EEcT -404E	Modern Trends in Communication	4	1	-	5	100	50	-	150	3
5	EEcT -406E	Special Electric Machines	4	1	-	5	100	50	-	150	3
6	EEcT-422E	Simulation Lab	-	-	3	3	-	25	50	75	3
7	EEcT-424E	Major Project	-	-	6	6	-	75	75	150	3
8	EEcT -426E	Seminar	-	2	-	2	-	25	25	50	3
9	EEcT -428E	Comprehensive Viva-Voce	--	2	-	-	-	75	-	75	-
10	EEcT -430E	General Fitness & Professional Aptitude	-	-	-	-	-	-	75	75	-
		Total	19	7	9	35	500	450	225	1175	

DEPARTMENTAL ELECTIVES- III

1. EEcT-442 Utilization of Electric Energy
2. EEcT-444E Non Conventional Sources of Energy Management
3. EEcT-446E High voltage Transmission Systems
4. EEcT-448E Fuzzy Logics & Neural Networks

DEPATMENTAL ELECTIVES- IV

1. EEcT-450E Radio & TV Engineering
2. EEcT-452E Digital Hardware Design
3. EEcT-454E Digital Image Processing
4. EEcT-454E Software Engineering

B.TECH VIIIth SEMESTER
MODELLING AND SIMULATION
(EEcT-402-E)

L T P | D
4 1 5

THEORY: 100 Marks
SESSIONAL: 50 Marks
TOTAL: 150 Marks
TIME: 3Hrs.

UNIT I:

Introduction: Systems, Models and simulation, concept of model, model classification and mathematical representation, Identification, continuous and discrete, static and dynamic, deterministic and stochastic systems.

UNIT II:

Discrete event systems: Introduction, statistical model in simulation, random number generation, method of generating random variables, discrete random variates, generating correlated random numbers.

Queuing models: Characteristics, queuing notation, single server and multiple server systems.

UNIT III

Simulation: State space simulation techniques, Digital simulation languages, Analog simulation of linear systems, magnitude scaling, time scaling, simulation equations, transfer function simulator, hybrid simulation. Load flow, short circuit and steady state stability studies. Transmission parameters.

UNIT IV

Matlab: Matlab environment, programming, modeling, with matrices, simulation in Matlab, introduction to dynamic system simulation using SIMULINK, applications of simulink.

Reference Books:

1. Banks J. Carson J.S and Nelson B: Discrete Event system simulation, PHI.
2. Celler F.E. Continuous system simulation, Springer veriang.
3. Athanasios Papoulis: Probability Random variables and Statistics Processes, Mc-Graw Hill.
4. Reference manual & user's guide on Matlab.
5. Analog computation & simulation (V Raja Raman)
6. System simulation with digital computer (D E O)
7. System simulation (Jordan)
8. System modeling & Computer Simulation by Nain A. Kheir. Marcel Dekker Inc.
9. Discrete Event System Simulation, PHI Banks J. Carson J. S. and Nelson B.
10. Advanced Computer methods for power system Analysis- Stagg and Elabiad.
11. Advanced power System L. P. Singh (New Age Publication)

Note: Examiner will set eight questions, taking two from each unit. Students will be required to attempt five questions taking at least one from each unit.

B.TECH VIIIth SEMESTER
MODERN TRENDS IN COMMUNICATION
(EECT-404-E)

L T P | D
4 1 5

THEORY: 100 Marks
SESSIONAL: 50 Marks
TOTAL: 150 Marks
TIME: 3Hrs.

UNIT I

Digital Communication: - Introduction to sampling theorem for band limited & band pass signals, bit rate, detection levels, Digital filtering, Pulse code modulation, Adaptive data modulation, coding, Coding efficiency, introduction to used codes. Error detection & corrections codes, ASK,FSK, PSK,DPSK,QPSK.

UNIT II:

Satellite Communication: - Introduction, Satellite orbits, frequency used, station keeping, orientation of satellite, transmission paths & its losses & noise consideration. Satellite systems flux density, effective isotropic radiated power, link budget calculations, multiple accessing techniques.

UNIT III:

Fiber Optic Communication: - Introduction, advantages & disadvantages, principle of light transmission in a fiber, types of optical fibers, effect of index profile on propagation, modes of propagation. Number of modes via fiber, single mode propagation, rayleigh scattering losses, absorption losses, mode coupling losses, bending losses, combined losses, effect of dispersion on pulse transmission, inter model dispersion, material dispersion, wave guide dispersion, total dispersion.

UNIT IV:

Optical Communication: - LEDs, semiconductor laser diode, the PN photodiode, PIN diode. The avalanche photo diode, fiber optic communication system block diagram & loss budget, connectors & Splices.

References Books:

1. Dennis Roddy & John Collen: Electronics Communication.(PHI)
2. John Gowar: Optical communication system (PHI)
3. D. C. Aggarwal : Satellite Communication

Note: Examiner will set eight questions, taking two from each unit. Students will be required to attempt five questions taking at least one from each unit.

B.TECH VIIIth SEMESTER
RADIO & TV ENGINEERING
(EECT-450-E)

L T P | D
4 1 5

THEORY: 100 Marks
SESSIONAL: 50 Marks
TOTAL: 150 Marks
TIME: 3Hrs.

UNIT I:

Radio Transmitter: Modulation, AM Transmitter, FM Transmitter; AFC, Sensitivity selectivity, VODAS, Radio Transmitter, Telephone transmitter Privacy device, Radio telegraph transmitter.

UNIT II:

Radio receiver: TRF, super-heterodyne, communication receiver, double conversion receiver, SSB Rx, freq synthesis, image freq, selectivity. IF freq tracking AFC & AGC n Rx, FM demodulator, neutralization, freq drift & scintillation, Diversity reception, fading, armstrong FM Rx.

UNIT III:

Monochrome T.V: Introduction, composite video signal picture tube, camera tube image orthicon, vidicon, plumbicon TV Tx & Rx, modulation technique, TV Application CATV, CCTV, Video games Theater T.V., VTR, AGC, Various AGC system

UNIT IV:

Color T.V.: Compatibility, three color theory different color picture tube, color signal transmission, NTSC, Color TV, PAL, SECAM

Reference Books:

1. Monochrome & color T.V. by R.R.Gulati (Wiley Eastern Ltd.)
2. Radio Engineering by G.K. Mithal (Khanna Publications)
3. A.M Dhaka, " Monochrome & color T.V" (TMH)
4. Skolnik.M.I," Introduction to Radar System" (TMH)

Note: Examiner will set eight questions, taking two from each unit. Students will be required to attempt five questions taking at least one from each unit.

B.TECH VIIIth SEMESTER
SPECIAL ELECTRIC MACHINES
(EEcT-406-E)

L T P | D
4 1 5

THEORY: 100 Marks
SESSIONAL: 50 Marks
TOTAL: 150 Marks
TIME: 3Hrs.

UNIT I

Different types of FHP motors and uses in domestic & industrial applications, Single phase Induction motor, Qualitative examination starting and running performance of I-Phase Induction Motors.

UNIT II

Linear Induction Motors and Actuators and its principle of operation, Linear Levitated machine & applications, Permanent magnet motors, High performance energy efficient machines, Effect of E.M.F injected into secondary circuits , quantitative study, scharge motor.

UNIT III

Special Induction generations, Special motors and generators associated with Wind, Solar, Tidal, Biogas and other unconventional energy forms and their applications.

UNIT IV

Synchronous motors, Series universal motors, Stepper motor, Permanent magnet D.C. motor, Permanent magnet AC motors, Switch reluctance motors. Servo motor, shaded pole motor, brush less D.C motor, Typical applications in Computers, Electronics, Communications and Information Technologies.

References Books:

1. Generalized Electrical Machines by P. S. Bhimbra
- 2 Generations of Electrical Energy by A. E. Fitzgerald/Charles , Kingsley J. R.
- 3 The Performance & design of A.C Commutator Motor by O.E .Taylor
- 4 Performance & Design of A.C machines by M.G. Say

Note: Examiner will set eight questions, taking two from each unit. Students will be required to attempt five questions taking at least one from each unit

SIMULATION LAB
VIII- Sem. (EEcT-422-E)

L T P Total

-- 3 3

Practical : 50 mks

Sessional: 25 mks

Duration: 3 hrs.

List of Experiments :

Perform the experiments using C/C++ Language

1. To develop a Program for Matrix $n \times n$.
2. Add two Matrix.
3. Multiplication of two Matrix.
4. Find Inverse of Matrix.
5. Check stability by Routh Hurwitz Criteria.
6. Check stability by Jury Test.
7. Draw a circle for given radius use graphics.
8. Draw a straight-line use graphics.
9. Find Eigen value for given Matrix.
10. To develop a program for Cramer's Rule
11. To develop a program for Tower of Hanoi.