

Time: 3 Hours

Marks: 75

Q. 1 Attempt all multiple-choice questions (MCQ)

20M

Sr No	Questions	Options
1	Acid rain is caused by the oxides of	a Phosphorous & carbon
		b Sulfur & Nitrogen
		c Sulfur & Phosphorous
		d Nitrogen & Carbon
2	NFPA 13 Stands for	a National fire protection analysis
		b Fire protection
		c National fire protection agency
		d Std. for installation of sprinkle system
3	According to WHMIS classification, Class E Chemical Hazard is due to	a Compressed gas
		b Pyrophosphoric material
		c Corrosive material
		d Flammable gas
4	Isolating people from hazard is which type of control?	a Substitution
		b Engineering
		c Administrative
		d PPE (Personal Protective equipment)
5	An incident can be called hazardous only when?	a Monitoring is failed
		b Poses threat to surrounding
		c Stressor has the potential to cause harm to humans and ecological systems
		d Outburst of chemicals
6	Which of the following colour is used for radiation hazard	a Red
		b Orange
		c Green
		d Purple
7	As per PHA ranking, when failure results in major injury or death of personnel. The severity of the event is	a Catastrophic
		b Critical
		c Major
		d Minor

8	For chemical hazard control, what is at the top (Most Effective) of the control pyramid?	a	Engineering control
		b	PPE
		c	Administrative control
		d	Substitution
9	---- is a situation that poses an immediate risk to health, life, property or environment	a	Risk
		b	Emergency
		c	Remedy
		d	Effect
10	The BOD test is carried out for how many days?	a	1
		b	2
		c	3
		d	5
11	Which of the following can be used for prevention of dust hazard?	a	Evaporation
		b	Filtration
		c	Distillation
		d	Drying
12	Oleum is responsible for ----- type of hazard	a	Chlorinating
		b	Acetylating
		c	Methylating
		d	Sulfonating
13	The dilution ventilation cannot be used for ----- substances	a	Hygroscopic
		b	Non toxic
		c	Toxic
		d	Cloying
14	If effluent is acidic then it is treated with	a	Lime
		b	Sulfuric acid
		c	Sodium thiosulphate
		d	Calcium acetate
15	An atmosphere having more than ____ of oxygen is considered as an oxygen enriched atmosphere and is not safe for entry/working.	a	21%
		b	20.95%
		c	19.5%
		d	12%

16	Fire Triangle Consists of	a	Oxygen, Heat and Fuel
		b	Oxygen, Heat and Injury
		c	Oxygen, Fuel and Injury
		d	Heat, Fuel and Water
17	Multiple tube Fermentation technique is used for determination of	a	Non-Biological Contaminant
		b	Biological Contaminant
		c	Arsenic
		d	Lead
18	Absolute exposure limit value for a chemical that should not be exceeded at any time	a	TLV-TWA
		b	TLV-STEL
		c	TLV-C
		d	TLV-B
19	Following type of fires involve ordinary combustible materials like paper, wood and fabrics, rubber	a	Fire A
		b	Fire B
		c	Fire C
		d	Fire D
20	Two types of Solids in waste water TSS and TDS stands for	a	Total Suspended Solids and Total Dispersed Solids
		b	Total Suspended Solids and Total Dissolved Solids
		c	Total Simple Solids and Total Dissolved Solids
		d	Total Simple solids and Total Dispersed Solids

Q 2. Attempt any two question

- i.
 - a. Define PHA, and with respect to PHA explain the following terms in detail : Risk ranking & PHA worksheet. 5M
 - b. What is HVAC? Give a schematic representation of HVAC and explain its components. 5M
- ii.
 - a. Explain hazards of organic synthesis with examples causes & its management. 5M
 - b. Write a note on control measures for chemical hazards 5M
- iii.
 - a. What is safety ? Explain elements of safety program. 5M
 - b. Explain in detail critical training for risk management. 5M

Q 3. Attempt any seven questions

- i. Comment on sources and environmental hazards faced because of water pollution and soil pollution. 5M
- ii. Write a note on preventive & control measures for extinguishing fire with examples 5M
- iii. Give Classification of hazardous gases. Comment on Hazardous Gas Management. 5M
- iv. Write a detailed note on, Multiphase reaction (MPR) with reaction & example. 5M
- v. Write flow chart for ETP (Effluent treatment plant)? Explain following terms with reference to Physicochemical measurements of effluents:
BOD and COD 5M
- vi. Comment on the commoner air pollutants in pharmaceutical industry and suggest measures to curb the menace 5M
- vii. Write a short note on the regulations of chemical hazards. 5M
- viii. What is a Fire Hazard? Explain different types of Fires. 5M
- ix. Write a note on Fire & Explosion hazard management (FEHM) with an emphasis on stages of FEHM Process by schematic flow diagram 5M
