Veermata Jijabai Technological Institute (V.J.T.I)

(Central Technological Institute, Maharashtra State, INDIA)
H. R. Mahajani Marg, Matunga, Mumbai 400019
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Programme Name: Diploma In Electrical Engineering

Programme Code	: DEE	**With Effect From Academic Year**	: 2024-25
Duration of Programme	: 6 Semester	**Duration**	: 16 WEEKS
Semester	: Fourth	**Scheme**	: R-2023

Sr No	Course Title	Abbreviation	Course Type	Course Code	Total IKS Hrs for Sem.	Learning Scheme					Credits	Assessment Scheme												
						Actual Contact Hrs./Week			Self Learning (Term Work + Assignment)	Notional Learning Hours /Week		Paper Duration (hrs.)	Theory					Based on LL & TL				Based on Self Learning		Total Marks
																		Practical						
						CL	TL	LL					FA-TH(MST)	SA-TH (ESE)		Total		FA-PR(CA)		SA-PR (PR/OR)		SLA		
													Max	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	
1	ELECTRICAL MACHINES-II	EM-II	DSC	232EE41		3	1	3	2	9	4.5	3	30	70	28	100	40	25@	10	25#	10	25@	10	175
2	CONTROL SYSTEM	CS	DSC	232EE42		3	1	2		6	3	3	30	70	28	100	40	25@	10	25#	10	-	-	150
3	POWER SYSTEM-1	PS-I	DSC	232EE43		3	2			5	2.5	3	30	70	28	100	40	25@	10	25#	10	-	-	150
4	MANAGEMENT PRINCIPLES	MP	DSC	232EE44		3				3	1.5	3	30	70	28	100	40	25@	10	25#	10	-	-	150
5	MICROPROCESSOR AND MICROCONTROLLER	µPµC	DSC	232EE45		3	1	3		7	3.5	3	30	70	28	100	40	25@	10	25#	10	-	-	150
6	PRODUCT STUDY ANALYSIS	PSA	AEC	232EE46	2		-	2	2	4	2		-	-	-	-	-	25@	10	-	-	25@	10	50
7	MATLAB (ONLINE)	MAT	SEC	232EE47		-	-	2		2	1		-	-				-	-	25*#	10	-	-	25
8	DEVELOPMENT OF PROFESSIONAL PRACTICE	DOPP	AEC	232EE48	2			2	2	4	2	-	-	-	-	-	-	25@	10	-	-	-	-	25
Total					4	15	5	14	6	40	20					500		175		150		75		900

Abbreviations: CL- Classroom Learning, TL- Tutorial Learning, LL-Laboratory Learning, FA - Formative Assessment, SA -Summative Assessment, IKS - Indian Knowledge System, SLA - Self Learning Assessment

Legends: @ Internal Assessment, # External Assessment, *# Online Examination, @$ Internal Online Examination

Course Category: Discipline Specific Course Core (DSC): 2, Discipline Specific Elective (DSE): 0, Value Education Course (VEC): 1, Intern. /Apprenti./Project./Community (INP) : 0, Ability Enhancement Course (AEC) : 2, Skill Enhancement Course (SEC) : 2, Generic Elective (GE) : 0

Curriculum Coordinator

Head of Electrical Engineering (DEE)

VEERMATA JIJABAI TECHNOLOGICAL INSTITUTE DIP. EXAM MATUNGA MUMBAI-19

Dean Diploma

DIPLOMA PROGRAMME	: DIPLOMA IN ELECTRICAL ENGINEERING
PROGRAMME CODE	: DEE
SEMESTER	: FOURTH
COURSE TITLE	: Electrical Machine II
COURSE CODE	: 232EE41

I. TEACHING, LEARNING AND EXAMINATION SHCEME:

Course Code	Course Title	Abbreviation	Course Category	Learning Scheme					Credits	Paper Duration	Assessment Scheme											
				Actual Contact Hrs.			SLH	NLH				Theory				Based on LL & TSL Practical				Based on SL		Total Marks
				CL	TL	LL					FA-TH(MST)	SA-TH (ESE)		Total		FA-PR (CA)		SA-PR (OR/PR)		SLA		
											Max	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	
232EE41	ELECTRICAL MACHINE-II	EM-II	DSC	3	1	3	2	9	4.5	3	30	70	28	100	40	25@	10	25 #	10	25 @	10	175

Total IKS Hrs for Sem.: 00 Hrs

Abbreviations: CL- Classroom Learning, TL- Tutorial Learning, LL-Laboratory Learning, FA - Formative Assessment,SA -Summative Assessment, IKS - Indian Knowledge System, SLA - Self Learning Assessment

Legends: @ Internal Assessment, # External Assessment, *# Online Examination, @$ Internal Online Examination

II. COURSE OBJECTIVES:

After studying this subject, students will be able

1) To know various types of electrical machines.

2) To identify various parts& know their functions.

3) To differentiate types of motors used in electrical system.

4) To analyze the effect of changes in power factor on performance of motor

5) Draw phasor diagram of different machines as per the requirements

III. COURSE OUTCOMES:

Student should be able to

CO1	To explain the construction and working of 3 phase Induction motor and synchronous machine.
CO2	To explain performance and starting methods for 3 phase Induction motor and synchronous machine.

CO3	To develop the skills for parallel operations and load sharing

IV. COURSE CONTENT:

Unit & Sub-Unit		Topics/Sub-topics	Hours	Marks	CO	R Level (%)	U Level (%)	A Level (%)
SECTION-I								
1		**Poly Phase Induction Motor.**	12	24	1,2	20	60	20
	1.1	Production of rotating magnetic field, construction, types of three induction machine						
	1.2	Principle of operation Induction motor as transformer, Rotor frequency, EMF, Current,						
	1.3	Torque Slip characteristic, Power- Slip characteristic Induction Motor and Phasor Diagram,						
	1.4	Equivalent Circuit, Analysis of equivalent circuit, Determination of equivalent circuit parameters						
	1.5	Power stages and Efficiency						
2		**Starting and Speed control of Poly Phase Induction Motor**	08	16	1,2	20	50	30
	2.1	Starting of induction motor Wound Rotor Squirrel cage motor						
	2.2	Speed control of induction motor Squirrel cage motor Wound Rotor						
	2.3	Circle diagram, Power factor Control of three phase induction motor						
SECTION-II								
3		**Three-phase Synchronous Machines**	12	24	1,2	20	70	10
	3.1	Construction of a three phase Synchronous machine, Three phase windings						
	3.2	Induced emf in a Synchronous Machine						
	3.3	Synchronous Generator on No-load, On load						
	3.4	Synchronous Impedance and Phasor diagram of a Synchronous Generator						
	3.5	Voltage regulation of a Synchronous Generator						

	3.6	Synchronous machine as a motor.						
	3.7	Hunting phenomena						
	3.8	Starting of Synchronous motors						
	3.9	Synchronous Condenser.						
4		**Parallel operation of Alternator**	08	16	3	40	50	10
	4.1	Requirement of parallel operation						
	4.2	Condition for proper synchronizing						
	4.3	Synchronizing of three phase alternator a) Lamp load b) synchronoscope						
	4.4	Synchronizing current power and torque						
	4.5	Load sharing between two alternator						

V. LIST OF ASSIGNMENTS/TUTORIALS:

Sr. No.	Unit	Tutorials	Approx. Hours	CO
1		To study construction and working of three phase Induction motor.	03	CO1
2		To study speed control of three phase Induction motor.	03	CO2
3		No load and Blocked Rotor test on three phase Induction motor	03	CO2
4		To study load test on three phase Induction motor.	03	CO2
5		To study construction and working of Synchronous machine.	03	CO1
6		To study OCC and SCC test on Synchronous machine.	03	CO2
7		To find the percentage regulation of 3-phase alternator by Zero power factor method at various power factors.	03	CO2
Co2		List & explain various starting methods of synchronous motor & applying one of them to start the synchronous motor. Plot V & inverted V curve of the same.	03	CO2
9		To reverse the direction of rotation of 3-phase IM.	03	CO1

VI. SUGGESTED SELF LEARNING ASSIGNMENTS / MICROPROJECT / ACTIVITIES

Assignments (if any)

Micro Project (if any)

VII. ASSESMENTS METHODOLOGIES /TOOLS

Formative assessment (Assessment for Learning)

- Tutorials
- Midterm Test Exam
- Self-learning
- Term Work
- Seminar/Presentation

Summative Assessment (Assessment of Learning)

- End Term Exam
- Micro-project/Assignments

Tutorial Performance

VIII. REFERENCE BOOKS AND WEBSITES:

Sr. No.	Author	Title	Publisher and Edition
1	Dr. P. S. Bimbhra	Electrical Machinery	Khanna Publishers
2	S K Bhattacharya	Electrical Machines	2nd Edition, Tata Mc-Graw Hill
Websites:			
https://www.youtube.com/watch?v=5Qk85xuKstE&list=PLm_MSClsnwm9tkqqMxUjPA80B9rtVxZ6B			
https://www.youtube.com/watch?v=WmZ2nNAmOlQ&list=PLm_MSClsnwm9tkqqMxUjPA80B9rtVxZ6B&index=2			
https://www.youtube.com/watch?v=bjqo9Tsm3Ow&list=PLm_MSClsnwm9tkqqMxUjPA80B9rtVxZ6B&index=3			
https://www.youtube.com/watch?v=TB1188TbFVM&list=PLm_MSClsnwm9tkqqMxUjPA80B9rtVxZ6B&index=6			
https://www.youtube.com/watch?v=aMgeMwr1auE&list=PLm_MSClsnwm9tkqqMxUjPA80B9rtVxZ6B&index=8			
https://www.youtube.com/watch?v=HiMcwxagq6w&list=PLPpCFgQP7QKFrkYIYaZt0idq7ocZq9AYU&index=16			

XI. COs POs Matrix

Course Outcomes (COs)	Programme Outcomes (POs)							Programme Specific Outcomes* (PSOs)			
	PO-1 Basic and Discipline Specific Knowledge	PO-2 Problem Analysis	PO-3 Design/ Development of Solutions	PO-4 Engineering Tools	PO-5 Engineering Practices for Society, Sustainability and Environment	PO-6 Project Management	PO-7 Life Long Learning	PSO-1	PSO- 2	PSO - 3	PSO - 4
CO1	3	-	-	1	1	1	1	3	1	1	2
CO2	3	3	3	3	1	2	1	3	2	3	1
CO3	3	3	2	2	1	1	1	3	-	-	2

Curriculum Coordinator

Head of the department
Diploma in Electrical Engineering

Dean-Diploma

VEERMATA JIJABAI TECHNOLOGICAL INSTITUTE
DIP. EXAM
MATUNGA
MUMBAI-19

DIPLOMA PROGRAMME	: DIPLOMA IN ELECTRICAL ENGINEERING
PROGRAMME CODE	: DEE
SEMESTER	: FOURTH
COURSE TITLE	: CONTROL SYSTEM
COURSE CODE	:232EE42

I. TEACHING, LEARNING AND EXAMINATION SHCEME:

Course Code	Course Title	Abbrevation	Course Category	Learning Scheme					Credits	Paper Duration	Assessment Scheme											
				Actual Contact Hrs.			SLH	NLH				Theory				Based on LL & TSL Practical				Based on SL		Total Marks
				CL	TL	LL					FA-TH (MST)	SA-TH (ESE)		Total		FA-PR		SA-PR		SLA		
											Max	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	
232EE42	CONTROL SYSTEM	CS	DSC	3	1	2	-	6	3	03	30	70	28	100	40	25 @	10	25 #	10	-	-	150

Total IKS Hrs for Sem.: 00 Hrs

Abbreviations: CL- Classroom Learning, TL- Tutorial Learning, LL-Laboratory Learning, FA - Formative Assessment,SA -Summative Assessment, IKS - Indian Knowledge System, SLA - Self Learning Assessment

Legends: @ Internal Assessment, # External Assessment, *# Online Examination, @$ Internal Online Examination

II. COURSE OBJECTIVES:

1. Learn the classification of control system.
2. Understand Steady state, time response, and frequency response analysis.
3. Determine Stability using Routh-Hurwitz criterion, Root locus methods and Frequency response plots.

III. COURSE OUTCOMES:

Student should be able to

CO1	Simplify complicated block diagrams using block reductions algebra and signal flow graphstechniques.
CO2	Transient and steady-state response analysis.
CO3	Analyze absolute and relative Stability by Routh-Hurwitz criterion and Root locus technique.
CO4	Stability analysis from Frequency response plots (Bode plot, polar plot)

IV. COURSE CONTENT:

SECTION-I								
Unit & Sub-Unit		Topics/Sub-topics	Hours	Marks	CO	R Level	U Level	A Level
1		**Introduction to control system**	6	10	1	30%	40%	30%
	1.1	Different Types of Control Systems with examples						
	1.2	Open Loop & Closed Loop Control Systems: Definition, Block Diagram						
	1.3	Concept of Transfer Function						
2		**Mathematical Modelling of Dynamic Systems**	8	14	1	30%	60%	10%
	2.1	Mathematical Modelling of Electrical Systems (Transfer function Approach for RLC circuits)						
	2.2	Block diagram reduction Algebra						
	2.3	Signal flow graphs and Mason's gain formula						
3		**Time Response Analysis**	10	16	2	30%	50%	20%
	3.1	Time domain analysis- first order system, impulse and step response analysis of second order system						
	3.2	Steady-state Error Analysis, "Type" of the systems, Static Error Coefficients and Steady-State Errors						
SECTION-II								
		Topics/Sub-topics						
4		**Stability Analysis**	8	14	3	30%	40%	30%
	4.1	Concept and definitions of Absolute, Relative, Conditional and Marginal Stabilities.						
	4.2	Routh-Hurwitz stability criterion, Relative stability.						
5		**Root Locus Method**	6	10	3	20%	40%	40%
	5.1	Root Locus concept, rules						
	5.2	Construction of approximate (without scale) rootloci of simple systems						
6		**Frequency Response Analysis**						

	6.1	Frequency Domain Specification (no derivations)	10	16	4	20%	50%	30%
	6.2	Construction of Bode Plots and Polar Plots						
	6.3	Determination of Stability from Bode plots and Polar Plots (Gain Margin and Phase margin.)						

V. LIST OF ASSIGNMENTS/TUTORIALS:

Sr. No.	Unit	Tutorials	Approx. Hours	CO
1	3	Time response of First order systems.	3	1
2	3	Time response of Second order systems (Over Damped)	3	1
3	3	Time response of Second order systems (Under Damped)	3	1
4	4	Bode Plot of First order systems.	3	2
5	6	Bode Plot of Second order systems (Over damped)	3	2
6	6	Bode Plot of Second order systems (Critically damped)	3	2
7	6	Bode Plot of Second order systems (Under damped)	3	2
8	6	Determination of transfer function by Drawing Bode Plot	3	2
9	6	Polar plot of first order system.	3	2
10	6	Polar plot of second order system.	3	2

VI. SUGGESTED SELF LEARNING ASSIGNMENTS / MICROPROJECT / ACTIVITIES

Assignments (if any)

- Prepare a report on speed control of DC Machines.

Micro Project (if any)

- Mathematical modeling of Transformer and Synchronous Machine

VII. ASSESMENTS METHODOLOGIES /TOOLS

Formative assessment (Assessment for Learning)

- Tutorials
- Midterm Test Exam
- Self-learning
- Term Work
- Seminar/Presentation

	6.1	Frequency Domain Specification (no derivations)	10	16	4	20%	50%	30%
	6.2	Construction of Bode Plots and Polar Plots						
	6.3	Determination of Stability from Bode plots and Polar Plots (Gain Margin and Phase margin.)						

V. LIST OF ASSIGNMENTS/TUTORIALS:

Sr. No.	Unit	Tutorials	Approx. Hours	CO
1	3	Time response of First order systems.	3	1
2	3	Time response of Second order systems (Over Damped)	3	1
3	3	Time response of Second order systems (Under Damped)	3	1
4	4	Bode Plot of First order systems.	3	2
5	6	Bode Plot of Second order systems (Over damped)	3	2
6	6	Bode Plot of Second order systems (Critically damped)	3	2
7	6	Bode Plot of Second order systems (Under damped)	3	2
8	6	Determination of transfer function by Drawing Bode Plot	3	2
9	6	Polar plot of first order system.	3	2
10	6	Polar plot of second order system.	3	2

VI. SUGGESTED SELF LEARNING ASSIGNMENTS / MICROPROJECT / ACTIVITIES

Assignments (if any)

- Prepare a report on speed control of DC Machines.

Micro Project (if any)

- Mathematical modeling of Transformer and Synchronous Machine

VII. ASSESMENTS METHODOLOGIES /TOOLS

Formative assessment (Assessment for Learning)

- Tutorials
- Midterm Test Exam
- Self-learning
- Term Work
- Seminar/Presentation

Summative Assessment (Assessment of Learning)

- End Term Exam
- Micro-project/Assignments

Tutorial Performance

VIII. REFERENCE BOOKS AND WEBSITES:

Sr. No.	Author	Title	Publisher and Edition
1.	Katsuhiko Ogata	Modern Control Engineering	4th Edition Prentice Hall of India Ltd.
2.	I J Nagrath and M Gopal	Control Systems Engineering	5th New Age International
3.	Norman S Nise	Control Systems Engineering	5th Edition, Wiley India Pvt. Ltd.
4.	B. C Kuo and F Golnaraghi	Automatic Control System	8th Edition Wiley India Pvt. Ltd.

IX. COs POs Matrix

Course Outcomes (COs)	Programme Outcomes (POs)							Programme Specific Outcomes* (PSOs)			
	PO-1 Basic and Discipline Specific Knowledge	PO-2 Problem Analysis	PO-3 Design/ Development of Solutions	PO-4 Engineering Tools	PO-5 Engineering Practices for Society, Sustainability and Environment	PO-6 Project Management	PO-7 Life Long Learning	PSO-1	PSO- 2	PSO - 3	PSO - 4
CO1	3	3	3	2	0	0	1	3	3	0	1
CO2	3	2	2	2	0	0	0	3	2	0	0
CO3	2	0	2	3	1	0	1	2	2	0	0
CO4	2	0	2	3	1	0	1	2	2	0	0

Curriculum Coordinator

Head of the department
Diploma in Electrical Engineering

Dean-Diploma

VEERMATA JIJABAI TECHNOLOGICAL INSTITUTE
DIP. EXAM
MATUNGA
MUMBAI-19

DIPLOMA PROGRAMME	: DIPLOMA IN ELECTRICAL ENGINEERING
PROGRAMME CODE	: DEE
SEMESTER	: FOURTH
COURSE TITLE	: POWER SYSTEM I
COURSE CODE	: 232EE43

I. TEACHING, LEARNING AND EXAMINATION SHCEME:

Course Code	Course Title	Abbre vation	Course Category	Learning Scheme					Cr edi ts	Pap er Du rati on	Assessment Scheme											
				Actual Contac t Hrs.			SL H	NL H				Theory				Based on LL & TSL Practical				Based on SL		Tota Mar ks
				CL	TL	LL					FA-TH(MST)	SA-TH (ESE)		Total		FA-PR		SA-PR		SLA		
											Max	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	
POWER SYSTEM-1	PS-I		232EE43	3	2				5	2.5	3	30	70	100	40	25 @	10	25 #	10	-	-	150

Total IKS Hrs for Sem.: 00 Hrs

Abbreviations: CL- Classroom Learning, TL- Tutorial Learning, LL-Laboratory Learning, FA - Formative Assessment,SA -Summative Assessment, IKS - Indian Knowledge System, SLA - Self Learning Assessment

Legends: @ Internal Assessment, # External Assessment, *# Online Examination, @$ Internal Online Examination

II. COURSE OBJECTIVES:

After studying this subject, students will be able to

1. Know various types of power system as per voltage levels.
2. Identify various components & know their functions.
3. Know types of conductors used in transmission and distribution circuits
4. Know the effect of changes in parameters on performance of the lines

III. COURSE OUTCOMES:

Student should be able to

CO1	Recognize various types of transmission and distribution system.
CO2	Extrapolate the effects of changes in parameters on performance of the lines.
CO3	Identify and understand Mechanical design including conductors used in transmission and distribution system.
CO4	Schematic substation layout as per the requirements.

IV. COURSE CONTENT:

IV. COURSE CONTENT:

SECTION-I								
Unit & Sub-Unit		Topics/Sub-topics	Hours	Marks	CO	R Level	U Level	A Level
1		**Introduction to Power System**	4	08	1	20	60	20
	1.1	Structure of power system.						
	1.2	Need of Transmission and Distribution system						
	1.3	Various Transmission and Distribution systems (A.C and D.C, their comparison in terms of efficiency, size of the conductor required).						
	1.4	Single line diagram						
	1.5	Various voltage level at transmission and distribution level. Problems. related to above topic.						
2		**Transmission line parameters**	8	15	1	10	60	30
	2.1	Line Resistance						
	2.2	Line Inductance-Flux linkage of conductor, inductance of 1-phase and 3-phase (Derivations of Self GMD and Mutual GMD) (only 2 wire and 3 phase system with symmetrical spacing)						
	2.3	Capacitance of transmission Line-Capacitance of single -phase overhead line, Capacitance of three phase overhead line						
	2.4	Overhead line conductor- bundled conductors and strain.						
	2.5	Skin effect and Proximity effect. Problems related to above topic						
3		**Cables**	8	12	3	10	50	40
	3.1	General construction of Cables						
	3.2	Insulating materials for cables						
	3.3	Types of cables and their voltage ratings						
	3.4	Grading of cables i.e. capacitance and inter-sheath grading						
	3.5	Types of cable faults. (Problems based on Grading/Fault location)						

SECTION-II								
4		**Study of Mechanical design of transmission lines**	12	20	3	20	40	40
	4.1	Main components of overhead lines.						
	4.2	Line supports, Conductor material						
	4.3	Types of line insulators (string efficiency)						
	4.4	Spacing between conductors of overhead lines Sag and tension calculation for overhead lines including effects of ice and wind for equal and unequal supports. Problems related to above topic						
5		**Substations components and its role**	08	15	4	20	40	40
	5.1	Bus-bar, Feeder and Distributor						
	5.2	Their role and connections in power system						
	5.3	Ring system and Radial system						
	5.4	4 Calculation of DC distributors						
	5.5	Role of Substation (Transmission and Distribution)						
	5.6	Their types (Outdoor and Indoor), Choice of their location, installation. and size						
	5.7	Gas Insulated Sub-stations (In-Brief)						

V. LIST OF ASSIGNMENTS/TUTORIALS:

Sr. No.	Unit	Tutorials	Approx. Hours	CO
1		Five Assignments should be taken on the basis of syllabus.	2	1-4
2		Study on practical transmission and distribution system (report to be made).	2	2
3		Visit to substation & write brief report on it.	2	4
4		MATLAB simulation of transmission line.	2	3

VI. ASSESMENTS METHODOLOGIES /TOOLS

Formative assessment (Assessment for Learning)

- Tutorials
- Midterm Test Exam

- Self-learning
- Term Work
- Seminar/Presentation

Summative Assessment (Assessment of Learning)

- End Term Exam
- Micro-project/Assignments
- Tutorial Performance

VII. REFERENCE BOOKS AND WEBSITES:

Sr. No.	Author	Title	Publisher and Edition
1	J. B. Gupta	Gupta A course in Electrical power	S.K.Kataria and Sons.
2	V. K. Mehta	Principles of Power System	S. Chand
3	V. Kamraju	Electrical Power Distribution System	Mc. Graw Hill

VIII. WEBSITES/LINKS:

https://www.youtube.com/watch?v=OKkOif2JYRE

https://www.youtube.com/watch?v=oor61soh0hk

https://www.youtube.com/watch?v=l9nHs8e0WUg

https://www.youtube.com/watch?v=taWL6c5ysAU&list=PLm_MSClsnwm9IkUJfr8Xzi9-Ymv9o1EF8&index=17

https://www.youtube.com/watch?v=tNo7z2yoYMM&list=PLm_MSClsnwm9IkUJfr8Xzi9-Ymv9o1EF8&index=18

https://www.youtube.com/watch?v=7cEhDzyjR1U&list=PLm_MSClsnwm9IkUJfr8Xzi9-Ymv9o1EF8&index=19

https://www.youtube.com/watch?v=adyF1t0QrhQ&list=PLm_MSClsnwm9IkUJfr8Xzi9-Ymv9o1EF8&index=54

https://www.youtube.com/watch?v=pULXTRQ42TM&list=PLm_MSClsnwm9IkUJfr8Xzi9-Ymv9o1EF8&index=7

https://www.youtube.com/watch?v=ObwH3kBaYUI&list=PLm_MSClsnwm9IkUJfr8Xzi9-Ymv9o1EF8&index=8

https://www.youtube.com/watch?v=2OJMGLiZI08

https://www.youtube.com/watch?v=aztZVKTNH5A

https://www.youtube.com/watch?v=T0Tn_upx6LM&list=PL9w4s1FiiBOfj_cra90Dkkx7t_u1DUisN

IX. COs POs Matrix

Course Outcomes (COs)	Programme Outcomes (POs)							Programme Specific Outcomes* (PSOs)			
	PO-1 Basic and Discipline Specific Knowledge	PO-2 Problem Analysis	PO-3 Design/ Development of Solutions	PO-4 Engineering Tools	PO-5 Engineering Practices for Society, Sustainability and Environment	PO-6 Project Management	PO-7 Life Long Learning	PSO-1	PSO-2	PSO-3	PSO-4
CO1	3	-	-	-	2	1	2	3	1	1	2
CO2	3	-	-	1	2	1	2	3	2	3	1
CO3	3	2	2	2	1	-	2	3	-	-	2
CO4	2	2	3	3	2	2	2	2	2	2	3

Curriculum Coordinator **Head of the department** **Dean-Diploma**

Diploma in Electrical Engineering

VEERMATA JIJABAI TECHNOLOGICAL INSTITUTE DIP. EXAM MATUNGA MUMBAI-19

DIPLOMA PROGRAMME	: DIPLOMA IN ELECTRICAL ENGINEERING
PROGRAMME CODE	: DEE
SEMESTER	: FOURTH
COURSE TITLE	: MANAGEMENT PRINCIPLES
COURSE CODE	: 232EE44

I. TEACHING, LEARNING AND EXAMINATION SHCEME:

Course Code	Course Title	Abbreviation	Course Category	Learning Scheme					Credits	Paper Duration	Assessment Scheme										
				Actual Contact Hrs.			SLH	NLH				Theory				Based on LL & TSL Practical				Based on SL	Total Marks
											FA-TH (MST)	SA-TH (ESE)		Total		FA-PR		SA-PR		SLA	
				CL	TL	LL					Max	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	
232EE44	MANAGEMENT PRINCIPLES	MP	DSC	3				3	1.5	3	30	70	28	100	40	25 @	10	25 #	10	-	-	150

Total IKS Hrs for Sem.: 00 Hrs

Abbreviations: CL- Classroom Learning, TL- Tutorial Learning, LL-Laboratory Learning, FA - Formative Assessment ,SA -Summative Assessment, IKS - Indian Knowledge System, SLA - Self Learning Assessment

Legends: @ Internal Assessment, # External Assessment, *# Online Examination, @$ Internal Online Examination

II. COURSE OBJECTIVES:

After studying this subject, students will be able to

1. Students of diploma courses on completion of the course join industry in supervisory positions, where they are responsible for decision making, leading, motivating and controlling the subordinates
2. This subject aims at exposing them to theory and practice related to these through lectures, seminars and case studies.

III. COURSE OUTCOMES:

Student should be able to

CO1	Classify different management & planning processes in the work environment.
CO2	Describe Role & Responsibilities of a Technician in an Organizational Structure.
CO3	Apply various rules and regulations to lead and control the group of technicians to fulfill Business &Social responsibilities.

IV. COURSE CONTENT:

SECTION-I								
Unit & Sub-Unit		Topics/Sub-topics	Hours	Marks	CO	R Level	U Level	A Level
1		**Overview of Management**	02	07	1	40%	40%	20%
	1.1	Definition-Management, Role of managers						
	1.2	Evolution of Management thought						
	1.3	Organization and the environmental factors						
	1.4	Trends and Challenges of Management in Global Scenario.						
2		**Planning**	04	13	1	30%	50%	20%
	2.1	Nature and purpose of planning Planning process - Types of plans						
	2.2	Objectives - -Managing by objective (MBO) Strategies - Types of strategies - Policies - Decision Making						
	2.3	Types of decision - Decision Making Process - Rational Decision Making						
3		**Organizing**	04	15	2	30%	30%	40%
	3.1	Nature and purpose of organizing						
	3.2	Organization structure - Formal and informal groups organization - Line and Staff authority - Departmentation - Span of control - Centralization and Decentralization						
	3.3	Delegation of authority - Staffing - Selection and Recruitment - Orientation - Career Development - Career stages Training - Performance Appraisal.						
SECTION-II								
4		**Directing**	08	15	1	30%	50%	20&
	4.1	Creativity and Innovation Motivation and Satisfaction - Motivation Theories						
	4.2	Leadership Styles Leadership Theories Communication						
	4.3	Barriers to effective communication						
	4.4	Organization Culture - Elements and types of culture - Managing cultural diversity						
5		**Controlling**	04	12	2	20%	40%	40%

	5.1	Process of controlling						
	5.2	Types of control - Budgetary and non-budgetary control Q techniques						
	5.3	Managing Productivity - Cost Control - Purchase Control — Maintenance Control - Quality Control - Planning operations.						
6		**Motivation**						
	6.1	Maslow's and Herzberg's theories, incentives						
	6.2	Leadership: Autocratic and democratic styles, Situational leadership. Leadership continuum and managerial grid	04	08	3	20%	40%	40%
	6.3	Controlling: Controlling process. Requirements of a good control system						

V. LIST OF ASSIGNMENTS/TUTORIALS:

Sr. No.	Tutorials
1	Six groups and individual assignments
2	3 to 4 case studies,
3	1 seminar
4	1 role plays/group discussion on the above topics.

VI. ASSESMENTS METHODOLOGIES /TOOLS

Formative assessment (Assessment for Learning)

- Tutorials
- Midterm Test Exam
- Self-learning
- Term Work
- Seminar/Presentation

Summative Assessment (Assessment of Learning)

- End Term Exam
- Micro-project/Assignments

- Tutorial Performance

VII. REFERENCE BOOKS AND WEBSITES:

Sr. No.	Author	Title	Publisher and Edition
1	Telsang M.T	Industrial and business management	2007 Edition, S Chand Publishers
2	By Koontz	Essentials for Management: An International Perspective	8* Edition, Mhe Publisher.
3	Dr. P N Reddy, Prof. H R Appannaih, Prof V Surender	Industrial Organisation and Management	3rd Edition, Himalaya Publishers.

VIII. WEBSITES/LINKS:

https://corporatefinanceinstitute.com/topic/management-skills/

https://www.mindtools.com/a08j05x/how-good-are-your-management-skills

https://www.sodexoengage.com/blog/rewards-recognition/maslow-herzberg-and-pinks-theories-in-the-workplace/

https://www.researchgate.net/publication/326380787_A_Comparative_Study_on_Motivation_Theory_with_Maslow's_Hierarchy_theory_and_Two_factor_theory_in_Organization

https://testbook.com/key-differences/difference-between-maslow-and-herzberg-theories-of-motivation#:~:text=of%20hygiene%20factors.-,The%20difference%20between%20Maslow%20and%20Herzberg%20Theories%20of%20Motivation%20is,to%20job%20satisfaction%20and%20dissatisfaction.

https://www.toppr.com/guides/business-studies/directing/communication/

https://study.com/academy/lesson/downward-communication-definition-advantages-disadvantages.html

https://courses.lumenlearning.com/atd-tc3-management/chapter/different-types-of-communication/

IX. COs POs Matrix

Course Outcomes (COs)	Programme Outcomes (POs)							Programme Specific Outcomes* (PSOs)			
	PO-1 Basic and Discipline Specific Knowledge	PO-2 Problem Analysis	PO-3 Design/ Development of Solutions	PO-4 Engineering Tools	PO-5 Engineering Practices for Society, Sustainability and Environment	PO-6 Project Management	PO-7 Life Long Learning	PSO-1	PSO-2	PSO-3	PSO-4
CO1	1	-	-	1	2	3	2	-	-	-	3
CO2	-	-	-	-	-	3	2	-	1	2	3
CO3	-	-	-	-	2	3	2	-	1	2	3

Curriculum Coordinator

Head of the department
Diploma in Electrical Engineering

Dean-Diploma

VEERMATA JIJABAI TECHNOLOGICAL INSTITUTE
DIR. EXAM
MATUNGA
MUMBAI

DIPLOMA PROGRAMME	: DIPLOMA IN ELECTRICAL ENGINEERING
PROGRAMME CODE	: DEE
SEMESTER	: FOURTH
COURSE TITLE	: MICROPROCESSOR AND MICROCONTROLLER
COURSE CODE	:232EE45

I. TEACHING, LEARNING AND EXAMINATION SHCEME:

Course Code	Course Title	Abbrevation	Course Category	Learning Scheme					Credits	Paper Duration	Assessment Scheme										
				Actual Contact Hrs.			SLH	NLH				Theory				Based on LL & TSL Practical				Based on SL	Total Marks
																FA-PR		SA-PR		SLA	
				CI	TI	LL					FA-TH (MST) Max	SA-TH (ESE) Max	SA-TH (ESE) Min	Total Max	Total Min	Max	Min	Max	Min	Max	Min	
232EE45	MICROPROCESSOR AND MICROCONTROLLER	MPMC	DSC	3	1	3		7	3.5	3	30	70	28	100	40	25 @	10	25 #	10			150

Total IKS Hrs for Sem.: 00 Hrs

Abbreviations: CL- Classroom Learning, TL- Tutorial Learning, LL-Laboratory Learning, FA - Formative Assessment,SA -Summative Assessment, IKS - Indian Knowledge System, SLA - Self Learning Assessment

Legends: @ Internal Assessment, # External Assessment, *# Online Examination, @$ Internal Online Examination

II. COURSE OBJECTIVES:

1. Understand architecture and operation of typical microprocessor and microcontroller.
2. Program and interfacing of microprocessor and microcontroller.
3. Design real world applications using microprocessor.

III. COURSE OUTCOMES:

Student should be able to

CO1	Understand fundamentals working of the microprocessor and Microcontroller internal architecture along with different peripheral devices.
CO2	Apply knowledge of different instruction sets for programming of microprocessor and Microcontroller
CO3	Design of interfacing of memory, peripheral devices with microprocessor and microcontroller.

IV. COURSE CONTENT:

SECTION-I								
Unit & Sub-Unit		Topics/Sub-topics	Hours	Marks	CO	R Level	U Level	A Level
1		**Introduction to digital IC**	4	6	1,3	20%	50%	30%
	1.1	Latch , Buffer						
	1.2	ENCODER, DECODER						
	1.3	ROM, RAM						
2		**Introduction to 8085 Microprocessor**	10	14	2	30%	40%	40%
	2.1	Schematic diagram of microcomputer. General function of microprocessor						
	2.2	Evolution of microprocessors						
	2.3	Architecture of 8085 microprocessor						
	2.4	Hardware and programming model of 8085						
3		**8085 Instructions Set, Assembly language Programming**	10	15	1,2, 3	10%	60%	30%
	3.1	Instruction Format (one byte, two byte and three byte instruction (Arithmetic, logical, data transfer,).						
	3.2	Addressing modes of 8085,						
	3.3	8085 Instruction set						
	3.4	Machine control, I/O control						
	3.5	program control transfer						
	3.6	Instructions related with interrupts						
	3.7	8085 programming with examples.						
SECTION-II								
4		**8085 Interfacing with Memory and Programmable peripheral interface**	8	12	1,3	20%	30%	50%
	4.1	Simple example of RAM/ROM memory interfacing with microprocessor						
	4.2	Block diagram of 8255 chip						

	4.3	Interfacing of 8255 chip with the 8085 Microprocessor.						
	4.4	Interfacing example: - Speed control of Stepper Motor.						
5		**Introduction to Microcontroller**	8	12	1,3	20%	40%	40%
	5.1	Comparison of Microprocessor, Microcontroller and Microcomputer						
	5.2	MCS-51 Architecture						
	5.3	8051 Hardware details: - Clock, Oscillator, Registers, SFRs, DPTR, Flags, Stack, PC, Port structure and operations						
	5.5	Memory Organization: - Program memory, Data memory, External memory.						
6		**MCS-51 Timers/Counters, Interrupts and Serial Interface**	8	11	1,2, 3	10%	50%	40%
	6.1	Study of Timers/Counters: - Timer modes of operations, SFRs of timer TMOD and TCON in detail.						
	6.2	Study of Serial Interface:- SCON, SBUF, PCON SFRs.						

V. LIST OF ASSIGNMENTS/TUTORIALS:

Sr. No.	Unit	Tutorials	Approx. Hours	CO
1		Add / Sub two 8 bit/16 bit numbers.	03	
2		Add/ Sub of two Multibyte numbers. e.g. Two 3/4 Byte Numbers.	03	
3		Find sum of series of 8 bit numbers.	03	
4		Multiply two 8 bit numbers and square of given number.	03	
5		Division two 8 bit numbers.	03	
6		Addition of two BCD numbers and Find one's and two's complement of a given number.	03	
7		Find No. of()'s and I 's from 8 bit Binary number and from 10 bytes.	03	

8		Calculate the sum of series of even and odd numbers from given 10 bytes	03	
9		Find smallest/ largest number from array of n numbers	03	
10		Arrange numbers in array in ascending/ descending order.	03	
11		BCD to Binary and Binary to BCD conversion.	03	
12		Case Study of interfacing of 8085 for - Traffic Light Controller.	03	
13		Case Study of interfacing of 8085 for - Temperature Controller.	03	
14		Case Study of interfacing of 8085 for - Speed control of Stepper Motor.	03	

VI. SUGGESTED SELF LEARNING ASSIGNMENTS / MICROPROJECT / ACTIVITIES

Assignments (if any)

Micro Project (if any)

VII. ASSESMENTS METHODOLOGIES /TOOLS

Formative assessment (Assessment for Learning)

- Tutorials
- Midterm Test Exam
- Self-learning
- Term Work
- Seminar/Presentation

Summative Assessment (Assessment of Learning)

- End Term Exam
- Micro-project/Assignments

Tutorial Performance

VIII. REFERENCE BOOKS AND WEBSITES:

Sr. No.	Author	Title	Publisher and Edition
1	Ramesh S. Gaonkar,	Microprocessor Architecture, Programming, and Applications with the 8085, 5thEdition	PenramInternation Publisher.
2	Kenneth J Ayala,	The 8051 Microcontroller, Architecture Programming and Application, 2nd Edition	Penram International Publishers (India).
3	N K Srinath,	8085 Microprocessor Programming & Interfacing, 1st Edition	Prentice Hall of India Pvt. Ltd.
4	B Ram	Fundamentals of Microprocessor and Microcomputers, 1st Edition	DhanpatRai and Sons.
5	Ajay Deshmukh	Microcontrollers: Theory Applications, 1st Edition	Tata McGraw-Hill
9	Muhammad Ali Mazidi Janice GillispieMazidi Rolin D. McKinlay	The 8051 Microcontroller and Embedded Systems	Pearson publication

IX. COs POs Matrix

Course Outcomes (COs)	Programme Outcomes (POs)							Programme Specific Outcomes* (PSOs)			
	PO-1 Basic and Discipline Specific Knowledge	PO-2 Problem Analysis	PO-3 Design/ Development of Solutions	PO-4 Engineering Tools	PO-5 Engineering Practices for Society, Sustainability and Environment	PO-6 Project Management	PO-7 Life Long Learning	PSO-1	PSO- 2	PSO - 3	PSO - 4
CO1	3	-	2	2	1	-	1	3	2	1	-
CO2	2	1	3	3	1	-	-	2	3	3	2
CO3	2	3	3	3	2	-	2	2	3	1	1

Curriculum Coordinator

Head of the department
Diploma in Electrical Engineering

Dean-Diploma

VEERMATA JIJABAI TECHNOLOGICAL INSTITUTE
DIP. EXAM
MATUNGA
MUMBAI-19

DIPLOMA PROGRAMME	: DIPLOMA IN ELECTRICAL ENGINEERING
PROGRAMME CODE	: DEE
SEMESTER	: FOURTH
COURSE TITLE	: PRODUCT STUDY ANALYSIS
COURSE CODE	: 232EE46

I. TEACHING, LEARNING AND EXAMINATION SHCEME:

Course Code	Course Title	Abbreviation	Course Category	Learning Scheme					Credits	Paper Duration	Assessment Scheme											
				Actual Contact Hrs.			SLH	NLH				Theory				Based on LL & TSL				Based on SL		Total Marks
																Practical						
				CL	TL	LL					FA-TH (MST)	SA-TH (ESE)		Total		FA-PR		SA-PR		SLA		
											Max	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	
PRODUCT STUDY ANALYSIS	PSA		232EE46			2	2	4	2							25	10			25	10	50

Total IKS Hrs for Sem.: 00 Hrs

Abbreviations: CL- Classroom Learning, TL- Tutorial Learning, LL-Laboratory Learning, FA - Formative Assessment ,SA -Summative Assessment, IKS - Indian Knowledge System, SLA - Self Learning Assessment

Legends: @ Internal Assessment, # External Assessment, *# Online Examination, @$ Internal Online Examination

II. COURSE OBJECTIVES:

After studying this subject, students will be able to

1) Identify different electrical and electronic gadgets with specifications with different manufacturing companies.
2) Present market survey in a seminar.

III. COURSE OUTCOMES:

Student should be able to

CO1	Acquire information regarding different electrical and electronic gadgets from different sources.
CO2	Interpret the data acquired from different sources.
CO3	Prepare a report on market survey

IV. COURSE CONTENT:

Unit & Sub-Unit		Topics/Sub-topics	Hours	Marks	CO	R Level	U Level	A Level
1		**Market Survey:** A group of four to six students should collect information from the market regarding specifications, brand name, applications and cost of any three manufacturers for various electronics gadgets such as CRO, DSO Multimeter, UPS, DC Power supply, Function generator, Electrical devices such as different types of cables, Shell type transformers Switches (push buttons, SPST, DPST, TPST, limit switch etc.) Relays, Contactors, Fuses.	12		1 & 2	20	60	20
2		**Seminar:** Any one seminar on the topics suggested: Students (Group of 4 to 5 students) has to search / collect information about the Electronics Products and 10 pages and deliver a seminar for 10 minutes. Any other suitable topic	10		03	10	40	50

V. LIST OF ASSIGNMENTS/TUTORIALS:

Sr. No.	Unit	Tutorials	Approx. Hours	CO
1	1	Market survey	2	1 & 2
2	2	seminar	2	3

VI. ASSESMENTS METHODOLOGIES /TOOLS

Formative assessment (Assessment for Learning)

- Tutorials

- Midterm Test Exam
- Self-learning
- Term Work
- Seminar/Presentation

Summative Assessment (Assessment of Learning)

- End Term Exam
- Micro-project/Assignments
- Tutorial Performance

VII. COs POs Matrix

Course Outcomes (COs)	Programme Outcomes (POs)							Programme Specific Outcomes* (PSOs)			
	PO-1 Basic and Discipline Specific Knowledge	PO-2 Problem Analysis	PO-3 Design/ Development of Solutions	PO-4 Engineering Tools	PO-5 Engineering Practices for Society, Sustainability and Environment	PO-6 Project Management	PO-7 Life Long Learning	PSO-1	PSO-2	PSO-3	PSO-4
CO1	3	-	-	-	-	1	2	3	1	1	2
CO2	3	-	-	1	-	1	2	3	2	3	1
CO3	3	2	-	2	-	-	2	3	-	-	2

Curriculum Coordinator **Head of the department** **Dean-Diploma**

Diploma in Electrical Engineering

DIPLOMA PROGRAMME	: DIPLOMA IN ELECTRICAL ENGINEERING
PROGRAMME CODE	: DEE
SEMESTER	: IV
COURSE TITLE	: MATLAB (ONLINE)
COURSE CODE	: 232EE47

I. TEACHING, LEARNING AND EXAMINATION SCHEME:

Course Code	Course Title	Abbreviation	Course Category	Learning Scheme						Assessment Scheme												
				Actual Contact Hrs.			SLH	NLH	Credits	Paper Duration		Theory				Based on LL & TSL Practical				Based on SL		TotalMarks
				CL	TL	LL					FA-TH (MST)	SA-TH (ESE)		Total		FA-PR		SA-PR		SLA		
											Max	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	
232EE47	MATLAB (ONLINE)	MAT	SEC	-	-	2	2	4	2	-	-	-	-	-	-	-	-	25 #	10	-	-	25

Total IKS Hrs for Sem.: 02Hrs

Abbreviations: CL- Classroom Learning, TL- Tutorial Learning, LL-Laboratory Learning, FA - Formative Assessment,SA -Summative Assessment, IKS - Indian Knowledge System, SLA - Self Learning Assessment

Legends: @ Internal Assessment, # External Assessment, *# Online Examination, @$ Internal Online Examination

II. COURSE OBJECTIVES:

1. To impart the knowledge of various fundamental MATLAB operations.
2. To inculcate problem solving and analysis skills in students.

III. COURSE OUTCOMES:

Student should be able to

CO1	Understand the basics operation of MATLAB
CO2	Analysis of the time domain and frequency domain signals.
CO3	To plot the signal and simulate the electrical circuits

IV. COURSE CONTENT:

SECTION-I								
Unit & Sub-Unit		Topics/Sub-topics	Hours	Marks	CO	R Level	U Level	A Level
	1	Introduction to MATLAB: Creating an account on MATLAB and installation of MATLAB	2		1	40%	40%	20%
	2	Introduction to the command window, script, and Simulink library in MATLAB	2		1,2	40%	30%	30%
	3	To define & use variables, vectors, Matrices & their functions in MATLAB.	2		1,2	40%	30%	30%
	4	To study various arithmetic operators and mathematical functions in MATLAB. To create & use m-files.	2		1,2	30%	40%	40%
	5	Basic plotting of signals: To study various MATLAB commands for creating two and three-dimensional plots.	2		2,3	20%	20%	60%
	6	Write a MATLAB program to plot the continuous time and discrete time Signals.	2		2,3	20%	20%	60%
	7	Basic operation of sinusoidal pulse width modulation technique	2		2,3	20%	20%	60%
	8	Simulation of basic electrical RL circuit	2		3	20%	20%	60%
	9	Simulation of basic electrical RC circuit	2		3	20%	20%	60%
	10	Simulation of basic electrical RLC circuit	2		3	20%	20%	60%
	11	Simulation of half wave rectifier	2		3	20%	20%	60%

V. LIST OF ASSIGNMENTS/TUTORIALS:

Sr. No.	Unit	Tutorials	Approx. Hours	CO
1	1	To Create an account on MATLAB and installation of MATLAB	2	1
2	2	To study command window, script, and Simulink library in MATLAB	2	1
3	3	To study & use variables, vectors, Matrices & their functions in MATLAB	2	2
4	4	To study various arithmetic operators and mathematical functions in MATLAB. To create & use m-files.	2	2

5	5	To write a MATLAB commands for creating two and three-dimensional plots	2	2
6	6	To write a MATLAB program to plot the continuous time and discrete time Signals	2	2
7	7	To simulate sinusoidal pulse width modulation	2	3
8	8	To simulate basic electrical RL circuit	2	3
9	9	To simulate basic electrical RC circuit	2	3
10	10	To simulate basic electrical RLC circuit	2	3
11	11	To simulate half wave rectifier	2	3

VI. SUGGESTED SELF LEARNING ASSIGNMENTS / MICROPROJECT / ACTIVITIES

VII. ASSESSMENTS METHODOLOGIES /TOOLS

Summative Assessment (Assessment of Learning)

- Assignment
- Practical Performance
- Micro-project

VIII. REFERENCE BOOKS AND WEBSITES:

Sr. No.	Author	Title	Publisher and Edition
1	Amos Gilat	MATLAB: An Introduction with Applications	5th Edition Wiley.
2	HOLLY MOORE	MATLAB FOR ENGINEER	5th Edition Pearson.

IX. Websites:

https://www.mathworks.com/products/matlab.html

Getting Started - MATLAB - MATLAB & Simulink

https://matlab.mathworks.com/

Mathematics and Optimization - MATLAB & Simulink - MathWorks India

Example List - MATLAB & Simulink - MathWorks India

X. COs POs Matrix

Course Outcome (COs)	Programme Outcomes (POs)							Programme Specific Outcomes* (PSOs)			
	PO-1 Basic and Discipline Specific Knowledge	PO-2 Problem Analysis	PO-3 Design/ Development of Solutions	PO-4 Engineering Tools	PO-5 Engineering Practices for Society, Sustainability and Environment	PO-6 Project Management	PO-7 Life Long Learning	PSO-1	PSO-2	PSO-3	PSO-4
CO1	3	2	2	2	0	2	1	2	1	1	0
CO2	2	2	3	2	0	2	2	2	1	1	0
CO3	1	2	3	2	1	2	2	2	1	1	0

Curriculum Coordinator **Head of the Department** **Dean-Diploma**

Diploma in Electrical Engineering

VEERMATA JIJABAI TECHNOLOGICAL INSTITUTE
DIP. EXAM
MATUNGA
MUMBAI-19

DIPLOMA PROGRAMME	: DIPLOMA IN ELECTRICAL ENGINEERING
PROGRAMME CODE	: DEE
SEMESTER	: FOURTH
COURSE TITLE	: DEVELOPMENT OF PROFESSIONAL PRACTICE
COURSE CODE	: 232EE48

I. TEACHING, LEARNING AND EXAMINATION SHCEME:

Course Code	Course Title	Abbr evati on	Course Category	Learning Scheme					Cr edi ts	Pap er Du rati on	Assessment Scheme											
				Actual Contac t Hrs.			S L H	N L H				Theory				Based on LL & TSL Practical				Based on SL		Total Mark s
				C L	T L	L L					FA-TH (MS T)	SA-TH (ESE)		Total		FA-PR		SA-PR		SLA		
											Max	Ma x	Mi n	Ma x	Mi n	Ma x	Mi n	M ax	Mi n	M ax	Mi n	
232EE48	DEVELOPMENT OF PROFESSIONAL PRACTICE	DOPP	232EE48	-	-	2	2	4	2	-	-	-	-	-	-	25 @	10	-	-	-	-	25

Total IKS Hrs for Sem.: 02 Hrs

Abbreviations: CL- Classroom Learning, TL- Tutorial Learning, LL-Laboratory Learning, FA - Formative Assessment ,SA -Summative Assessment, IKS - Indian Knowledge System, SLA - Self Learning Assessment

Legends: @ Internal Assessment, # External Assessment, *# Online Examination, @$ Internal Online Examination

II. COURSE OBJECTIVES:

After studying this subject, students will be able to

1. Acquire information from different sources
2. Prepare notes for given topic
3. Present given topic in a seminar
4. Interact with peers to share thoughts
5. Take the advantages of E-learning sources

III. COURSE OUTCOMES:

Student should be able to

CO1	Become more familiar with library to gain benefits
CO2	Interact with different lecturers for optimal learning of day to day technology.

CO3	Manage, prepare & learn about latest technologies.
CO4	Gain practical knowledge of working models and latest patents.
CO5	Acquire information from different sources and display in a newspaper format.
CO6	Gain information about technology that can be used in different cultural activities.
CO7	Learn about actual industrial life.
CO8	Learn Management.

IV. COURSE CONTENT:

SECTION-I								
Unit & Sub-Unit		Topics/Sub-topics	Hours	Marks	CO	R Level	U Level	A Level
1		**Department Library**	02		1	20%	20%	60%
	1.1	Form the library committee.						
	1.2	Decide the policy for update.						
	1.3	Maintain the exam question papers and question banks.						
	1.4	Book distribution & new book purchase.						
	1.5	Student co-ordination / discipline						
	1.6	Financial assistance (Sponsorship).						
2		**Guest Lecture**	02		2 & 7	20%	20%	60%
	2.1	Form committee.						
	2.2	Decide the policy lecture plan.						
	2.3	Communicate to guest & publicity of lecture.						
	2.4	Arrangement of Hall & student co-ordination/ discipline						
	2.5	Financial assistance from college.						
	2.6	Summary Report writing						
3		**Quiz Competitions**	02		3 &	20%	20%	60%
	3.1	Form committee.						

	3.2	Decide the policy competition plan.			4			
	3.3	Inter class competition and departmental competition						
	3.4	Questionnaire preparation.						
	3.5	Communicate to judges and publicity of competition.						
	3.6	Arrangement of hall & student co-ordination/ discipline.						
	3.7	Financial assistance from college.						
	3.8	Summary Report writing						
4		**Project & Poster/Paper Competitions**	02		3 & 4	20%	20%	60%
	4.1	Form committee.						
	4.2	Decide the policy competition plan.						
	4.3	Inter class competition and departmental competition						
	4.4	Communicate to judges and publicity of competition.						
	4.5	Arrangement of hall & student co-ordination/ discipline.						
	4.6	Financial assistance from college.						
	4.7	Summary Report writing						
5		**Department News Paper**	02		5	20%	20%	60%
	5.1	Form committee.						
	5.2	Decide the different groups for news section.						
	5.3	Publicity of paper & financial assistance from college						
6		**Departmental Cultural Activities**	02		6	10%	10%	80%
	6.1	Form committee.						
	6.2	Decide the plan for cultural activities.						
	6.3	Inter class competition and departmental competition						
	6.4	Communicate to judges and publicity of competition.						
	6.5	Arrangement of hall & student co-ordination/ discipline.						
	6.6	Financial assistance from college.						

	6.7	Summary Report writing						
7		**Industry Association**			2 & 7	20%	20%	60%
	7.1	Form committee.						
	7.2	Decide the plan for Industrial Meet						
	7.3	Communicate with the alumni from Industry for a meet / lecture						
	7.4	Communication to guest & publicity of meet /lecture.						
	7.5	Arrangement of Hall & student co-ordination/ discipline						
	7.6	Financial assistance from college.						
	7.7	Summary Report writing						
8		**Indoor Games**	02		8	10%	10%	80%
	8.1	Form committee.						
	8.2	Decide the plan for indoor games (Chess &Carom).						
	8.3	Inter class compilation & department competition.						
	8.4	Communication to judges & publicity of competition.						
	8.5	Arrangement of Hall & student co-ordination/ discipline						
	8.6	Financial assistance from college						
	8.7	Summary Report writing						

V. COs POs Matrix

Course Outcomes (COs)	Programme Outcomes (POs)							Programme Specific Outcomes* (PSOs)			
	PO-1 Basic and Discipline Specific Knowledge	PO-2 Problem Analysis	PO-3 Design/ Development of Solutions	PO-4 Engineering Tools	PO-5 Engineering Practices for Society, Sustainability and Environment	PO-6 Project Management	PO-7 Life Long Learning	PSO-1	PSO-2	PSO-3	PSO-4
CO1	-	-	-	-	-	2	2	-	-	-	2
CO2	-	-	-	-	1	3	3	-	-	-	2
CO3	1	-	3	2	2	3	2	1	-	1	1
CO4	2	2	3	2	1	3	2	2	1	1	2
CO5	2	-	2	1	2	3	2	2	1	-	1
CO6	-	-	2	2	2	3	2	-	2	-	1
CO7	-	-	-	1	3	3	2	-	2	2	3
CO8	-	-	-	-	-	3	2	-	-	-	1

Curriculum Coordinator **Head of the department** **Dean-Diploma**

Diploma in Electrical Engineering

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