Government of Karnataka
Department of Technical Education
Board of Technical Examinations, Bengaluru

Course Title:	**BASIC MANAGEMENT SKILLS & ENERGY MANAGEMENT**	Course Code	: **15EE62T**
Semester	: **VI**	Course Group	: **Core**
Teaching Scheme (L:T:P)	:**4:0:0** (in Hours)	Credits	: **4 Credits**
Type of course	:**Lecture +Assignments**	Total Contact Hours	: **52**
CIE	: **25 Marks**	SEE	: **100 Marks**
Programme: Diploma in Electrical and Electronics Engg.			

Pre-requisites : Renewable energy sources, utilisation of electric energy
Course Objectives : Learn basic management skill ,Suggest methods of energy conservation, safety management

COURSE TOPICS:

Unit No	Unit Name	Hours
1	BASIC MANAGEMENT SKILLS	10
2	MAINTENANCE AND TOTAL QUALITY MANAGEMENT	08
3	ENERGY MANAGEMENT	05
4	ELECTRICAL ENERGY CONSERVATION	16
5	ENERGY AUDIT	06
6	SAFETY AND ENVIRONMENTAL ISSUES	07
	Total	**52**

Course Outcomes:

On successful completion of the course, the student will be able to:

1. Describe basics of management skills
2. Understand Maintenance and TQM
3. Explain energy management
4. Describe energy conservation in electrical engineering sectors
5. Understand energy audit
6. Illustrate safety measures and use of computer in energy management

Composition of Educational Components

Questions for CIE and SEE will be designed to evaluate the various educational components (Bloom's Taxonomy) such as:

Sl. No.	Educational Component	Weightage (%)	Total Marks (Out of 145)
1	Remembering	40	50
2	Understanding	40	70
3	Application/ Analysis	20	25
Total		**100**	**145**

Course Outcome linkage to Cognitive Level

Cognitive Level Legend: R- Remember, U- Understand, A- Application

Course Outcome		CL	Linked PO	Teaching Hrs
CO1	Describe basics of management skills	***R/U***	5, 10	**10**
CO2	Understand Maintenance and TQM	***R/U***	2,5,10	**08**
CO3	Explain energy management	***R/U***	5, 10	**05**
CO4	Describe energy conservation in electrical engineering sectors	***R/U/A***	2,5,10	**16**
C05	Understand energy audit	***U/A***	2, 4,7 ,10	**06**
C06	Illustrate safety measures and use of computer in energy management	***R/U/A***	5,6,10	**07**
		Total sessions		**52**

Course Content and Blue Print of Marks for SEE:

Unit	Unit Name	R/U/A	Hour	Max. Marks per Unit	5 Marks Qns.	10 Marks Qns.	Questions to be set for (5marks) PART - A			Questions to be set for (10marks) PART - B			Marks Weightage (%)
					Part A	Part B	R	U	A	R	U	A	
1	BASIC MANAGEMENT SKILLS	*R/U*	10	30	2	2	1	1		1	1		21
2	MAINTENANCE AND TOTAL QUALITY MANAGEMENT	*R/U*	8	20	1	1.5		1		0.5	1		14
3	ENERGY MANAGEMENT	*R/U*	5	15	1	1	1			0.5	0.5		10
4	ELECTRICALENERGY CONSERVATION	*R/U/A*	16	40	2	3	1	1		1	1	1	28
5	ENERGY AUDIT	*R/U/A*	6	20	2	1	0.5	1	0.5		1		14
6	SAFETY AND ENVIRONMENTAL ISSUES	*R/U/A*	7	20	1	1.5	1				1	0.5	14
TOTAL			52	145	9	10	9 (45 Marks)			10 (100 Marks)			

Course-PO Attainment Matrix

Course	Programme Outcomes									
	1	2	3	4	5	6	7	8	9	10
BMS & EM		3		1	3	1	1			3

Level 3- Highly Addressed, Level 2-Moderately Addressed, Level 1-Low Addressed.

Method is to relate the level of PO with the number of hours devoted to the COs which address the given PO.

If ≥40% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 3

If 25 to 40% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 2

If 5 to 25% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 1

If < 5% of classroom sessions addressing a particular PO, it is considered that PO is considered not-addressed.

Course Content:

Unit –I
BASIC MANAGEMENT SKILLS (10 Hrs)

Describe different skills, Importance of Knowing yourself, process of knowing yourself SWOT Analysis, Benefits of swot analysis, usage of swot analysis, perception, and how to improve perception, communication-Channels of communication. Formal and informal communication, Barriers to communication, effective communication, Team building- , aspects of team building, skill needed for team building, Model of team building, characteristics of effective team, role of team members

Unit –II

MAINTENANCE AND TOTAL QUALITY MANAGEMENT (8 Hrs)

Maintenance, types of maintenance, breakdown maintenance quality, objectives, cost balance and relation between cost and quality, concept of TQM, TQM elements, tools and techniques of TQM, features of TQM, TQM tools -flow charts , pereto charts. Kaizen and Six sigma, Quality Management System, ISO 9000:2000 Quality Standards, Procedures and Documentation of ISO 9000 certification

Unit –III
ENERGY MANAGEMENT (5 Hrs)

Energy management and its importance, energy conservation and its need, Methodology of energy management, energy management techniques, energy crisis, causes of energy crisis, Energy management software(EMS) various stages of EMS, Describe Energy and facility management system(EFMS), purpose of EFMS, Methodology of EFMS, Processes in EFMS, block diagram of EFMS, components &applications of EFMS

Unit –IV
ELECTRICAL ENERGY CONSERVATION (16 Hrs)

Need of energy conservation in India, ENERGY CONSERVATION ACT 2001, the national role of IRDEA (Indian renewable energy development agency) in energy conservation, Energy conservation in T&D lines, measures to optimize T&D losses, Energy conservation in industries, role of power factor improvement in energy conservation, energy conservation in domestic sector, industrial sector, agriculture sector, Energy efficiency- its significance
energy efficient devices, energy efficient motors and applications, selection of electric drives, energy conservation in electric drive, energy efficient lighting sources, power quality and its parameters, power quality measurable quantities, power quality problems and its remedies, pricing of electricity

Unit –V
ENERGY AUDIT (6 Hrs)

Need for energy audit, scope and types of energy audit, Methodology, demand side management (DSM), need for DSM and benefits of DSM, DSM implementation strategy, DSM implementation of program

Unit –VI
SAFETY AND ENVIRONMENTAL ISSUES (7 Hrs)

Safety measures, accident and loss of accident, causes of accident &prevention of accident, role of safety in an industry, general functions of safety committee, role of a safety committee, safety measures in industries , Ozone layer and process of depletion & Effects of ozone layer depletion, Global warming ,effects of global warming, need for environmental assessment, Methods of carrying out EIA process.

Reference Books:

1	Basic management skills and Indian constitution	B A Srinivas
2	Basic management skills and Indian constitution	Mundas and Muller
3	Energy management	Umeshrathore
4	Energy conservation and Management	Suresh kumarsoni and Manoj nair
5	Electrical estimation and specification	M.Raghunathrao
6	Electrical estimation and specification	Raghavendrarao
7	Soft Skills-	Dr. K. Alex, S Chand & Company Ltd.
8	Total Quality Management	Prof. Dr. H D Ramachandra
9	Total Quality Management	S Raja Ram, M Shivashankar
10	Industrial Engg. &Mgmt Science	T R Banga& SC Sharma.

e-Resources:

1. www.globalgoodfund.org
2. www.isdm.org.in/leadership-developmen
3. www.isixsigma.com
4. www.inc.com/encyclopedia/total-quality-management-tqm
5. indian-electricity-rules-2010-free-download
6. www.mahaurja.com/PDF/needec.pdf
7. https://beeindia.gov.in/sites/default/files/1Ch3.pdf
8. https://kalyan07.wordpress.com/.../introduction-to-demand-side-management-benefits

Course Delivery:

The Course will be delivered through lectures, classroom interaction, animations, group discussion, exercises and student activities, assignments.

Course Assessment and Evaluation:

	What		To Whom	Frequency	Max Marks	Evidence Collected	Course Outcomes
Direct Assessment	**CIE (Continuous Internal Evaluation)**	I A Tests	Students	Three IA tests for Theory: (Average marks of Three Tests to be computed).	20	Blue Books	1 to 6
		Student Activity		Student Activity	05	Report of 2 pages	1 to 6
				TOTAL	**25**		
	SEE (Semester End Examination)	End Exam	Students	End Of the Course	100	Answer Scripts at BTE	1 to 6
Indirect Assessment	Student Feedback on course		Students	Middle Of The Course	Feed Back Forms		1 to 6
	End Of Course Survey			End Of The Course	Questionnaires		1 to 6

*__CIE__ – Continuous Internal Evaluation *__SEE__ – Semester End Examination

Note: I.A. test shall be conducted for 20 marks. Average marks of three tests shall be rounded off to the next higher digit.

Note to IA verifier*: *The following documents to be verified by CIE verifier at the end of semester

1. Blue books (20 marks)
2. Student suggested activities report for 5 marks evaluated through appropriate rubrics.
3. Student feedback on course regarding Effectiveness of Delivery of instructions & Assessment Methods.

Course Contents with Lecture Schedule:

Lesson No./ Session No.	Contents	Duration
Unit I	**BASIC MANAGEMENT SKILLS**	**10Hours**
1.	Describe different skills-interpersonal skills, team working, negotiation skills, communication skills, time management, stress management Describe Importance of Knowing yourself, Understand the process of knowing yourself Ref:1,2	01 Hour
2.	Define SWOT Analysis, List the Benefits of SWOT analysis, Enumerate usage of SWOT analysis Ref:1,2	01 Hour
3.	Define perception, and how to improve perception	01 Hour
4.	Define communication- Special features of communication. Describe Communication process- Ref:1,2	01 Hour
5.	List the Channels of communication. Explain Formal and informal communication networkRef:1,2	01 Hour
6.	List the various Barriers to communication and explain-	01 Hour
7.	Explain how to overcome barriers to communication List and Explain Types of effective communication Ref:1,2	01 Hour
8.	Describe team building- List and Explain aspects of team building List and Explain skill needed for teamRef:1,2	01 Hour
9.	Describe a model of team building. Ref:1,2	01 Hour
10.	List the characteristics of effective team List and explain role of team membersRef:1,2	01 Hour
UNIT II	**MAINTENANCE AND TOTAL QUALITY MANAGEMENT**	**08 Hours**
11.	Define maintenance and list types of maintenance Explain breakdown maintenance Ref:1,2	01 Hour
12.	List and explain preventive maintenance List and explain predictive maintenance List the advantages of preventive maintenance Ref:1,2	01 Hour
13.	Define quality, objectives and advantages of quality control Define cost balance and relation between cost and quality Ref:1,2	01 Hour
14.	Explain the concept of TQM List and explain TQM elements List the tools and techniques of TQM List the features of TQM Ref:1,2 ,8	01 Hour

15.	Explain TQM tools -flow charts, Pereto charts, Ref:1,2,8	01 Hour
16.	Explain TQM tools –Kaizen and Six-sigma Ref:1,2	01 hour
17.	Explain briefly I.S.O 9000:2000 Quality Standards – ISO 9000, ISO 9001 & ISO 9004 Ref:1,2	01 hour
18.	Explain procedures and documentation involved in ISO 9000 series certification. Ref:1,2	01 hour
UNIT-III	**ENERGY MANAGEMENT**	**05-HOURS**
19.	Define of energy management and its importance Describe energy conservation and its need List the methodology of energy management Ref:3	01 Hour
20.	List and describe energy management techniques Describe energy crisis and explain the causes of energy crisisRef:3	01 Hour
21.	Explain Energy management software(EMS) List and explain various stages of EMS Ref:3	01 Hour
22.	Describe Energy and facility management system(EFMS) Describe the purpose of EFMS, Describe methodology of EFMS Describe processes in EFMS Ref:3	01 Hour
23.	Draw the block diagram of EFMS List the components of EFMS, applications of EFMS Ref:3	01 Hour
UNIT IV	**ELECTRICAL ENERGY CONSERVATION**	**16Hour**
24.	Discuss need of energy conservation in India and Explain Need for energy conservation List salient features of ENERGY CONSERVATION ACT2001 Ref 3,Ref 4	01 Hour
25.	List the national institutions promoting energy conservation Describe role of IRDEA(Indian renewable energy development agency)in energy conservation Ref 3	01 Hour
26.	Explain Energy conservation in T&D lines. List the measures to optimize T&D losses Ref 4	01 Hour
27.	List and explain the steps used for Energy conservation in industries Ref 3 Ref: 4	01 Hour
28.	Explain importance of power factor improvement in energy conservation Ref 3 Ref4	01 Hour
29.	List and explain electrical energy conservation in domestic sector Ref 4	01 Hour
30.	List the tips for electrical energy conservation in industrial sector Ref 4	01 Hour

31.	List the tips for electrical energy conservation in agricultural sector Ref 4	01 Hour
32.	Explain Energy efficiency- its significance List the Need for energy efficient devices. Ref 4 ,Ref 3	01 Hour
33.	Describe energy efficient motors List the applications of circumstances where energy efficient motor are used Ref 4	01 Hour
34.	List the steps in selection of electric drives List the steps to achieve energy conservation in electric drive Ref 4	01 Hour
35.	Describe energy efficient lighting sources List the various energy efficient sources Ref 3	01 Hour
36.	Advantages of LED, and CFL over Incandescent lamp Ref 3	01 Hour
37.	Describe energy efficient lighting equipment's and controls Ref 3	01 Hour
38.	Define power quality, and its parameters List the power quality measurable quantities List the sources of power quality problems and its remedies Ref 3	01 Hour
39.	Explain various factors affecting pricing of electricity Ref 3	01 Hour
UNIT V	**ENERGY AUDIT**	**06Hours**
40.	Explain the Need for energy audit List the scope of energy audit List the Types of energy audit Ref 3 Ref4	01 Hour
41.	Define energy audit Explain Methodology of energy audit Ref 3	01 Hour
42.	Explain preliminary audit Explain general audit or mini audit Explain investment grade/comprehensive audit Ref 3	01 Hour
43.	Explain demand side management(DSM) Describe the need for DSM List the benefits of DSM Ref 4	01 Hour
44.	Explain DSM 5 steps in planning and implementation Draw the block diagram and explain DSM Programme design process Ref 3	01 Hour
45.	Describe DSM implementation strategy, typical level of effort in implementation of program Ref 3	01 Hour
UNIT VI	**SAFETY AND ENVIRONMENTAL ISSUES**	**07Hours**
46.	Explain need for safety measures Define accident and loss due to accident Ref 1	01 Hour
47.	List the causes of accident List the prevention of accident List the role of safety in an industry Ref 1	01 Hour
48.	List the general functions of safety committee Describe role of a safety committee Ref 1	01 Hour

49.	List and explain safety measures in industries Ref 1	01 Hour
50.	Explain Ozone layer and process of depletion Effects of ozone layer depletion Explain causes and effects of Ozone layer Ref 3	01 Hour
51.	Explain Global warming Explain the effects of global warming Ref 3	01 Hour
52.	Explain the need for environmental assessment Enumerate methods of carrying out EIA Ref 3	01 Hour

Student Activity (any one to be submitted with 3 pages self HAND WRITTEN report):

1) Visit nearby industry study about different maintenance procedure followed
2) Prepare a comprehensive report on TQM
3) Conduct energy audit in your institute submit report
4) Describe safety procedures in electrical laboratory
5) Describe FIRST AID procedure during electric shock
6) Describe renewable energy resources for energy conservation
7) Explain inventory management techniques
8) Explain production planning analysis of make-buy decision
   Visit one ISO certified company and submit a report

MODEL OF RUBRICS / CRITERIA FOR ASSESSING STUDENT ACTIVITY (Course Coordinator)

Dimension	Scale					Students score (Group of five students)				
	1 Unsatisfactory	2 Developing	3 Satisfactory	4 Good	5 Exemplary	1	2	3	4	5
1	Descriptor	Descriptor	Descriptor	Descriptor	Descriptor	3				
2	Descriptor	Descriptor	Descriptor	Descriptor	Descriptor	2				
3	Descriptor	Descriptor	Descriptor	Descriptor	Descriptor	5				
4	Descriptor	Descriptor	Descriptor	Descriptor	Descriptor	4				
Note: Concerned faculty (Course coordinator) must devise appropriate rubrics/criteria for assessing Student activity for 5 marks **One activity on any one CO (course outcome) may be given to a group of FIVE students** **Grand Average/Total**						14/4 =3.5 ≈4				

Example only: MODEL OF RUBRICS / CRITERIA FOR ASSESSING STUDENT ACTIVITY-
Task given- Industrial visit and report writing

Dimension	Scale					Students score (Five students)				
	1 Unsatisfactory	2 Developing	3 Satisfactory	4 Good	5 Exemplary	1	2	3	4	5
1.Organisation	Has not included relevant info	Has included few relevant info	Has included some relevant info	Has included many relevant info	Has included all relevant info needed	3				
2. Fulfill team's roles & duties	Does not perform any duties assigned	Performs very little duties	Performs partial duties	Performs nearly all duties	Performs all duties of assigned team roles	2				
3.Conclusion	Poor	Less Effective	Partially effective	Summarises but not exact.	Most Effective	5				
4.Conversions	Frequent Error	More Error	Some Error	Occasional Error	No Error	4				
					Total marks	14/4=3.5 ≈4				

FORMAT OF I A TEST QUESTION PAPER (CIE)

Test/Date and Time	Semester/year	Course/Course Code	Max Marks
Ex: I test/6 th weak of sem 10-11 Am	VI SEM	**BASIC MANAGEMENT SKILLS &ENERGY MANAGEMENT**	20
	Year:		
Name of Course coordinator : Units:__ CO's:____			

Question no	Question	MARKS	CL	CO	PO
1					
2					
3					
4					

Note: Internal Choice may be given in each CO at the same cognitive level (CL).

MODEL QUESTION PAPER (CIE)

Test/Date and Time	Semester/year	Course/Course Code	Max Marks
1st Test/ 6 th week, DD/MM/YYYY, 10-11 AM	VI SEM, E & E Engg.	**BASIC MANAGEMENT SKILLS &ENERGY MANAGEMENT**	20
	Year: 2015-16	Course code:15EE62T	

Name of Course coordinator :
Units Covered :1 and 2
Course Outcomes : 1 and 2
Instruction :*(1). Answer all questions (2). Each question carries five marks*

Question No.	Question	CL	CO	PO
1	List the characteristics of effective team	R	1	5, 10
2	Explain Formal and informal communication network	U	1	5, 10
3	Explain Maintenance and explain the concept of TPM	R	2	2,5,10
4	Explain concept of TQM {Or} Explain briefly I.S.O 9000:2000 Quality Standards – ISO 9000, ISO 9001 & ISO 9004	U U	2	2,5,10

CL: Cognitive Level, R-Remember, U-Understand, A-Application, PO: Program Outcomes

MODEL QUESTION PAPER BANK:

Course Title: **BASIC MANAGEMENT SKILLS & ENERGY MANAGEMENT**	Course Code: 15EE62T

CO1- Describe basics of management skills

Unit I- BASIC MANAGEMENT SKILLS

Cognitive Level: Remember

1. List the Benefits of SWOT analysis
2. Enumerate usage of SWOT analysis
3. Define perception
4. Define SWOT Analysis
5. Define communication
6. List Special features of communication
7. List the Channels of communication
8. List the various Barriers to communication
9. List the Types of effective communication
10. List the aspects of team building
11. List the skill needed for team
12. List the characteristics of effective team
13. List the role of team members

Cognitive Level: Understanding

1. Describe interpersonal skills
2. Describe Team working
3. Describe Negotiation skills
4. Describe Communication skills
5. Describe Time management
6. Describe Stress management
7. Describe Importance of Knowing yourself
8. Explain the process of knowing yourself
9. Explain how to improve perception
10. Explain Formal and informal communication network
11. Explain the various Barriers to communication
12. Explain how to overcome barriers to communication
13. Explain Types of effective communication
14. Describe team building
15. Explain aspects of team building
16. Explain skill needed for team
17. Describe a model of team building
18. Explain role of team members
19.

CO2- Understand Maintenance and TQM

UNIT II- MAINTENANCE AND TOTAL QUALITY MANAGEMENT

Cognitive Level: Remember

1. Define maintenance
2. List types of maintenance
3. List preventive maintenance
4. List predictive maintenance
5. List the advantages of preventive maintenance
6. Define quality control
7. List the objectives of quality control
8. List the advantages of quality control
9. Define cost balance
10. Explain the concept of TQM
11. List TQM elements
12. List the tools and techniques of TQM

List the features of TQM

Cognitive Level: Understanding

1. Explain planned maintenance and predictive maintenance
2. Explain the relation between cost & quality
3. Explain briefly tools & techniques of TQM
4. Explain briefly I.S.O 9000:2000 Quality Standards – ISO 9000, ISO 9001 & ISO 9004
5. Explain procedures and documentation involved in ISO 9000 series certification
6. Explain breakdown maintenance
7. Explain preventive maintenance.
8. Explain predictive maintenance
9. Explain relation between cost and quality
10. Explain TQM elements
11. Explain flow charts
12. Explain pereto charts

CO3- Explain energy management

UNIT-III- ENERGY MANAGEMENT

Cognitive Level: Remember

1. List the methodology of energy management
2. List energy management techniques
3. List various stages of EMS
4. Draw the block diagram of EFMS
5. List the components of EFMS
6. List the applications of EFMS

Cognitive Level: Understanding

1. Define of energy management and its importance
2. Describe energy conservation and its need
3. Explain needs of energy conservation
4. Describe energy crisis
5. Explain the causes of energy crisis
6. Describe energy management techniques
7. Explain Energy management software(EMS)
8. Explain various stages of EMS
9. Describe Energy and facility management system(EFMS)
10. Describe the purpose of EFMS
11. Describe methodology of EFMS
12. Describe processes in EFMS

CO4- Describe energy conservation in electrical engineering sectors

UNIT IV- ELECTRICAL ENERGY CONSERVATION

Cognitive Level: Remember

1. List salient features of ENERGY CONSERVATION ACT 2001
2. List the national institutions promoting energy conservation
3. List the measures to optimize T&D losses
4. List the steps used for Energy conservation in industries
5. List the electrical energy conservation in domestic sector
6. List the tips for electrical energy conservation in industrial sector
7. List the tips for electrical energy conservation in agricultural sector
8. List the Need for energy efficient devices.
9. List the applications of circumstances where energy efficient motor are used
10. List the steps in selection of electric drives
11. List the steps to achieve energy conservation in electric drive
12. List the various energy efficient sources
13. List the power quality measurable quantities
14. List the sources of power quality problems and its remedies

Cognitive Level: Understanding

1. Discuss need of energy conservation in India
2. Explain Need for energy conservation
3. Describe role of IRDEA(Indian renewable energy development agency)in energy conservation
4. Explain Energy conservation in T&D lines
5. Explain the steps used for Energy conservation in industries
6. Explain importance of power factor improvement in energy conservation
7. Explain electrical energy conservation in domestic sector
8. Explain Energy efficiency- its significance
9. Describe energy efficient motors
10. Describe energy efficient lighting sources

Cognitive Level: Application /Analyze

1. Compare EEM with Standard motors
2. Compare EEL with Incandescent light source
3. Explain Energy conservation in T&D lines
4. Explain the steps used for Energy conservation in industries
5. Explain importance of power factor improvement in energy conservation
6. Explain electrical energy conservation in domestic sector
7. Explain Energy efficiency- its significance

CO5- Understand energy audit
UNIT V- ENERGY AUDIT

Cognitive Level: Remember

1. List the scope of energy audit
2. List the Types of energy audit
3. Define energy audit
4. List the benefits of DSM
5. Draw the block diagram

Cognitive Level: Understanding

1. Explain the Need for energy audit
2. Explain Methodology of energy audit
3. Explain investment grade/comprehensive audit
4. Explain preliminary audit
5. Explain general audit or mini audit
6. Explain demand side management(DSM)
7. Describe the need for DSM
8. Explain 5 steps of DSM in planning and implementation
9. Describe DSM implementation strategy
10. Explain DSM implementation of program
11. Explain DSM Programme design process

Cognitive Level: Application/Analyze

1. Explain demand side management(DSM)
2. Explain DSM implementation strategy
3. Explain DSM implementation of program
4. Explain DSM Programme design process

CO6- Illustrate safety measures and use of computer in energy management

UNIT VI- SAFETY AND ENVIRONMENTAL ISSUES

Cognitive Level: Remember

1. List the role of safety in an industry
2. List the causes of accident
3. List the prevention of accident
4. List the general functions of safety committee
5. List safety measures in industries
6. Enumerate methods of carrying out EIA

Cognitive Level: Understanding

1. Explain accident and loss due to accident
2. Explain need for safety measures
3. Describe role of a safety committee
4. Explain Ozone layer and process of depletion
5. Explain Effects of ozone layer depletion
6. Explain causes and effects of Ozone layer
7. Explain Global warming
8. Explain the effects of global warming
9. Explain the need for environmental assessment
10. Explain safety measures in industries

Cognitive Level: Application/Analyze

1. Explain Effects of ozone layer depletion
2. Explain causes and effects of Ozone layer
3. Explain Global warming
4. Explain the effects of global warming
5. Explain the need for environmental assessment
6. Explain safety measures in industries

Model Question Paper:

Code: 15EE62T

V Semester Diploma Examination

BASIC MANAGEMENT SKILLS AND ENERGY MANAGEMENT **[Time: 3 Hours]**

[Max. Marks: 100]

Note: (i) Answer any **SIX** questions from Part – A.*(Each question carries 5 marks)*
(ii) Answer any **SEVEN** questions from Part – B. *(Each question carries 10 marks)*

	PART - A	
1	List the Benefits of SWOT analysis	5
2	Describe Time management	5
3	Differentiate between planned maintenance and predictive maintenance.	5
4	Draw the block diagram of EFMS	5
5	List the electrical energy conservation in domestic sector	5
6	Explain Energy efficiency and its significance	5
7	List the benefits of Demand Side Management	5
8	Explain investment grade/comprehensive audit	5
9	List the role of safety in an industry	5
	PART - B	
1	i)List the preventive maintenance schedule ii)List the predictive maintenance schedule	10
2	Explain flow charts and pereto charts	10
3	Explain the relation between cost & quality	10
4	List safety measures followed in industries	10
5	i. List the tips for electrical energy conservation in industrial sector ii. List the tips for electrical energy conservation in agricultural sector	5 5
6	Describe role of IRDEA(Indian renewable energy development agency)in energy conservation	10
7	i. Discuss need of energy conservation in India ii. Explain Need for energy conservation	5 5
8	i. Describe energy crisis ii. Explain the causes of energy crisis	5 5
9	i. Describe DSM implementation strategy ii. Explain DSM implementation of program	5 5
10	Explain Ozone layer and process of depletion of ozone	10