RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

CURRICULUM
FOR

DIPLOMA IN ELECTRICAL ENGINEERING

(THIRD SEMESTER)

Scheme: JUL.2008
Implemented from session 2008-09

Under semester system

JULY 2008

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RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

DIPLOMA IN ELECTRICAL ENGINEERING

SEMESTER: **THIRD**
COURSE CODE: **301**
NAME OF COURSE: **BASIC ELECTRICAL ENGINEERING & MATERIALS**

SCHEME: **Jul.08**
COMMON WITH PROGRAM (S):
PAPER CODE:

RATIONALE

Electrical circuit theory forms a base for fundamental understanding of the subjects of electrical engineering. Every electrical apparatus is studied through an electrical circuit which contains some components of which it is made and every component of an electrical circuit is made of some material.

Introduction to materials have assumed great significance in recent times. A technician engineer must be familiar with the composition, characteristics and properties of engineering materials used in industries as well as in daily life, so that he can choose the right materials for various works in electrical and electronics industries. The syllabus is, therefore, aimed at imparting need based knowledge of electrical engineering materials.

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

DIPLOMA IN ELECTRICAL ENGINEERING

SEMESTER: **THIRD**
COURSE CODE: **301**
NAME OF COURSE: **BASIC ELECTRICAL ENGINEERING & MATERIALS**

SCHEME: **Jul.08**
COMMON WITH PROGRAM (S):
PAPER CODE:

Lectures: **4** Hrs. per week
Practical: **2** Hrs. per week

SCHEME OF STUDIES

S.No.	Topics	Theory Hrs.	Practical Hrs.	Total
1.	D.C. Circuits	15	10	25
2.	A.C. Fundamentals	15	10	25
3.	Magnetic Effects of Electric current	10	-	10
4.	Heating Effects of Electric current	04	-	04
5.	Chemical Effects of Electric current	04	04	08
6.	Electrical Engineering Materials	12	06	18
		60	30	90

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SEMESTER: **THIRD**
COURSE CODE: **301**
NAME OF COURSE: **BASIC ELECTRICAL ENGINEERING & MATERIALS**

SCHEME: **Jul.08**
COMMON WITH PROGRAM (S):
PAPER CODE:

Lectures: **4** Hrs. per week
Practical: **2** Hrs. per week

COURSE CONTENTS

S.No.	COURSE CONTENTS	
1.	**D.C. Circuits -** Concept of charge, current, voltage, EMF, resistance, resistivity. Ohm's law, KCL, KVL. Series and parallel combination of resistances, star-delta connection, star to delta and delta to star transformation.	**15**
2.	**A.C. Fundamentals -** Concept of inductance, capacitance, reactance, impedance, admittance, phasor diagram of pure resistive, inductive and capacitive circuit. Difference between AC and DC quantities, sinusoidal waveform, frequency, time period. Instantaneous, maximum, average and RMS value, form factor.	**15**
3.	**Magnetic effect of electric current -** Concept of lines of force, flux, MMF, reluctance, permeability, magnetic flux density, magnetic field intensity. Analogy of electric and magnetic circuit, units. Faraday's laws of electromagnetic induction, self and mutual induction. Lenz's laws, Fleming's left and right hand rule.	**10**
4.	**Heating effect of electric current -** Heat produced. Work, power and energy, units.	**4**
5.	**Chemical effect of electric current** Faradays laws of electrolysis. Primary and secondary cells.	**4**
6.	**Electrical Engineering materials -** Definition of conductors, insulators and semiconductors. Intrinsic and extrinsic semi conductor materials. Properties and applications of conducting, semi-conducting and insulating materials, classification of insulating materials on the basis of temperature. B-H curve, soft and hard magnetic materials. Different magnetic materials, properties and applications.	**12**

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SCHEME: **Jul.08**
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Lectures: **4** Hrs. per week
Practical: **2** Hrs. per week

LIST OF EXPERIMENTS

S. No.	Name of Experiment	Hours of Study
1	Study of different types of meters/indicators, Ammeter, voltmeter, wattmeter etc.	
2	Measurement of current and voltage in single phase and three phase circuit series and parallel circuit.	
3	Measurement of current, voltage and power in single phase circuit.	
4	Study of different types of loads i.e. resistive, inductive and capacitive load.	
5	Study of multimeter.	
6	Verification of ohms law.	
7	Study of different types of conducting, insulating, and magnetic materials.	
8	Study of different types of primary and secondary cells and batteries.	
	Total	**30**

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SCHEME: **Jul.08**
COMMON WITH PROGRAM (S):
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Lectures: **4** Hrs. per week
Practical: **2** Hrs. per week

REFERENCES

1. Basic Electrical Engineering By Nagrath Kathari
2. Electrical Engineering Materials By TTTI Madras.
3. Basic Electrical Engineering By Jain & Jain
4. Basic Electrical Engineering By V.K. Mehta
5. i kjfHkd oS|q v fHk; kaf=dh By , e-, Q-d qjS'kh] nhid i zdk'ku
6- fo|q l kexzh , oai fji Fk By , e-d sfM; kfM; k] e-i zfgUnh xzUFk vdkneh

RAJIV GANDHI PROUDYOGIKI VISWAVIDYALAYA, BHOPAL

DIPLOMA IN ELECTRICAL ENGINEERING

SEMESTER: **THIRD**
COURSE CODE: **302**
NAME OF COURSE: **ELECTRICAL CIRCUITS**

SCHEME: **Jul.08**
COMMON WITH PROGRAM (S):
PAPER CODE:

Lectures: **4** Hrs. per week
Practical: **2** Hrs. per week

RATIONALE

Electrical circuit theory forms a base for fundamental understanding of the subjects of electrical engineering. Every electrical apparatus is studied through an electrical circuit which contains some components of which it is made.

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DIPLOMA IN ELECTRICAL ENGINEERING

SEMESTER: **THIRD**
COURSE CODE: **302**
NAME OF COURSE: **ELECTRICAL CIRCUITS**

SCHEME: **Jul.08**
COMMON WITH PROGRAM (S):
PAPER CODE:

Lectures: **4** Hrs. per week
Practical: **2** Hrs. per week

SCHEME OF STUDIES

S.No.	Topics	Theory Hrs.	Pract.Hrs.	Total
1.	Circuit analysis	15	06	21
2.	Network Theorems	15	08	23
3.	Single Phase A.C. Circuits	10	08	18
4.	Polyphase circuits	15	06	21
5.	Transients	05	02	07
	Total	60	30	90

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NAME OF COURSE: **ELECTRICAL CIRCUITS**

SCHEME: **Jul.08**
COMMON WITH PROGRAM (S):
PAPER CODE:

Lectures: **4** Hrs. per week
Practical: **2** Hrs. per week

COURSE CONTENTS

S.No.	COURSE CONTENTS	Hours of Study
1.	**CIRCUIT ANALYSIS** Active and passive elements, ideal current source and voltage source. Unilateral and bilateral elements. Number of loops, nodes, branches of a network. Analysis of networks by "Mesh" and "Node" methods. T and ∏ terminal networks, input and output impedance and admittance.	**15**
2.	**NETWORK THEOREMS** Maxwell's loop theorem, Nodal analysis, Superposition, Thevenin's, Nortons' and maximum power theorems with numerical problems.	**15**
3	**SINGLE PHASE A.C. CIRCUITS** Representation of A.C. quantity by phasor methods, rectangular and polar co-ordinates. RLC series and parallel combinations. Impedance, power in single phase circuits. Concept of power factor, conductance, admittance and susceptance. Series and parallel circuits, resonance in series circuit.	**10**
4.	**POLYPHASE CIRCUITS** Concept of poly phase A.C. circuits, advantages over single phase. Generation of three phase voltage system. Three phase circuits, phase sequence, vector and wave diagrams. Star and delta connections, phase and line values of current and voltage, power in three phase circuits. Balanced and unbalanced systems	**15**
5.	**TRANSIENTS** Concept of transient, variation of current when connected to D.C. or A.C. series circuit (R.L. combination and R.C. combination). Time constant.	**5**

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SCHEME: **Jul.08**
COMMON WITH PROGRAM (S):
PAPER CODE:

Lectures: **4** Hrs. per week
Practical: **2** Hrs. per week

LIST OF EXPERIMENTS

S. No.	Name of Experiment	Hours
1	Verification of Superposition theorem	
2	Verification of Norton's and Thevenin's theorem	
3	Verification of Maximum power transfer theorem	
4	Performance of R-L-C- series circuit	
5	Performance of R-L-C- parallel circuit	
6	Study of electrical resonance in series circuit	
7	Verification of relation between line and phase voltage and current in 3-phase circuit	
8	Study of transients	
	Total	**30**

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DIPLOMA IN ELECTRICAL ENGINEERING

SEMESTER: **THIRD**
COURSE CODE: **303**
NAME OF COURSE: **ELECTRICAL MACHINES-I**

SCHEME: **Jul.08**
COMMON WITH PROGRAM (S):
PAPER CODE:

RATIONALE

Electrical machines constitute the largest number of equipments which use electrical power. A technician comes across a large number of situations were electrical machines are used and installed. He must be well familiar with various parts and normal operating conditions. This subject includes the parts, their materials, working principle and performance characteristics of electrical machines in common use.

RAJIV GANDHI PROUDYOGIKI VISWAVIDYALAYA, BHOPAL

DIPLOMA IN ELECTRICAL ENGINEERING

SEMESTER: **THIRD**
COURSE CODE: **303**
NAME OF COURSE: **ELECTRICAL MACHINES-I**

SCHEME: **Jul.08**
COMMON WITH PROGRAM (S):
PAPER CODE:

Lectures: 5 Hrs. per week
Practical: **2** Hrs. per week

SCHEME OF STUDIES

S.No.	Topics	Theory Hrs.	Practical Hrs.	Total
1.	Energy Conversion Principle	04	-	04
2.	DC Generator	20	08	28
3.	DC Motors	17	08	25
4.	Single Phase transformers	24	12	36
5.	Three phase transformers	10	02	12
		75	30	105

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DIPLOMA IN ELECTRICAL ENGINEERING

SEMESTER: **THIRD**
COURSE CODE: **303**
NAME OF COURSE: **ELECTRICAL MACHINES-I**

SCHEME: **Jul.08**
COMMON WITH PROGRAM (S):
PAPER CODE:

Lectures: 5 Hrs. per week
Practical: **2** Hrs. per week

COURSE CONTENTS

S.No.	COURSE CONTENTS	Hours of Study
1.	Energy Conversion Principle - Law of conservation of energy, electromechanical energy conversion classification of machines.	4
2.	D. C. Generator - Principle, construction, armature winding, types of winding, EMF equation, armature reaction and commutation, interpoles and compensating winding. Types of generators, characteristics and applications, losses and efficiency. Simple numericals.	20
3.	D. C. Motors - Principle, production of back EMF, torque equation. Classification, characteristics of D. C. motors, starters, speed control, losses and efficiency, applications of motors. Brake test, Swinburn test. Simple numericals.	17
4.	Single phase transformers - Principle, construction, classification. EMF equation, turns ratio, name plate rating, phasor diagram, no load and on load equivalent circuit. Voltage regulation, polarity ratio, open and short circuit tests, losses and efficiency, condition of maximum efficiency. All day efficiency and its numerical. Auto transformer. Parallel operation of single phase transformer.	24
5.	Three phase transformer - Connections, groups, Scott and open delta connection. Comparison of three phase transformer with bank of three single phase transformers. Parallel operation.	10

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NAME OF COURSE: **ELECTRICAL MACHINES-I**

SCHEME: **Jul.08**
COMMON WITH PROGRAM (S):
PAPER CODE:

Lectures: **5** Hrs. per week
Practical: **2** Hrs. per week

LIST OF EXPERIMENTS

S. No.	Name of Experiment	Hours
1	Study of D. C. Machines (Parts)	
2	Speed control of D. C. Motor (armature and field control method)	
3	To perform Swinburn test of DC Motor.	
4	Study of transformer (Parts) (single and three phase)	
5	To perform polarity test of single phase transformer.	
6	To perform ratio test of single phase transformer.	
7	To perform open circuit test of single phase transformer.	
8	To perform short circuit test of single phase transformer.	
9	Parallel operation of single phase transformer.	
	Total	**30**

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SCHEME: **Jul.08**
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Lectures: **5** Hrs. per week
Practical: **2** Hrs. per week

REFERENCES

1. Electrical Technology Vol. II by B. L. Thareja Khanna Publisher
2. Electrical Machines by Bhattacharya, T.T.T.I.
3. Electrical Machines by Nagrath & Kothari, PHI Publication
4. Electrical Machines Vol. I & II by P.S. Bhimbra, Khanna publishers
5. fo|qr e'khusa , e-d sfM;k sM;k fgUnh xzUFk vdkneh
6. oS|qr e'khusa , p-, l -jk; nhid izdk'ku

RAJIV GANDHI PROUDYOGIKI VISWAVIDYALAYA, BHOPAL

DIPLOMA IN ELECTRICAL ENGINEERING

SEMESTER: **THIRD**
COURSE CODE: **304**
NAME OF COURSE: **ELECTRICAL AND ELECTRONICS MEASUREMENTS AND MEASURING INSTRUMENTS**

SCHEME: **Jul.08**
COMMON WITH PROGRAM (S):
PAPER CODE:

RATIONALE

This subject is very important as most of the technicians who get employment in Industries, Electricity Utilities or in any electrical field are required to measure various electrical quantities and to use different electrical and electronics instruments. This subject is included in order to train the technician engineer to make various measurements and connect and install various measuring instruments. A technician must be well familiar with the modern developments and latest measuring instruments, and so in addition to make electrical measurements he is also called upon to make electronics measurements. The syllabus therefore includes the principles of measurement and construction of various types of measuring instruments commonly used in the filed of electrical and electronics engineering.

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DIPLOMA IN ELECTRICAL ENGINEERING

SEMESTER: **THIRD**
COURSE CODE: **304**
NAME OF COURSE: **ELECTRICAL AND ELECTRONICS MEASUREMENTS AND MEASURING INSTRUMENTS**

SCHEME: **Jul.08**
COMMON WITH PROGRAM (S):
PAPER CODE:

Lectures: **6** Hrs. per week
Practical: **2** Hrs. per week

SCHEME OF STUDIES

S.NO.	TOPIC	TH	PR	TOTAL
1	Classification of measuring instruments	10	02	12
2	Construction and operation	10	00	10
3	Wattmeter and Energy meters	10	04	14
4	Measurement of resistance	08	04	12
5	A. C. Bridges	08	04	12
6	Additional measuring instruments	08	04	12
7	Magnetic measurement	08	02	10
8	Dielectric measurement	06	04	10
9	Cathode Ray Oscilloscope	04	02	06
10	Electronic Instruments	08	02	10
11	Digital instruments	10	02	12
	TOTAL	90	30	120

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DIPLOMA IN ELECTRICAL ENGINEERING

SEMESTER: **THIRD**
COURSE CODE: **304**
NAME OF COURSE: **ELECTRICAL AND ELECTRONICS MEASUREMENTS AND MEASURING INSTRUMENTS**

SCHEME: **Jul.08**
COMMON WITH PROGRAM (S):
PAPER CODE:

Lectures: **6** Hrs. per week
Practical: **2** Hrs. per week

COURSE CONTENTS

S.No.	COURSE CONTENTS	Hours of Study
1	Classification of measuring instruments, Indicating, recording and integrating types of meters. Errors and types of errors, accuracy, precision and sensitivity,.	10
2	Electrical measuring instruments - Construction, operation. Deflecting, controlling and damping forces, supporting systems, moving coil, electrodynamometer, moving iron and induction type instruments, simple numerical. Hot wire type instruments, vibration galvanometer, shunt and multipliers, CT & PT.	10
3	Wattmeter and Energy meters – Dynamometer and induction type wattmeter, Induction type energy meters. measurement of 1-phase and 3-phase power in balanced and unbalanced load condition, 3 phase wattmeter.	10
4	Measurement of resistance – Classification of resistance, measurement of low, medium, and high resistance. Kelvin's double bridge, wheat–stone bridge, Ammeter, voltmeter method and ohmmeter, multimeter, megger. Importance of earth resistance, Earth tester.	8
5	A. C. Bridges – Measurement of inductance and capacitance by A.C. bridges. Maxwell, Anderson, Hays, Desauty and Wien's bridge. (no phasor diagram)	8

6	Additional measuring instruments – Electrical resonance, Weston and vibration reed frequency meter, dynamometer power factor meter, Weston synchroscope, Merz price maximum demand meter, Rotating type phase sequence indicator.	8
7	Magnetic measurement – Balastic galvanometer, measurement of flux by B.G. Gressort flux meter, determination of hysteresis loop for ring and bar specimen.	8
8	Dielectric measurement. Meaning of dielectric loss, its importance, methods of measurement of dielectric loss by Wattmeter, C.R.O. Schering bridge.	6
9	Cathode Ray Oscilloscope – CRT, Electrostatic and magnetic deflection, time base X and Y amplifiers, controls on the C.R.O. Dual beam oscilloscope. Digital storage and multi-channel CRO .	4
10	Electronic Instruments - Transistor volt meter, FETVM, balanced bridge, specification of electronic voltmeter. Single and three phase electronic energy meters, mili-voltmeter and micro-volt meters.	8
11	Digital instruments – Digital voltmeters- types, specifications. Digital multimeters. Counter / timers. Universal indicators for voltage, current, frequency, power, power factor, temperature, humidity etc. Digital tachometers (Contact & non Contact type). Digital controllers.	10

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DIPLOMA IN ELECTRICAL ENGINEERING

SEMESTER: **THIRD**
COURSE CODE: **304**
NAME OF COURSE: **ELECTRICAL AND ELECTRONICS MEASUREMENTS AND MEASURING INSTRUMENTS**

SCHEME: **Jul.08**
COMMON WITH PROGRAM (S):
PAPER CODE:

Lectures: **6** Hrs. per week
Practical: **2** Hrs. per week

LIST OF EXPERIMENTS

S. No.	Name of Experiment	Hours
1	Measurement of low resistance by Kelvinn Double bridge.	
2	Measurement of medium resistance by wheat stone bridge.	
3	Measurement of insulation resistance by Megger.	
4	Measurement of inductance by Maxwell's bridge.	
5	Calibration of Voltmeter, Ammeter, Wattmeter, Energy meter.	
6	Measurement of P.F. by ammeter, voltmeter and wattmeter method.	
7	Plot B.H. curve by method of reversal using B.G.	
8	Use of CRO for measurement of voltage, current, phase and frequency etc.	
9	Measurement of 3-phase power by two wattmeter method.	
10	Study and use of digital instruments, e.g. digital multi meter, frequency meter, electronic timers and counters.	
11	Study and use of various electrical instruments e.g. phase sequence meter, wave meter. M.D. meter, tong tester.	
12	Study and use of C.T. & P.T. for extension of instrument range.	
13	Use of multi meter in a circuit for measurement of voltage, current and resistance.	
	Total	**30**

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DIPLOMA IN ELECTRICAL ENGINEERING

SEMESTER: **THIRD**
COURSE CODE: **305**
NAME OF COURSE: **BASIC ELECTRONICS**

SCHEME: **Jul.08**
COMMON WITH PROGRAM (S):
PAPER CODE:

RATIONALE

Electronics has widespread applications in almost all branches of engineering and science. The syllabus of Basic Electronics has been developed to impart basic knowledge of constructional details, operational principal, characteristic and applications of basic circuits of semiconductor devices. As the thermionic devices finds reducing applications, emphasis on emission of electron is not given, however the elementary portion of ICs and Digital techniques have been included in the syllabus to keep pace with modern development.

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DIPLOMA IN ELECTRICAL ENGINEERING

SEMESTER: **THIRD**
COURSE CODE: **305**
NAME OF COURSE: **BASIC ELECTRONICS**

SCHEME: **Jul.08**
COMMON WITH PROGRAM (S):
PAPER CODE:

Lectures: **5** Hrs. per week
Practical: **2** Hrs. per week

SCHEME OF STUDIES

S. NO.	Topic	Theory (Hrs)	Practical(hrs)	Total
1.	Semiconductor devices	12	08	20
2.	Rectifiers	10	04	14
3.	Regulated power supply	08	04	12
4.	Amplifiers	12	02	14
5.	Oscillators	10	02	12
6.	Non-Sinusoidal Generator	04	02	06
7.	Modulation and Demodulation	05	02	07
8.	Integrated circuits	06	04	10
9.	Digital Techniques	08	02	10
		75	30	105

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Lectures: **5** Hrs. per week
Practical: **2** Hrs. per week

COURSE CONTENTS

S.No.	COURSE CONTENTS	Marks
1.	Semiconductor Devices – (a) Concept of electronic emission – Different methods of electronic emission and their applications. (b) Diodes - Formation of PN junction, forward biasing and revere biasing of PN junction, construction, characteristics and application of different types of diodes, Zener diode . (c) Transistor - PNP/ NPN Junction Transistors, different configurations: CB, CE, CC. Transistors Characteristics, and applications. (d) Special Semiconductor devices – Construction, symbol and application of Tunnel diode, photo diode, varactor, FET, MOSFET, UJT.	12
2.	Rectifiers – Single phase, half wave, full wave and bridge types of rectifiers. calculation of output voltage, average and RMS values, ripple factor and rectification efficiency. Filter, and types of filters.	10
3.	Regulated Power Supply - Difference between linear and switch mode power supply, regulated power supply and its limitations, series and shunt power supply using transistors, SMPS (Block diagram only), IC regulated power supply (78XX and 79XX series).	8
4.	Amplifiers - Principal of amplification, types of transistor amplifiers, biasing techniques, RC coupled, transformer coupled, and direct coupled amplifiers, push pull Amplifier, advantages and disadvantages, detailed study of circuit diagram, working principal and applications of above amplifiers, use of operational amplifier as comparator, multiplier, summer, integrator and differentiator.	12
5.	Oscillators – Principal of oscillation, Types of oscillators such as Hartley, Colpitts, tuned oscillator, Weign bridge oscillator: circuit diagram, principal, working & applications.	10
6.	Non-sinusoidal Generator - Astable, monostable and bitable	4

	multivariate circuits, principal of working and output waveforms.	
7.	Modulation and Demodulation – Amplitude, phase and frequency modulation, principle, methods and applications of above modulations, A.M. and F.M. detection	5
8.	Integrated circuits - Concepts of IC's classification, types and their advantages, applications of common IC's such as 741, 555, 810 and digital IC's.	6
9.	Digital Techniques - Number system, binary, decimal number system. Addition, subtraction, multiplication & division of binary numbers. Logic gates- their symbols, truth table and applications.	8

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DIPLOMA IN ELECTRICAL ENGINEERING

SEMESTER: **THIRD**
COURSE CODE: **305**
NAME OF COURSE: **BASIC ELECTRONICS**

SCHEME: **Jul.08**
COMMON WITH PROGRAM (S):
PAPER CODE:

Lectures: **5** Hrs. per week
Practical: **2** Hrs. per week

LIST OF EXPERIMENTS

S. No.	Name of Experiment	Hours
1	Study of C.R.O. & multimeter	
2	Study of electrical and electronic components	
3	Colour coding of Resistors	
4	Testing of Diode and Transistor	
5	Study of half wave rectifier, full wave rectifier, bridge rectifier with and without filter	
6	Study of Zener regulated power supply	
7	Study of IC Regulated power supply (78XXand 79XX)	
8	Study of transistor characteristics	
9	To plot the characteristics of diode	
10	To plot the characteristics of Zener diode	
11	Study of transistor amplifier	
12	Study of oscillator	
13	Study of astable and monostable multivibrators using transistors and IC 555	
14	Study of inverting and non-inverting amplifiers using IC 741 and calculation of its gain	
15	Study of A.M. modulation	
	Total	**30**

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DIPLOMA IN ELECTRICAL ENGINEERING

SEMESTER: **THIRD**
COURSE CODE: **305**
NAME OF COURSE: **BASIC ELECTRONICS**

SCHEME: **Jul.08**
COMMON WITH PROGRAM (S):
PAPER CODE:

Lectures: **5** Hrs. per week
Practical: **2** Hrs. per week

REFERENCES

1. Basic Electonics & Linear Circits- : By Bhargawa , T.T.T.I. Chandigaarh .
2. Basic Electonics -: By V.K. Mehta
3. Electonics Principal - : By mahta.
4. Digital Elactronics -: By Mahino & Leach .
5. Elactronics Devices & Circits -: By G.K. Mithal

RAJIV GANDHI PROUDYOGIKI VISWAVIDYALAYA, BHOPAL

DIPLOMA IN ELECTRICAL ENGINEERING

SEMESTER: **THIRD**
COURSE CODE: **305**
NAME OF COURSE: **PROFESSIONAL ACTIVITIES**

SCHEME: **Jul.08**
COMMON WITH PROGRAM (S): All
PAPER CODE:

Practical: **2** Hrs. per week

RATIONALE

Professional Activities is not a descriptive course, as per conventional norms; therefore specific content for this course cannot be prescribed. It is a group of open-ended activities; where in variety of tasks are to be performed, to achieve objectives. However general guidelines for achieving the target and procedure for its assessment are given under the course content.

As the student has to practice this course in all the six semesters, the guidelines given therein are common and applicable to each semester.

OBJECTIVES:

To allow for professional development of students as per the demand of engineering profession.
To provide time for organization of student chapter activities of professional bodies) i.e. Institute of engineers, ISTE or Computer Society of India etc.)
TO allow for development of abilities in students for leadership and public speaking through organization of student's seminar etc.
To provide time for organization of guest lectures by expert engineers/eminent professionals of industry.
To provide time for organization of technical quiz or group discussion or any other group activity.
To provide time for visiting library or using Internet.
To provide time for group discussion or solving case studies.
To provide time for personality development of students.
To provide time for working for social cause like awareness for environmental and ecology etc.

RAJIV GANDHI PROUDYOGIKI VISWAVIDYALAYA, BHOPAL

DIPLOMA IN ELECTRICAL ENGINEERING

SEMESTER: **THIRD**
COURSE CODE: **305**
NAME OF COURSE: **PROFESSIONAL ACTIVITIES**

SCHEME: **Jul.08**
COMMON WITH PROGRAM (S): All
PAPER CODE:

Practical: **2** Hrs. per week

DETAILED INSTRUCTIONS TO CONDUCT PROFESSIONAL ACTIVITIES

A. Study hours, if possible should be given greater time slot with a minimum of two hrs/week to a maximum of four hrs/week.
B. This course should be evaluated on the basis of grades and mark sheet of students, should have a separate mention of the grade awarded. There will be no pass/fail in professional activities (PA).
C. Following grade scale of evaluation of performance in PA has been established.

Grades	Level of performance
A	Excellent
B	Good
C	Fair
D	Average
E	Below Expectations

D. Grades once obtained in a particular examination shall become final and no chance of improvement in grades will be given to the students.
E. Assessment of performance in PA is to be done internally by the Institution, twice in a Semester/Term through a simultaneous evaluation of the candidate by a group of three teachers, of the deptt. Concerned. Group of teachers will jointly award the grade to candidate in the assessment. Best of the grades obtained by the student in these two assessments shall be finally taken on the mark sheet of the respective Semester/Term.

   Candidate abstaining from the prescribed course work and/or assessment planned at the Institute shall be marked ABSENT in the mark sheet, instead of any grade.
F. While awarding the grades for performance in PA, examining teacher should reach the final consensus based on the attendance, punctuality, interest, presentation skills in seminar on the topic assigned (collection of relevant data, observations, analysis, findings/conclusion) and its written report, awareness of latest developments in the chosen programme of study.

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G. Institution shall maintain the record of grades awarded to all the students in PA for a period of 1 year.
H. It shall be mandatory for students to submit a compendium for his PA in the form of a Journal.
I. Compendium shall contain following:
    I. Record of written quiz.
    II. Report/write up of seminar presented
    III. Abstract of the guest lectures arranged in the Institution.
    IV. Topic and outcome of the group discussion held.
    V. Report on the problems solved through case studies.
    VI. Report on social awareness camps(organized for social and environmental prevention).
    VII. Report on student chapter activities of professional bodies like ISTE, IE (India), CSI etc.
J. PA is not a descriptive course to be taught in the classroom by a particular teacher. Various activities involved in the achievement of objectives of this course should be distributed to a number of teachers so that the talent and creativity of group of teacher's benefit the treatment of the course content.
    These activities should preferably be conducted in English language to maintain continuity and provide reinforcement to skill development.
    Small groups shall be formed like in tutorials, group discussion, case studies, seminar, project methods, roll play and simulation to make the development of personality affective.

Treatment of PA demands special efforts, attention, close co-operation and creative instinct on the part of teachers of department concerned. Since this course is totally learner centered, many of the activities planned under this course shall come out from the useful interaction of student, among themselves and with the teachers. The guide teacher/s shall best act as a facilitator of these creative hunts/ exercises, which unfold many of the hidden talents of the students or bring out greater amount of confidence in them, to execute certain activity.