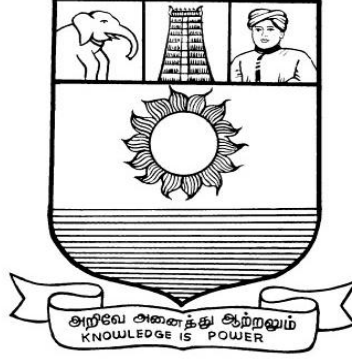


மனோன்மணியம் சுந்தரனார் பல்கலைக்கழகம்
திருநெல்வேலி – 627 012

**Manonmaniam Sundaranar University
Thirunelveli – 627 012.**



கல்விசார் நிலைக்குழுக் கூட்டம்

**MEETING OF THE STANDING COMMITTEE ON
ACADEMIC AFFAIRS HELD ON FRIDAY
THE 27th OCTOBER 2017.**

**Syllabus for Diploma in Fire and Safety Management Course
offered through Directorate of Vocational Education
(Community Colleges and Extension Learning Programme)
from 2017 – 2018**

DIPLOMA IN FIRE AND SAFETY MANAGEMENT
SCHEME OF EXAMINATIONS

Subject Code	Title of the Paper	Credit	Hours	Passing Minimum
Semester I				
C17FS11/E17FS01	Safety Management	6	90	40/100
C17FS12/E17FS02	Basics of Fire fighting and Control	6	90	40/100
C17FS13/E17FS03	First Aid	6	90	40/100
C17CE10/E17CE10	Communicative English	6	90	40/100
C17FSP1/E17FSP1	Practical - I - Fire Fighting Equipments - Operations and Repairing	4	60	40/100
Semester II				
C17FS21/E17FS04	Management and Risk Assessment	6	90	40/100
C17FS22/E17FS05	Chemical and Oil Industries Safety Management	6	90	40/100
C17LS23/E17LS05	Life Skills	6	90	40/100
C17FSP2/E17FSP2	Practical - II - Fire Fighting Drills - Solids and Liquids	4	60	40/100
C17FSPW/E17FSPW	Project / Internship	10	150	40/100

Eligibility for admission: Pass in 12thStd examination conducted by the Govt. of Tamil Nadu Board of Secondary Education, Government of Tamil Nadu or any other equivalent examination.

Examination: Passing Minimum for each paper is 40%. Classification will be done on the basis percentage marks of the total marks obtained in all the papers and as given below:

40% but less than 50%	-	Third class
50% but less than 60%	-	Second class
60% and above	-	First class

Syllabus

FIRST SEMESTER

Paper – I	:	Safety Management
Paper – II	:	Basics of Fire fighting and Control
Paper – III	:	First Aid
Paper – IV	:	Communicative English
Paper – V	:	Practical - I - Fire Fighting Equipments - Operations and Repairing

SECOND SEMESTER

Paper – VI	:	Management and Risk Assessment
Paper – VII	:	Chemical and Oil Industries Safety Management
Paper – VIII	:	Life Skill
Paper – IX	:	Practical - II - Fire Fighting Drills - Solids and Liquids
Paper – X	:	Project / Internship

***(Semester Pattern for Community College only)**

(C17FS11/E17FS01)PAPER I : SAFETY MANAGEMENT

Unit I: Key elements of a safety Management, Policy & commitment, Planning, Implementation and Operation, Measuring Performance, Auditing and reviewing performance Initial Safety Management System Review, Safety Management System - Developing a workplace Safety and Health Policy.

Unit II: Safety and Health Management System records: Operational Control – Workplace Precautions, Safety and Health training and Competence Training for Safety and Health.

Unit III : Identify Training Needs – Organizational Needs, job-related Needs, Individual Needs : Identify Training Objectives and Methods, Deliver Training , Evaluation and feedback, specialist Advice and Services – access to Specialist advice and services, relationships within the Organization , relationships Outside the organization , external specialist safety and safety support.

UNIT - IV : Stages in plant life and unsafe condition in factories, maintenance & safety, basics safety programming, safety department, Rules and regulation of safety department.

UNIT - V: Responsibility of management for safety in plant, safe guarding the public, Responsibility of government, social organization and public authorities. Safety activities of the ILO (International Labour Organization)

Reference Books:

1. Industrial Safety Management – LM Deshmukh
2. Safety Management (Industrial Safety)- Ganguly and Changeria
3. Safety Management (Industrial Management)- Ganguly and Changeria
4. Safety Management (Health Safety and and Environment)- Ganguly and Changeria

(C17FS12/E17FS02)PAPER II : BASICS OF FIRE FIGHTING AND CONTROL

Unit-I: History of fires, types of detecting devices and extinguishing agents and systems, construction techniques, and fire investigation.

Unit-II : Classification of fire, different fire extinguishing methods, Portable fire extinguishers, Pumps and primers, Foam and foam making equipments. Hose and hose fittings, Water relay systems, types of detecting devices and extinguishing agents.

Unit-III : Breathing apparatus, Small gears, Fire protective clothing, Ladders, Ropes and lines, bends & hitches, Fire prevention, Special appliances, Fire fighting codes and standards, Electrical fire hazards, Structures under fire.

Unit-IV : Safety of People in the event of Fire, Recognition of possible fire sources and emergency procedures in the event of a fire,

Unit- V : Devising procedures in the event of fire, How people perceive and react to fire danger, The measures needed to overcome behavioral problems and to ensure the safe evacuation of people in the event of fire, Assisting disabled people to escape.

Reference Books:

1. A Hand Book of Fire Technology : R.S. Gupta, Orient Longman Ltd, 1990
2. Electrical Safety, Fire Safety Engg.& Safety Management: S. Rao, H.L. Saluja, Khanna Publishers, 2004

(C17FS13/E17FS03)PAPER III: FIRST AID

Unit I : Introduction – Search and Rescue – Stages of Rescue – Surface Causalities – Searching slightly damaged buildings- Exploration of likely survival points – selected debris removal – searching methods – Physical search – canine search – Technical search – Hailing search method – Diagrammatic representation of hailing search method – Advantages of hailing search – precaution during search and rescue.

Unit II: Ropes and Knots – Ropes – Natural Fibre Rope – Synthetic Fibre Rope - Synthetic Fibre Rope – Nylon Rope – Poly Rope – Braided Synthetic Rope – Knots – Knots at the end of a ropes – knots for joining two Ropes – Knots for making Loops – Hitches.

Unit III : Search and rescue methods – water rescue – Emergency rescue – Staircase Drag Method – Firemen crawl method – Search and rescue kit – Action plan for Transport of injured Person – Reporting – Action on the recommendations – Accident / Incident Report Form.

Unit IV: Evacuation – Evacuation signal – Participatory Rural Appraisal – Resources – Resource Mapping – Social Mapping – Processes for Resources Mapping – Emergency Evacuation – Emergency situation

Unit V: First aid – Principles and practice of first aid – Scope of first aid – The general principal of first aid – Types of Bleeding – shock – Treatment for electric shock, asphyxiation (suffocation) and drowning – Type of shock – Fracture –Burn – Transportation – Resuscitation Chart (CPR) – First Aid Kit – Basics of Backpacking First Aid – Equipment – PPE (Personal Protective Equipment) – Contents of First Aid Box.

Reference Books:

Manual of first aid to the injured : St. John Ambulance Association.

(C17CE10/E17CE10) Paper IV Communicative English

Unit I: Learning context

Concept of learning – Learning style –Grammatical framework – sentence framing – paragraph and texts

Unit II: Reading

Basic concept – Purposes of reading-Decoding-Reading materials – Barriers of reading

Unit III: Writing

Basic concept-Writing style-Terminology-stages-English spelling and punctuation – Written texts

Unit IV: Speaking

Language functions-Conversation- Features of spoken English – Types of English course: functional English, English literature, advance English – Phonetic

Unit V: Developing Communication Skills

Meaning –Classroom presence- Features of developing learning process- Practical skills and Listening- uses of communicative English

References Books:

1. Raman, m.&S. Sharma (2011) communication skills, OUP,New Delhi: India
2. Lata, P.&S. Kumar(2011) communication skills, OUP,New Delhi: India,

3. Leech, G & J. Svartvik (2002) A communicative grammar of English, Pearson, India,
4. Sethi, J. and P.V. Dharmija (2007) A course in Phonetics and spoken English. Second edition, Prentice hall: New Delhi

(C17FSP1/E17FSP1) PAPER V : PRACTICAL - I

1. FIRE FIGHTING EQUIPMENTS - OPERATIONS AND REPAIRING

- List of Fire fighting equipments
- Understanding and Identification of the utility of different fire fighting equipments
- Procedure for operating different fire fighting equipments
- Identifying and using the right equipment on different categories of fire
- Mechanism of functioning of the different fire fighting equipments
- Maintenance of different fire fighting equipments
- Repairing the different fire fighting equipments

SECOND SEMESTER

(C17FS21/E17FS04) PAPER VI : MANAGEMENT AND RISK ASSESSMENT

Unit –I: Introduction – Management- Definition – Nature – Scope & Functions – Significance of Management – Technical Skills – Human skill – Conceptual skills – Managerial roles – Interpersonal roles, informational roles, Decisional roles – Managerial functions- Planning – Organizing – Staffing – Leading – Controlling.

Unit II : Planning – nature & Purpose of planning – Objectives – Strategies – Policies – Planning premises – Decision making – Organizing – Nature and purpose of organizing – line / staff authority & decentralization – effective organizing – organization culture – staffing – general principles – importance and technique

Unit – III : Leading – leadership – defining – element of leadership – leadership behaviour and styles – creativity & Innovation – motivation and motivators – special motivation techniques – communication – communication function in organization – communication process – barriers and breakdowns in communication – effective communication

Unit IV: Risk assessment – Risk Assessment method – Hazard – Hazard symbols – Hazard Analysis – Hazard Ranking – Risk Management – Definitions – Functions of Risk Management – Safety Management – Need concept – Terms Related with safety Management – safety officer –

supervisor – safety committees- Role of Trade union – Role of Trade union – Role of workers – safety and the law

Unit V : Disaster Management – Natural disaster- Cyclone – Tremor – storm – tropical cyclone – flood–Earthquake–landslide and avalanches – Nuclear and radiation accident – bio logical hazards.

Reference Books:

Principles of Mnagement – LM Prasad

Industrial Safety Handbook : William Handley, 2nd Edn., McGraw Hill, New York, 1968.

Principles of Fire Safety Standards for Building Construction, Roytman M. Ya., Amerind Publishing Co. Pvt. Ltd., New Delhi, 1975

Krishnan N.V. “Safety Management in Industry” Jaico Publishing House, Bombay, 1997.

(C17FS22/E17FS05)PAPER VII : CHEMICAL AND OIL INDUSTRIES SAFETY MANAGEMENT

Unit I: Review of Industry Accidents:Major Oil Industry Accidents, Major Chemical Industry Accidents, the Mexico LPG Disaster, Bhopal Disaster, Phillips Disaster.

Unit II: Classification of chemicals, Safety in chemical industry, Criteria for layout of chemical plants, Instrumentation for safe plant operations. Control, precautions and prevention, specific safety measures for chemical industry.

Unit III : Safety Precautions for transporting hazardous / toxic / flammable /explosive/ radioactive chemicals by all modes, transfer of chemicals by pipelines within and outside installations, above and under ground

Unit IV: The fire hazards, risks and controls available for safe containment of oil and hydrocarbons offshore and onshore, Outline the hazards, risks and controls relating to hydrocarbon Process Safety Management (PSM) in the oil industries,

Unit V: Control measures to minimize the effects of fire and explosion in the oil and gas industries, the principles, procedures and resources for effective emergency response

Reference Books:

1. Industrial Safety Handbook : William Handley, 2nd Edn., McGraw Hill, New York, 1968.

2. Handbook of Occupational Health and Safety, NSC Chicago, 1982
3. Krishnan N.V. "Safety Management in Industry" Jaico Publishing House, Bombay, 1997.

(C17LS23/E17LS05)PAPER VIII: LIFE SKILL

UNIT-I : ATTITUDE: Positive thinking – Goal setting – Problem Solving and Decision making – Leadership and Team Work.

UNIT-II: COMMUNICATION SKILLS: Oral communication: Concept of English language – Fluency – Verbal Communication in official and public situations.

UNIT-III COMMUNICATION SKILLS: Written Communication: Comprehension – Writing a formal letter like application for Job, enquiry, reply, complaint such others – preparation of Resume, Curriculum Vitae.

UNIT-IV COMPUTING SKILLS – 1: Introduction to Computers, its various components and their respective functions – Memory storage devices – Microsoft (MS) Office – MS Word.

UNIT-V COMPUTING SKILLS – 2: Internet Basics – Origin of Internet – Modem – ISP – Upload – Download – e-mail – Origin of worldwide web (www) Browsers – Search engines.

Reference Books:

Life skill, Manonmaniam Sundaranar University Publications Division (2011)

(C17FSP2/E17FSP2)PAPER IX : PRACTICAL - II

FIRE FIGHTING DRILLS - SOLIDS AND LIQUIDS

- To be conducted under strict supervision of the expert
- Conduct table talk drill initially by explain the pros and cons of each category of fire
- Ask for the suitable fire fighting equipments for the fire to be created and discuss on the operation procedure
- Identify a safe location for conduction Fire drill
- Create different category of fire at different time zone
- Make the participant involve in the process of fire fighting
- Reflect on the performance of the fire fighter
- Document the process and its outcome.

(C17FSPW/E17FSPW)PAPER X : PROJECT / INTERNSHIP

The students of this course are required to undertake either a Project Work or Internship training individually on a specific topic during the second semester and submit a report at the end of the semester but before the commencement of the end semester examination.

The objective of the Project work is to understand the problems faced by the organization and offer specific suggestions to solve those problems.

The objective of the internship is to understand the day to day activities of the organization in which the internship is undertaken and intensive training should be provided in all the departments of the organization.

The period of the project work / Internship can be decided by the centres concerned according to the availability of the opportunities available. The choices could be either the student can take up the work on a daily basis in the afternoon or evening throughout the semester or for a period of one month after completion of the classes, before the examinations.
