

Name:

Enrolment No:



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, July 2020

Course: Fire Risk & Control
Program: M Tech- HSE/ HSE spl with DM
Course Code: HSFS 7007

Semester: II
Time 03 hrs.
Max. Marks: 100

Instructions: Attempt All Questions

TF	Role of fire protection engineers is to integrate diverse building features into a uniform design package.	TRUE	Correct	FALSE	Incorrect				
TF	Role of fire protection engineers is not to determine the consequences of unsafe pressures, temperatures, flows or concentrations of materials in reactions	FALSE	Correct	TRUE	Incorrect				
MC	Responsibilities of fire protection engineers varies with	Employers	Incorrect	Government Agencies	Incorrect	Educational Institutions	Incorrect	All	Correct
MC	Engineered fire prevention measures can include	Separation distances between hazards and exposures	Incorrect	Combustion safeguards on fuel-fired equipment	Incorrect	Systems for liquid containment, drainage or run-off	Incorrect	All	Correct
MC	Examples of different types of fire protection systems are----	Inerting System	Incorrect	Smoke Control System	Incorrect	Special Extinguishing system	Incorrect	All	Correct
MC	Essential elements of fire protection designs are-----	Assets being protected	Incorrect	Function the system is serving	Incorrect	Science behind the system design.	Incorrect	All	Correct
MC	Reasons for installing fire protection include the-----	Meetings Codes	Incorrect	Making Trade Offs	Incorrect	Protecting assets	Incorrect	All	Correct

MC	Availablvle types of detectors includes the -----	Duct types smole detector	Incorrect	Rate of rise heat detectors	Incorrect	Flame detectors	Incorrect	ALL	Correct
MC	The detection system used to initiate occupant notification could be -----	Smoke detectors used to actuate smoke control systems	Incorrect	Smoke or heat detectors used for area fire detection	Incorrect	Water flow alarms actuated by operation of sprinkler systems	Incorrect	All	Correct
MC	Flammable vapour sensors set to an alarm at -----% of lower explosive limit.	25	Correct	30	Incorrect	40	Incorrect	75	Incorrect
MC	Areas of concern to fire protection engineers that interface with architectural engineering include----	Location of the building	Incorrect	Exposure of the building	Incorrect	Size of the building	Incorrect	All	Correct
MC	Developing an effective fire protection design requires addressing management of change both during the design process and after completion of the project. Management of change includes many familiar issues, including changes to-----	Building Layout	Incorrect	Building Construction	Incorrect	Process Design	Incorrect	All	Correct
MC	The fire protection design process for projects in existing facilities should follow the steps-----	Review Existing design system	Incorrect	Document new facility goals	Incorrect	Both	Correct	None	Incorrect
MC	Sprinkler system specifications includes-----	Type and Pipe fitting	Incorrect	Location	Incorrect	Spacing	Incorrect	All	Correct
MC	Capable of burning in the presence of oxygen-----	Combustible	Correct	Non-combustible	Incorrect	Flammable	Incorrect	All	Incorrect
MC	Subdivision of a building by fire-resisting walls and/or floors for the purpose of limiting fire spread within the building	Isolation	Incorrect	Compartmentation	Correct	Both	Incorrect	None	Incorrect
TF	Area from which escape from fire is possible in one direction is called dead end.	TRUE	Correct	FALSE	Incorrect				
TF	Water supply pipe installed in a building for fire-fighting purposes, fitted with inlet connections at the fire and rescue service access level, and with landing valves at specified points, which is normally dry but is capable of being charged with water, usually by pumping from fire and rescue service appliances is called <i>Dry fire main</i> .	TRUE	Correct	FALSE	Incorrect				
TF	Escape routes are the route forming part of the means of escape from any point in a building to a internal exit.	FALSE	Correct	TRUE	Incorrect				
TF	Escape time is the time from ignition until the time at which all the occupants of a building, or a specified part of a building, are able to reach a place of safety.	TRUE	Correct	FALSE	Incorrect				
TF	Evacuation lift is the lift that may be used for the evacuation of disabled occupants in a fire under the direction of management or fire-fighters.	TRUE	Correct	FALSE	Incorrect				
MC	Physical, procedural and managerial measures taken to reduce the likelihood of ignition occurring and/or to mitigate the consequences if ignition does occur would be---	Fire Precaution	Correct	Fire Extinghment	Incorrect	Fire Duration	Incorrect	All	Incorrect

TF	Fire prevention measure is measures to prevent the outbreak of fire	TRUE	Correct	FALSE	Incorrect				
MC	Combination of likelihood and consequence(s) of fire is----	Risk	Incorrect	Fire Risk	Correct	Fire Risk Assessment	Incorrect	All	Incorrect
MC	Person suitably qualified and experienced in fire safety engineering is-----	Safety Engineering	Incorrect	Safety Engineer	Correct	Safety Officer	Incorrect	All	Incorrect
MC	The ----- is documented strategy that sets the standards of fire safety that an organization is committed to maintaining.	Fire Safety System	Incorrect	Fire Safety Policy	Correct	Both	Incorrect	None	Incorrect
MC	A -----is individual charged with specific responsibilities in the event of fire, normally involving a check to ensure that a particular area of the building has been evacuated.	Fire Warden	Correct	Fire Officer	Incorrect	Fire Fighter	Incorrect	All	Incorrect
MC	A ----- is a component of fire detection and fire alarm system that is used for the manual initiation of a fire alarm signal.	Manual Call Point	Correct	Fire Sensors	Incorrect	Fire Alarm System	Incorrect	All	Incorrect
MC	A-----is the place in which people are in no danger from fire	Assemnly Point	Incorrect	Place of Safety	Incorrect	Both	Correct	None	Incorrect
MC	Product of combustion is---	Flame	Incorrect	Fire gases	Incorrect	Smoke	Incorrect	All	Correct
MC	Types of combustion are----	Rapid Combustion	Incorrect	Spontaneous	Incorrect	Explosion	Incorrect	All	Correct
MC	Smoldering stage is ---	Stages of fire	Correct	Partial developed fire	Incorrect	Both	Incorrect	None	Incorrect
MC	Removal of un-burnt material from fire area is called-----	Extinction	Incorrect	Starvation	Correct	Smootherin g	Incorrect	All	Incorrect
TF	A reaction takes place where the fuel gains electrons and the oxygen losses electrons	FALSE	Correct	TRUE	Incorrect				
TF	Molecular energy is transferred to other fuel and oxygen molecules which creates a chain reaction	TRUE	Correct	FALSE	Incorrect				
MC	During incipient stage, ----- detector can be used.	Photoelectric	Incorrect	Ionization	Correct	Heat Detector	Incorrect	Smoke Detector	Incorrect
MC	Carbon monoxide is ----- asphyxiant	Chemical	Correct	Burnt	Incorrect	Reactive	Incorrect	None	Incorrect
MC	Volume of smoke, density and toxicity depends on	Material of burning	Incorrect	Rate of burning	Incorrect	Surface areas	Incorrect	All	Correct
MC	A -----is a zone in which chemical reaction takes place between gases with evolution of heat and light accompanied by vigorous combustion	Explosion	Incorrect	Flame	Correct	Furnace	Incorrect	None	Incorrect
MC	Moist yellow phosphorus emits a bluish glow of light without evolution of much heat is called-----	Fire	Incorrect	Combusion	Incorrect	Phosphores cence	Incorrect	All	Correct
MC	A reaction takes place where the fuel ---- electrons and the oxygen ----- electrons.	Loose, Gains	Correct	Gains, Loose	Incorrect	Both	Incorrect	None	Incorrect
MC	Modern fire extinguisher was invented during----	1723	Incorrect	1818	Correct	1881	Incorrect	None	Incorrect
MC	Soda-Acid extinguisher was first patented during-----	1866	Correct	1723	Incorrect	1818	Incorrect	1881	Incorrect

TF	The fire triangle was changed to a fire tetrahedron to reflect this fourth element	TRUE	Correct	FALSE	Incorrect				
TF	Removal of any one of among three essential elements will result in the fire being extinguished.	TRUE	Correct	FALSE	Incorrect				
MC	Fuel separation in a controlled manner are called as----	Controlled Burns	Correct	Un-controlled Burns	Incorrect	Starvation	Incorrect	All	Incorrect
TF	Smothering is the removal of unburnt material from fire	FALSE	Correct	TRUE	Incorrect				
TF	Cutting off oxygen supply is named as starvation.	FALSE	Correct	TRUE	Incorrect				
TF	Combustion process will be decreases as oxygen percentage will be increases.	FALSE	Correct	TRUE	Incorrect				
TF	Cooling is the removal of heat from the fire.	TRUE	Correct	FALSE	Incorrect				
MC	Amount of oxygen remains plentiful in the case of -----	Incipient Stage	Correct	Smoldering stage	Incorrect	Flame Stage	Incorrect	None	Incorrect
TF	Ionization detector can be used during the smoldering stage of fire	FALSE	Correct	TRUE	Incorrect				
MC	Ionization detector can be used during -----	Incipient Stage	Correct	Smoldering stage	Incorrect	Flame Stage	Incorrect	None	Incorrect
MC	Maximum steam production from water fog resulted during	Incipient Stage	Incorrect	Smoldering stage	Correct	Flame Stage	Incorrect	All	Incorrect
TF	Cases of backdraft can be seen during smoldering stage of fire.	TRUE	Correct	FALSE	Incorrect				
MC	During-----, radiant energy emitted by the flame is transmitted hemispherical to distant locations independently of the convection movements.	Radiant Heating	Incorrect	Radiant Flame	Incorrect	Convective Heating	Incorrect	Flame Radiation	Correct
MC	Infrared detector can be used during	Incipient Stage	Incorrect	Smoldering stage	Incorrect	Flame Stage	Correct	Heat Stage	Incorrect
TF	Thermal detector can be used for heat stage of fire.	TRUE	Correct	FALSE	Incorrect				
MC	Convection process occurs in----	Liquid	Incorrect	Gases	Incorrect	Both	Correct	None	Incorrect
TF	During conduction, heat energy is carried throughout the fluid by actual movements of molecules.	FALSE	Correct	TRUE	Incorrect				
TF	During convection, the lighter fluid arises being displaced by colder and therefore denser fluid.	TRUE	Correct	FALSE	Incorrect				
TF	Radiation does not involved any contact between bodies	TRUE	Correct	FALSE	Incorrect				
MC	Rate of combustion depends on ---	Temperature	Incorrect	Wind Velocity	Incorrect	Atmospheric Pressure	Incorrect	All	Correct
TF	Rate of combustion affected due to atmospheric humidity	TRUE	Correct	FALSE	Incorrect				
MC	Sudden stoppage of cooling media protecting flammable reaction or distillation of solvent may result into--	Fire	Correct	Fire Extinguishment	Incorrect	both	Incorrect	None	Incorrect

TF	A substance can be said under combustion only if the heat developed is sufficient to maintain the temperature of the reactants.	TRUE	Correct	FALSE	Incorrect				
MC	Oxydized means----	Oxygen combines	Incorrect	Removal of Hydrogen	Incorrect	Elements combines	Incorrect	All	Correct
MC	Burning of saw dust is an example of -----	Rapid Combustion	Incorrect	Slow combustion	Correct	Vigorous combustion	Incorrect	ALL	Incorrect
MC	When combustion reaction takes place without the application of external heat in the -----combustion	Slow	Incorrect	Rapid	Incorrect	Spontaneous	Correct	None	Incorrect
MC	Burning of white Phosphorous when brought into air is an example of ----- type of combustion	Slow	Incorrect	Rapid	Incorrect	Active	Incorrect	Spontaneous	Correct
MC	Supersonic waves are related to -----	Slow Combustion	Incorrect	Rapid Combustion	Incorrect	Detonation	Correct	All	Incorrect
MC	Heat and light are being produced during---	Non-luminous Flame	Incorrect	Luminous Flame	Correct	Both	Incorrect	None	Incorrect
MC	Burning of hydrogen is an example of-----	Non-luminous Flame	Correct	Luminous Flame	Incorrect	Both	Incorrect	None	Incorrect
TF	Carbon monoxide is chemical asphyxiant.	TRUE	Correct	FALSE	Incorrect				
MC	The----- are gases that cause irritation to the respiratory tract, causing difficulty in the exchange of oxygen in the lungs	Asphyxiants	Incorrect	Irritants	Correct	Toxics	Incorrect	All	Incorrect
MC	Fire ----- is a device used to extract water from a pressurized net work	Hose	Incorrect	Hydrant	Correct	Both	Incorrect	None	Incorrect
MC	A ----- hose made of tough rubber lining embedded fully as a spiral, from tempered galvanized steel wires.	Partially Embaded	Correct	Fully Embaded	Incorrect	Line Coated	Incorrect	All	Incorrect
MC	Suction hose can be constructed to withstand the pressure of - ---- bar.	7	Incorrect	7.5	Incorrect	10.5	Correct	20	Incorrect
MC	Percolating and non-percolating hoses are the types of -----	Suction hose	Incorrect	Delivery hoses	Correct	Attack hoses	Incorrect	All	Incorrect
MC	Percolating hoses are specially used for -----	Forest Fires	Correct	Manufacturing Floors	Incorrect	Both	Incorrect	None	Incorrect
MC	Lined hoses are called as-----	Percolating Hose	Incorrect	Non-Percolating Hose	Correct	Attack Hoses	Incorrect	All	Incorrect
MC	Henry Parmelee related with-----	Hoses	Incorrect	Hydrant	Incorrect	Sprinkler	Correct	All	Incorrect
MC	Pipe Schedule of design of sprinkler system based on the -----	System pressure	Incorrect	Flow	Incorrect	Coverage area	Incorrect	All	Correct
MC	Deluge type of sprinkler can be used for -----	Rapid fire spread	Correct	Low fire spread	Incorrect	Both	Incorrect	None	Incorrect
MC	Resetting of system related to-----	Hose	Incorrect	Hydrant	Incorrect	Sprinklers	Correct	None	Incorrect
MC	An ----- detects water flow and activates the alarm system	Alarm Check Valve	Correct	One Clapper Valve	Incorrect	Diaphragm Valve	Incorrect	None	Incorrect

MC	An -----, usually at the end of the system, used to simulate flow from a single head and to measure the system response,	Alarm Check Valve	Incorrect	One Clapper Valve	Incorrect	Diaphragm Valve	Incorrect	Inspectors Test Valve	Correct
MC	restoration of the sprinkler system can be according to-----	Manual	Incorrect	SOP	Correct	Fire officer	Incorrect	Fire Dept	Incorrect
MC	A ----- sprinkler can be used for unheated building.	Dry	Correct	Wet	Incorrect	Deluge	Incorrect	All	Incorrect
TF	it is harder to restore the dry type sprinkler system irrespective of wet types.	TRUE	Correct	FALSE	Incorrect				
MC	The ----- detects decrease in air pressure and helps bleed off air.	ITV	Incorrect	Accelerator	Incorrect	Exhauster	Correct	All	Incorrect
MC	The ----- detects decrease in air pressure and pipes air pressure below the clapper valve, to speed up it's opening.	ITV	Incorrect	Accelerator	Correct	Exhauster	Incorrect	All	Incorrect
MC	Which are correct about wet type sprinkler system.	Mostly installed	Incorrect	Most Reliable	Incorrect	Simple	Incorrect	All	Correct
MC	Designer types of sprinkler systems are designed based on-----	Activation temp	Incorrect	Orrifice Size	Incorrect	Coverage	Incorrect	All	Correct
MC	NFPA -----, Standard for the Installation of Sprinkler Systems in Residential Occupancies Up To and Including Four Stories in Height	10	Incorrect	13	Incorrect	13 R	Correct	13 D	Incorrect
MC	Flow rate for residential sprinkler system for any single sprinkler is -----	18 gpm	Correct	13 gpm	Incorrect	10 gpm	Incorrect	None	Incorrect
MC	As per BRC, low fire load will be categorized if it is less than-----	1 BTU	Correct	2 BTU	Incorrect	1.5 BTU	Incorrect	None	Incorrect
MC	FRR for high fire load occupancies would be of---- Hrs	1	Incorrect	2	Incorrect	2.5	Incorrect	4	Correct
MC	What will be the number of fire extinguishers required to give adequate protection for a given property. Risk: Light engineering workshop (Light hazard) and area is 300 * 200.	50	Incorrect	60	Incorrect	100	Correct	150	Incorrect
TF	Endothermic materials cant be used for fire resistant material.	FALSE	Correct	TRUE	Incorrect				