

GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA IN FIRE TECHNOLOGY

TEACHING SCHEME (w. e. f. 10th Jan,' 11)

SEMESTER-IV

S R · N O	Sub. CODE	SUBJECT	TEACHING SCHEME (HOURS)			CREDITS
			THEORY	TUTORIAL	PRACTICAL	
1	340001N	Entrepreneurship Development	3	0	0	3
2	346101	Fire(Applied) Chemistry -II	4	0	0	4
3	346102	Fire(Applied) Electricals	3	0	2	5
4	346103	Rescue Equipments & Paramedics	4	0	2	6
5	346104	Automobile Engineering & Fire Protection	3	0	0	3
6	346105	Fire Protection & Service management	3	0	0	3
7	346106	Practical Fireman ship	0	0	6	6
		TOTAL	20	0	10	30

Note:-

- (1) Paper 340001N is the common papers with GTU.
- (2) Remaining all papers/ Practical are the Special fire papers.

GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA IN FIRE TECHNOLOGY

SEMESTER- IV

Subject Code : 340001N

Subject Name: **ENTREPRENEURSHIP DEVELOPMENT**

Sr. No.	Subject Content
1	<p>ENTREPRENEURSHIP DEVELOPMENT — CONCEPT & SCOPE</p> <p>1.1 Entrepreneurship development concept and need in context of changing global environment; scope in local and global market.</p> <p>1.2 Desirable qualities of entrepreneur; relativity importance; methods to cultivate, its role and need for success.</p> <p>1.3 Concept and importance of productivity, quality, cost consciousness and customers satisfaction & need analysis.</p> <p>1.4 Types of enterprise.</p>
2	<p>FACILITY PLANNING</p> <p>2.1 Product (Physical and service both) selection : Concept and importance, sources including national/international publications.</p> <p>2.1.1 creativity and product selection.</p> <p>2.1.2 Competition-types and effect on product selection.</p> <p>2.1.3 Product selection process; new idea mortality curve;</p> <p>2.1.4 product development stages.</p> <p>2.2 Process Selection :</p> <p>2.2.1 Concept and importance; forms of transformation; transformation cost; factors affecting process selection.</p> <p>2.2.2 Technology life cycle</p> <p>2.2.3 Producibility-concept & importance; flexibility.</p> <p>2.3 Facility location :</p> <p>2.3.1 Concept, steps in facility location, factors affecting selection of Location.</p> <p>2.4 Facility layout and handling means :</p> <p>2.4.1 Importance, objectives, types.</p>

	<p>2.5 Capacity Planning :</p> <p>2.5.1 Concept, need, importance, base, method to assess/estimate capacity.</p> <p>2.5.2 Flexibility in capacity planning-need.</p>
3	<p>SSI AND ITS PROMOTIONAL AGENCIES</p> <p>3.1 SSI-definition, Government Policy—need and importance.</p> <p>3.2 Anciliary-Need and importance.</p> <p>3.3 Promotional Agencies—their role and types of promotions, various agencies</p>
4	<p>MANAGING CRITICAL RESOURCES</p> <p>4.1 7. M resources; Managing finance : terminology in finance management.</p> <p>4.2 Concept of balance sheet and funds flow statement; managing working capital—its importance.</p> <p>4.3 Sources of finance—types advantages and disadvantages.</p> <p>4.4 Cost control & importance , methods.</p> <p>4.5 Managing human resource :</p> <p>4.5.1 Organization structure-types and suitability; criteria for recruitment and selection.</p> <p>4.5.2 Need for training and motivation.</p> <p>4.5.3 Delegation of authority and span of control.</p> <p>4.6 Materials Management :</p> <p>4.6.1 Need, MRP, purchasing decisions and procedures; work controls and its importance.</p> <p>4.6.2 JIT—Concept, importance and application.</p> <p>4.7 Time Management :</p> <p>4.7.1 Importance, Managing delivery schedule opportunity cost concept and application</p> <p>4.7.2 Information Systems : need, importance, Communication channels and Media.</p>
5	<p>5. PROJECT PLANNING AND PROJECT REPORT</p> <p>5.1 Meaning of project planning and report; feasibility study; steps in project planning, project cost estimation; CVP relationship at different stages of operation; project execution.</p> <p>5.2 Preparing and submitting project report; interpret a project report</p>

6	<p>MANAGING ENTREPRISE</p> <p>6.1 SWOT (strength, Weakness, opportunity and Threat) analysis— Meaning and importance.</p> <p>6.2 Strategies to set and achieve goals.</p> <p>6.3 Formal and non-formal aids.</p> <p>6.4 Benifits to an entreprise including financial; source—types of aids / benefits.</p> <p>6.5 Leadership importance.</p> <p>6.6 Dealing with Government/non Government bodies.</p> <p>6.7 Budgeting—need importance, Control and allocation.</p> <p>6.8 Marketing channels—need and selection criteria.</p>
7	<p>RISK MANAGEMENT :</p> <p>7.1 Introduction; Concept of risk, uncertainty and certainty .</p> <p>7.2 Decision making under risk; Decision tree; Simulation; concept and application of sensitivity analysis.</p> <p>7.3 Decision making under uncertainty; Methods to deal with uncertainty.</p>
8	<p>CASE STUDIES</p> <p>8.1 Case studies of successful entrepreneur : important features; reasons for success. Analyzing success criteria; (at least two).</p> <p>8.2 Case studies of failed entrepreneur : importance analyses, failure criteria; suggest steps which could have been followed to improve; (at least two).</p>

Reference Books:

1. Developing Entrepreneurship - Pareek & CO. Learning systems
Delhi.
2. Entrepreneurship & Venture - Clifford and Bombak, Joseph R.
Management Momanso.
3. Planning an Industrial unit - J. N. Vyas.
4. Small Industries management - Karmakar M.B.
5. Manual for the preparation of industrial - UNIDO feasibility studies
6. (a) Guidelnes for industries Part - I - Policies & procedures Ministray

of industries Govt. of India.

(b) Part - II - Scope and prospectus

7. New project opportunities – GITCO series - I, II and III.
8. Project profile for reserved - Development commissioner SSI, Items - VOI, I, II & III New Delhi.
9. Small scale industry - Ministry of Industry Govt. of India Policy & Perceptive
10. Dialogue with the Entrepreneur - GSFC
11. Import-Export Policy for SSI - Govt. of India.
12. Creativity - Pradeep Khandwal

GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA IN FIRE TECHNOLOGY

SEMESTER-VI

Subject Code : 346101

Subject Name: FIRE (Applied) CHEMISTRY -II

Sr. No.	Subject Content	Hrs.
1	<p>1.1 Respiratory Personal Protective Equipments</p> <p>1.1.1 Industrial Canister Type Gas Mask 1.1.2 Airline Respirator 1.1.3 Self Contained Breathing Apparatus 1.1.4 Environment Classification for Selection of Respiratory Equipments 1.1.5 Classification of Respiratory Protective Equipments 1.1.6 Selection of Breathing Apparatus 1.1.7 Respiratory Protection Application 1.1.8 Limitations & Precautions 1.1.9 Maintenance & Check up of Equipments 1.1.10 Training & Education in Proper Use of Respirators</p>	6
	<p>1.2 Cylinders Used for Handling Hazardous Chemicals</p> <p>1.2.1 Details of Containers 1.2.2 General Precaution for Handling of Cylinders 1.2.3 Inspection, Painting And Marking on Cylinders 1.2.4 Valve Details 1.2.5 Saturated Vapour Pressure & Test Pressure of Cylinders 1.2.6 Periodical Hydraulic Test of Cylinders 1.2.7 Identifications of Contents of Industrial Gas Cylinders Colour Identification 1.2.8 Filling Ratios for Low Pressure Liquefiable Gases Other than Hydrocarbon Gases 1.2.9 Rejecting of Cylinders 1.2.10 Warning on Cylinders Tag 1.2.11 Definations - Gas Cylinders Rules 1.2.12 Abstracts of Gas Cylinders Rules</p>	6

2	2.1 Recommended Procedures for Safe Handling of Cylinders 2.1.1 Receipt & Despatch of Cylinders 2.1.2 Loading & Unloading 2.1.3 Storage 2.1.4 Use of Cylinders in Process 2.1.5 Disconnecting Cylinders from Process	5
	2.2 Hazardous Chemicals in Bulk Storage Tanks 2.2.1 Safety Precautions in Handling & Storage 2.2.2 Loading & Unloading 2.2.3 Abstracts of Static & Mobile Pressure vessels Rules 2.2.4 Definitions SMPV Rules 2.2.5 Abstracts of Factory Act	4
	2.3 Leak Detection / Neutralization & Disposal	2
3	3.1 Emergency & Emergency Management 3.1.1 General 3.1.2 Employees Selection & Training 3.1.3 Identifying leaks & Preliminary measures in Facing Leakages 3.1.4 Emergency Kit & its Use 3.1.5 Valve Leaks 3.1.6 Container wall Leaks 3.1.7 Leaks Through Fusible Plug	5
	3.2 Transportations of Hazardous Chemicals 3.2.1 Conditional Permit 3.2.2 Transport Emergency Card 3.2.3 Hazards Identification & Labeling System 3.2.4 Police, Fire Brigade, Personal, Volunteers in Civil Disobedience & Village Panchayat 3.2.5 Guidelines from Transport Commission 3.2.6 Precaution in Transportation 3.2.7 Instruction of Writing Booklet 3.2.8 Classification of Hazardous Chemicals 3.2.9 Training of Drivers 3.2.10 Loading / Unloading	6
4	4.1 Release Calculation of Hazardous Chemicals 4.1.1 Introduction 4.1.2 Leq. /Gas Release Calculations 4.1.3 Two Phase Release Calculations.	4

	<p>4.2 Preventing Emergencies & Disasters</p> <p>4.2.1 Safety Measure while putting new Plants 4.2.2 Plant Location & Design & Process 4.2.3 Identification of Hazards 4.2.4 Fire, Explosion, Toxic, Corrosion etc. 4.2.5 Causes of Hazards 4.2.6 Failure of Equipment & Structures 4.2.7 Abnormal Condition 4.2.8 Human Error 4.2.9 Inflammable Material Release 4.2.10 Factors of Reducing The Hazards 4.2.11 Disposal of waste 4.2.12 Safety Audit 4.2.13 Concept of Check List 4.2.14 Hazards Operability Study & Survey 4.2.15 Risk Analysis</p>	7
5	<p>5.1 Emergency Control & Disaster Planning</p> <p>5.1.1 Objectives of Emergencies Planning 5.1.2 Site Planning 5.1.3 Essential Workers 5.1.4 Emergency Control Centre 5.1.5 Duties & Responsibilities of Leader & Asst. 5.1.6 Reasing Alarm 5.1.7 Two Form Emergencies Organisation 5.1.8 Alarm / Warning System for General Public 5.1.9 Define Level of Emergencies & Notification 5.1.10 Escape Routes & Traffic Control 5.1.11 Staturatory Authorities 5.1.12 Development of Greenery</p>	6
	<p>5.2 High Polymers</p> <p>5.2.1 Classification of high polymer 5.2.2 production of high polymer 5.2.3 sum important plastic that production 5.2.4 properties & uses polithine PVC Polystrine 5.2.5 Teflon 5.2.6 acrylic 5.2.7 nylon 5.2.8 polyester 5.2.9 phenol 5.2.10 formaldehyde</p>	5

	5.2.11 resins 5.2.12 urea & silicones compounds 5.2.13 natural rubber product 5.2.14 vulcanization of synthetic rubber 5.2.15 Butyl 5.2.16 Rubber etc. & their common ignition sources & extenuation.	
	Total	56

Reference Books:

1. Fire Protection. - D.R. Varma.
2. Post H.S.C. in Fire Service Engineering. - NIFDEM- Nagpur.
3. Safe Handling of Hazardous Materials. - A.K. Rohatgi- Mumbai
4. Physical Chemistry. - Atkins.

GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA IN FIRE TECHNOLOGY

SEMESTER-IV

Subject Code : 346102

Subject Name: FIRE (Applied) ELECTRICALS

Sr. No.	Subject Content	Hrs.
1	<p>1.1 Electrical current & Ohm's Law</p> <p>1.1.1 Types of resistors 1.1.2 nonlinear resistors, 1.1.3 short & open circuit 1.1.4 series circuit 1.1.5 parallel circuit 1.1.6 division of current in parallel circuit equivalent resistance 1.1.7 duality between series & parallel circuit 1.1.8 relative potential 1.1.9 wattage divider circuit</p>	4
	<p>1.2 D.C. network theorems</p> <p>1.2.1 krichhoff's laws 1.2.2 super position theorems 1.2.3 thevenin theorem 1.2.4 reciprocity theorem 1.2.5 delta/star transformation 1.2.6 Compensation theorem 1.2.7 Norton's theorem 1.2.8 maximum power theorem</p>	4
2	<p>2.1 A.C. Fundamentals</p> <p>2.1.1 Generation of A.C. 2.1.2 equation of A.C. voltage & current 2.1.3 simple wave forms 2.1.4 cycle 2.1.5 frequency 2.1.6 amplitude & different forms of e.m.f. equation 2.1.7 phase</p>	4
	<p>2.2 series A.C. circuits</p> <p>2.2.1 A.C. through resistance & inductance 2.2.2 Power factor. 2.2.3 active & reactive components of circuit current</p>	4

	<ul style="list-style-type: none"> 2.2.4 factor of coil 2.2.5 resistance & capacitance 2.2.6 di electric laws & power factor of capacitor etc 	
3	<p>3.1 Electrical Instruments & measurements</p> <ul style="list-style-type: none"> 3.1.1 Absolute & Secondary instruments 3.1.2 electrical principals of operation 3.1.3 Ammeters & volt meters dynamotor 3.1.4 Waeetmeters 3.1.5 induction wattmeters 	4
	<p>3.2 Cables</p> <ul style="list-style-type: none"> 3.2.1 Classification 3.2.2 Conduction 3.2.3 Requirement 3.2.4 Insulation 3.2.5 protective covering over lead 3.2.6 protection against fire 	4
4	<p>4.1 Electrical Instruments & measurements</p>	
	<p>4.2 Transformer</p> <ul style="list-style-type: none"> 4.2.1 Construction & working principle 4.2.2 theory of ideal transformer 4.2.3 e.m.f. equation 4.2.4 transformer test (no load, on load) 4.2.5 losses of transformer 4.2.6 efficiency 4.2.7 faults 4.2.8 Protection (like buchhoz relay, cooling sys.) 	4
	<p>4.3 Polyphase Circuits</p> <ul style="list-style-type: none"> 4.3.1 Generation:- 4.3.2 phase 4.3.3 sequence 4.3.4 phase sequence at load 4.3.5 numbering of phase 4.3.6 interconnection of three phase 4.3.7 star(or Y) connection 4.3.8 mesh (or delta) connection 	5
5	<p>5.1 Protective device</p> <ul style="list-style-type: none"> 5.1.1 Fusing elements 5.1.2 classification of fuses 5.1.3 requirement of circuit breaker 5.1.4 types of circuit breaker 	5

	5.1.5 basic principle and operation of a circuit breaker 5.1.6 relaying system 5.1.7 primary relay 5.1.8 secondary relay 5.1.9 classification of relay	
	5.2 Electrical Appliances 5.2.1 Microphones (condenser type, piezso-electric crystal type, electro-dynamics type, carbon microphone) 5.2.2 Toaster 5.2.3 telephone heating iron 5.2.4 lifting magnet 5.2.5 electric bell	4
	Total	42

Note-

Following are the minimum experiences required, but the college can do more Experiences if possible

Laboratory Experiences:

Sr. No.	Subject Content	Hrs.
1	To verify krichhoff's law (current & voltage law)	3
2	Resonance in L-C-R Series and parallel circuit	2
3	To measure power in 3-phase circuit by tow watt meter method	3
4	Study of circuit breakers	2
5	Study of protective devises (fuse, relay etc.) and earthing system.	2
6	High resistance by leakage.	2
7	Transformer Test. (a) On Load (b) No Load	3
8	Induction motor. (a) No load test (b) Impendence test	3
9	Study of power distribution systems.	2
10	Study of house wiring.	2
11	Study of network theorem.	2
12	Analysis of errors.	2
	Total	28

Reference Books:

1. Textbook of electrical technology - Vol. 1--B.L.Theraja
2. Electrical Power - S.L. Uppal
3. Instrumentation Measurement & Analysis - D.C.Nakra & K.K.Chodhary

GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA IN FIRE TECHNOLOGY

SEMESTER-IV

Subject Code : 346103

Subject Name: RESCUE EQUIPMENTS & PARAMEDICS

Sr. No.	Subject Content	Hrs.
1	1.1 Casualty Handling in Rescue Operations	2
	1.2 Emergency Methods of Rescue	4
	1.3 Handling Stretchers in various Situation 1.3.1 Selection & numbering of bearers 1.3.2 collection of blankets & stretchers 1.3.3 lifting stretchers 1.3.4 standing stretcher 1.3.5 handling of stretchers in difficult situations	5
2	2.1 Breathing Apparatus set 2.1.1 Different kinds of B.A. Sets & masks 2.1.2 care & maintenance, Physiology of respiration 2.1.3 effect of respiration 2.1.4 testing of B.A. Set	6
	2.2 Derricks, Sheers, Gyns, Holdfasts & Pickets 2.2.1 Standing derrick 2.2.2 Sheer 2.2.3 Gyns 2.2.4 other types of holdfast	6
3	3.1 Setting up a fire hut, Fire control in a close room & Smoke chamber 3.1.1 Reconnaissance 3.1.2 methods of entry smoke 3.1.3 sum fire fitting hints 3.1.4 details of demonstration 3.1.5 method of working	5
	3.2 Respiratory System 3.2.1 Anatomy & physiology of respiration	4

	3.3 Common Causes of Suffocation in Disasters 3.3.1 First aid 3.3.2 Measures 3.3.3 choice of method old artificial respiration 3.3.4 causes of effects of burns 3.3.5 first aid of special burns	4
4	3.1 Elements of Bandaging 3.1.1 Uses & types of bandaging 3.1.2 triangular bandages 3.1.3 roller bandages 3.1.4 other uses of open triangular bandages	5
	3.2 Co-Ordination With Other Civil Defense Services 3.2.1 House fire party 3.2.2 auxiliary fire service 3.2.3 training courses of fire fighting 3.2.4 trailer pump party	4
5	5.1 Practical Fireman ship Theoretical 5.1.1 Quality of fire fighter 5.1.2 station level duty of fireman 5.1.3 station ground duty of fireman 5.1.4 fire ground duty of fireman 5.1.5 searching of fire 5.1.6 dangers of rapid spread by fire 5.1.7 attacking the fire 5.1.8 ventilation 5.1.9 at the fire ground practical fire fighting 5.1.10 method of entry	6
	5.2 Special Services 5.2.1 Rescue by stages 5.2.2 safety precautions before entry 5.2.3 well rescue 5.2.4 water rescue 5.2.5 caver rescue 5.2.6 lift rescue 5.2.7 belly rescue etc	5
	Total	56

Text Books:-

1. Fire Protection. -
2. Fire Science Equipment and Management - Part- 1/2 -

D.R. Varma.
K.K. Vishnohi.

Note-

Following are the minimum experiences required, but the college can do more Experiences if possible

Laboratory Experiences: -

Sr. No.	Subject Content	Hrs.
1	Handballing Stretcher in various situations.	2
2	Use of breathing apparatus	2
3	Testing of BA Set	2
4	Tunnel operation	3
5	First Aid Treatment.	3
6	Artificial respiration.	2
7	Special Aid of burns.	2
8	Uses of different bandages.	2
9	Safety precaution	2
10	Caver rescue.	2
11	Lift rescue.	2
12	Water Rescue.	2
13	Valley rescue.	2
	Total	28

GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA IN FIRE TECHNOLOGY

SEMESTER-IV

Subject Code : 346104

Subject Name: AUTOMOBILE ENGINEERING & FIRE PROTECTION

Sr. No.	Subject Content	Hrs.
1	1.1 Internal Combustion Engine 1.1.1 Types of engine 1.1.2 difference between internal & external combustion engine 1.1.3 four stroke petrol engine 1.1.4 Four stroke diesel engine 1.1.5 comparison between petrol engine & diesel engine 1.1.6 radiator 1.1.7 water pump 1.1.8 Gear pump 1.1.9 oil pump 1.1.10 oil filter 1.1.11 ignition system	10
2	2.1 Petroleum, Refinery, Oil & Gas Plant fire risk & Fire Protection 2.1.1 Classification of petroleum product material 2.1.2 fire water system 2.1.3 fire water monitor 2.1.4 water spray application rates 2.1.5 foam system 2.1.6 CO2 system	8
3	3.1 Auto mobile Fire Protection 3.1.1 first aid fire fighting equipment 3.1.2 mobile fire fighting equipment 3.1.3 gas detection & alarm system 3.1.4 Inspection & testing of fire protection system 3.1.5 fire water ring main 3.1.6 fire protection training	8
4	4.1 Plan Reading & Drawing 4.1.1 Importance 4.1.2 basic symbols & abbreviations 4.1.3 wall openings 4.1.4 means of escape abbreviations 4.1.5 fire protection symbols	8

5	5.1 Electrical System 5.1.1 Battery 5.1.2 study operation & maintenance 5.1.3 ignition system 5.1.4 its component 5.1.5 lighting system 5.1.6 horn 5.1.7 wiper 5.1.8 trafficators	8
	Total	42

Text Book:-

1. A text book of automobile engineering-

GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA IN FIRE TECHNOLOGY

SEMESTER-IV

Subject Code : 346105

Subject Name: FIRE PROTECTION & SERVICE MANAGEMENT

Sr. No.	Subject Content	Hrs.
1	1.1 Water Based 1.1.1 Grouping of fixed fire-fighting installation 1.1.2 provision of first aid fire fighting arrangement 1.1.3 external hydrants 1.1.4 Ring-mains and hose reels.	2
	1.2 Rising mains 1.2.1 Down comers 1.2.2 Dry risers 1.2.3 wet rained and specification of each types 1.2.4 their reverent code practices	2
	1.3 Foam 1.3.1 Chemical foam 1.3.2 Installation 1.3.3 one powder type and two powder type and two solution type 1.3.4 Mechanical installation 1.3.5 Determination of foam compound for fire fighting oil tanks 1.3.6 method of application 1.3.7 top application rise injection 1.3.8 sub surface mix foam 1.3.9 installation characteristics of foam 1.3.10 their special application 1.3.11 advantage & disadvantage of various types and the storage of foam compounds	2
	1.4 Sprinklers 1.4.1 Types of sprinklers system and its specifications 1.4.2 New standards for the installation of sprinklers and hazards classification	2
	1.5 Principle control valves 1.5.1 Principle control valves in sprinkler installation 1.5.2 Air valve acceleration 1.5.3 types of gauges 1.5.4 procedures in case of fires	2

	1.6 causes of false alarm, testing & maintenance	2
	1.7 Drenches 1.7.1 Drenches different types of drenches 1.7.2 rules for spacing sprinklers and drenches heads	2
	1.8 water supply 1.8.1 Grading 1.8.2 requirement of water supply 1.8.3 total requirement of water for different hazards classification pressure tanks 1.8.4 water supply 1.8.5 Multiple jet-sprinkler 1.8.6 water spray projector system 1.8.7 protests-spray system	2
2	2.1 Other fixed fire protection system (DCP, Co2, Nitrogen, Inert Gas, Halon & Alternatives) 2.2 Basic principal and design parameters 2.3 feature of installation 2.4 selection and applicability of system element of commissioning testing and scheduled of maintenance 2.5 Advantage and limitation of systems 2.6 Special characteristic halon system its new dimension given to fire protection 2.7 Reasons for first acceptance and then rejection halon system 2.8 Status of gradual withdrawal of halon and its various alternative available	4
3	3.1 Automatic Fire Alarm System 3.1.1 System using heat sensitive detectors 3.1.2 spot or point detectors, fusible types 3.1.3 Bewed strip type. Line or continuous type 3.1.4 National tubular system 3.1.5 Acro systems 3.1.6 Solutions of detectors 3.1.7 Heat sensitive detector as per Indian Std. Specifications.	4
	3.2 Light And Smoke Detectors 3.2.1 Light Sensitive devices 3.2.2 Direct interface 3.2.3 scattering effect 3.2.4 ionization 3.2.5 detectors 3.2.6 radiation devices 3.2.7 infrared devises	4

	3.2.8 Ultraviolet light detectors 3.2.9 sitting and placing of detectors 3.2.10 Heat radioactive source 3.2.11 distribution and dosage control panels 3.2.12 main control panels carding system etc	
4	FIRE SERVICE MANAGEMENT	
	4.1 Planning for fire safety	2
	4.2 Organizing for fire safety	2
	4.3 Staffing for fire safety 4.3.1 Duties & responsibility of various ranks 4.3.2 functioned leadership 4.3.3 administration 4.3.4 report writing 4.3.5 order and instruction 4.3.6 station routine 4.3.7 Maintenance of equipment drills etc 4.3.8 Fire reports & statistics directing for fire safety	5
	4.4 Control for fire safety	2
5	5.1 Education and training 5.2 Role of public in the fire safety 5.3 Behavior of human beings on a fire 5.4 Financial aspects of fire safety 5.5 Information & control / Technology for fire	3
	Total	42

Reference Books:

- | | |
|--|-------------------------|
| 1. Fire Protection. - | D.R. Varma. |
| 2. Fire Science Equipment and Management - Part- 1/2 - | K.K. Bishnoi |
| 3. Fire Chief's Hand Book - | James F. Casey, Network |

GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA IN FIRE TECHNOLOGY

SEMESTER-IV

Subject Code : 346106

Subject Name: PRACTICAL FIREMANSHIP

Note:-

Following are the minimum experiences required, but the college can do more Experiences if possible

Laboratory Experiences:

Sr. No.	Subject Content	Hrs.
1	Hose drill	8
2	ladder drill	6
3	pump drill	6
4	Hydrant drill	6
5	tender drill	6
6	suction drill	6
7	fire extinguisher drill	5
8	foam drill	6
9	dividing berthing with hose drill	5
10	collecting breathing drill	4
11	put on gears drill	5
12	Rappelling	5
13	P.T. & Yoga	6
14	Visiting a factory & Fire Station	5
15	Swimming & Water Rescue	5
	Total	84