

FIRE FIGHTING INSTRUCTIONS – IOBM - May 2018

(Safety & Security Department IOBM)

1. Introduction

These instructions deals with the precautions needed to minimise the risk of fires, how fires are caused and how to extinguish them, with a focus on using firefighting equipment and apparatus to extinguish various types and sizes of fires including rescue in smoke filled enclosed spaces.

A well-trained employee with an on-site fire extinguisher can put out small, non-hazardous fires effectively. However, to do this safely, the employee must have knowledge of equipment and portable fire extinguisher limitations, in addition to the hazards associated with fighting fires. There may be situations where employee firefighting is warranted to give other workers time to escape, or to prevent danger to others by spread of a fire.

2. <u>Aim</u>

The objective is to develop a greater awareness of the hazards of fire and tackle small fires by providing periodical training to all staff & students.

3. Objective

- a. Understand the nature of fire and how it spreads.
- b. Identify the dangers of Smoke and Fire.
- c. Identify specific hazard areas and reduce hazards.
- d. Distinguish between different types of fire extinguishers and their suitability in attending to the different types of fires.
- e. Fire protection and Preventive measure

4. <u>Training</u>

All employees, Students and guards should be trained to use fire extinguishers. It is recommended the training session cover how to handle; what type of extinguisher

to use; and the PASS system of early-stage firefighting. It is also recommended that fire training be conducted periodically or different segments may be provided training as per their availability. They should be provides hands-on practice extinguishing a fire.

5. <u>Firefighter</u>

A firefighter is a rescuer, primarily to extinguish hazardous fires that threaten life, property and the environment as well as to rescue people and equipment from dangerous situations.

A well-trained security guard, student and employee with an on-site fire extinguisher can also put out small, non-hazardous fires effectively.

However, to do this safely, the employee must have knowledge of equipment and portable fire extinguisher limitations, in addition to the hazards associated with fighting fires.

There may be situations where employee firefighting is warranted to give other workers time to escape, or to prevent danger to others by spread of a fire. However the responsibility lies with security department to prevent and React against any Hazard.

6. <u>Fire</u>

Fire is a chemical reaction. Fire is created due to ignition in any inflammable material due to heat and uses oxygen to survive. Fire is the result of the reaction between the fuel and oxygen in the air. Ignition sources can include any material, equipment or operation that emits a spark or flame. It requires three elements to be present for the reaction to take place and continue. The three elements are

- a. Fuel
- b. Oxygen
- c. Heat

(Often referred to as the fire triangle)

The responsibility lies with security department to prevent and React against any Fire Hazard.

7. <u>Smoke</u>

The byproduct of fire is smoke. The smoke released by any type of fire (Paper, bush, crop, waste or wood burning) is a mixture of particles and chemicals produced by incomplete burning of carbon-containing materials. All smoke contains carbon monoxide, carbon dioxide and particulate matter.

Smoke and poisonous gases in the smoke are very dangerous. Most often people are hurt by the smoke and the poisonous gases, not the flames. Smoke is irritating to the eyes, nose, and throat, and its odor may be nauseating. Inhaling carbon monoxide decreases the body's oxygen supply. Main danger from smoke is reduced visibility, while the adverse effect on body functions is chocking due to the acidic gases and vapors.

Smoke can slow the escape from a burning building and prolongs the exposure to harmful effects of toxic products.

Smoke normally spreads two to three feet above the ground, so try to walk on your four feet or crawl at lower level while passing through smoke filled area. Use wet towel on your mouth and nose.

8. Causes of Fire

- a. Faulty Electrical wiring and equipment.
- b. Loose connections.
- c. Low quality extensions.
- d. Poor House Keeping i.e. stacking of inflammable material.
- e. Overloaded Electrical systems.
- f. Overheating of equipment.
- g. Careless handling of gas burners, cigarettes, naked flames and inflammable material.

- h. Spontaneous combustion-Sun / direct Heat.
- i. Playing with fire-Fire crackers.

9. Classification of Fire

Types of fire are separated into different classes based on the fuel source involved. Knowing the classes of fire will help you choose the appropriate extinguisher.

A –Class Fire	Solid	Wood, Paper, cloth, etc
B –Class Fire	liquids	Paint, Oil etc
C – Class Fire	Gases	Carbon Mono Oxide
D – Class Fire	Metals	Magnesium, Sodium, Potassium, Copper
		Water must not be used on metal fires.
E – Class Fire	Electrical	Electric wires & Cables

10. Fire Extinguishers

A fire extinguisher is a portable cylinder coloured in red with white labeling. Normal capacity 1.5 to 25 lbs. Range: 3 to 15 Feet. Duration: Discharge in 5 to 30 sec. Fire Hydrant-30 Meter hose with nozzle are kept on each floor of a building. Jet water will go up to 50 to 60 feet.

11. Types of Fire Extinguishers

Use the right type of extinguisher for fighting the fire. Use the fire extinguisher only if you have attended training.

- a. <u>Water</u> wood, paper, Textile-Not for Electric & Oil Class A.
- b. Soda Acid-wood, paper, Textile-Not for Electric & Oil-Class A.
- c. <u>Foam</u> Oil, Metals-Not for electric-Class A,B & D
- d. Dry Powder Oil & Electric Class A, B & C

e. <u>CO₂ & BCF Halon</u>–Electrical Fire-Not for metals-Class A,BC



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12. Methods of Extinguishing Fire

- a. **Cooling** the fuel by removing heat (e.g., by applying water).
- b. **Smothering** by cutting off oxygen supply (e.g., by applying foam, carbon dioxide).
- c. **Starving** the fire by removing the fuel.(e.g., stopping gas flow during a pipeline fire).
- d. **Inhibition** by stopping the chain reaction.(e.g., by applying dry chemical powder).
- e. Above Can be achieved by:
 - (1) Beating
 - (2) Blanketing
 - (3) Use of Sand
 - (4) Use of water
 - (5) Foam
 - (6) Carbon Di-Oxide
 - (7) Dry Chemical Powder

13. FIRE DETECTION AND WARNING

Fire & Security department and area supervisor will be notified immediately when a fire is spotted.

a. Points to Consider

(1)	IDENTIFY	_	Common classes of fires.
(2)	SELECT	_	Proper type of extinguisher.
(3)	EVALUATE	-	when it is safe to fight.
(4)	APPLY PASS extinguisher.	-	Method to operate a Portable

b. Three A's (A.A.A)

If a person discover a fire follow the 3 A's i.e. Activate, Assist and Attempt. When fire is detected:

- a. <u>Activate</u> the buildings fire alarm system or call others and phone to notify emergency services
- b. All personnel will be alerted and evacuated as needed.
- c. The person spotted should start shouting "Fire", "Fire".
- d. Blow the whistle repeatedly.
- e. Use emergency phone list and try to call the concerned staff and Fire brigade.
- f. Press the call point button for sounding bells or sounders.
- g. In some buildings there will be bells and sounders linked with Smoke detection system. Try to activate detection system sounders. The alarm must be audible in all areas.
- h. Break the glass & press/operate call point or any alarm nearby.
- i. <u>Assist</u> those who are in immediate danger or who are incapacitated. Do this without risk to yourself.
- j. Do not run & Don't Use lifts. Help handicap.
- k. <u>Attempt</u> to fight a fire only after the first two steps have been completed and you feel confident in yourself to do so. Always have an exit to your back in case you need to escape. Never attempt to fight a fire if there is a heavy smoke condition. Smoke can be extremely toxic and will reduce your visibility. Only fight small fires, no larger than the size of a small waste basket. Small fires will grow big very fast.

- 1. The PASS method will be used to extinguish the fire by those employees who have been properly trained.
- m. On hearing the alarm area or building will be evacuated immediately.
- n. Follow the exit signs
- o. **<u>React</u>** Upon discovering a fire or smoke:

R – Remove person in immediate danger.

- E Ensure doors are closed to confine the fire and smoke.
- A Activate the building Alarm.
- C Call the Fire & Security Department.
- T- Treat all fires as dangerous. Evacuate and go to your assembly point if necessary.

14. Fire Emergency principles

- R Rescue
- E-Exposure
- C-Containment
- E-Extinguishment
- O-Overhaul

15. Must Know

- a. The places where Fire extinguishers and water hose reel are kept.
- b. The location of main fire points and hydrant.
- c. Emergency telephone numbers.

- d. Class of Fire and which type of extinguisher to use.
- e. The escape route or emergency exit.
- f. How Fire Extinguishers operate.

16. DO's and Don't's

- a. Do not allow to use lift. Use only staircase.
- b. Do not run to fire zone without extinguisher.
- c. Close doors and windows as you leave the fire zone.
- d. Do not panicky.
- e. Do not open closed doors if smoke coming out.
- f. Do not switch on any electric device or Exhaust fan.
- g. Leave the danger area quickly. Do not waste time to collect personnel belongings.
- h. Always leave yourself an exit and ensure it is clear.
- i. Never attempt to fight a fire unless it is Safe to do so.
- j. Remember it can be dangerous to use the wrong extinguisher.
- k. Do not move in smoke covered area while standing. Only crawl.
- 1. Do not jump out of window at high floor.

17. Use of Portable Fire Extinguisher-PASS Method

Remove the cylinder from wall hook and break the seal and:

- a. Pull the Pin.
- b. Aim the nozzle at the bottom of fire.
- c. Squeeze the lever to allow the agent to come out.

d. Sweep the nozzle from right to left or vice versa.



18. EVACUATION

Evacuate and go to your assembly point if situation warrants or order to do so.

- a. Keep all emergency exit routes free from obstruction.
- b. Use Your nearest available Fire Exit
- c. Crawl on four limbs if there is smoke. As smoke stays always two or three feet above the ground.
- d. Keep wet cloth or mask on mouth, to save from choking due to inhaling of smoke & Poisonous gasses.
- e. Do not go back for personal belongings
- f. Do not use Lifts
- g. Do not re-enter building till advised to do so
- h. Make your decision to leave before you are threatened. People do die in emergencies, often when they leave late.

19. SOURCES OF FUEL

a. <u>Flammable Liquids</u>. Ethanol, acetone and a whole range of other solvents. These require to be stored properly in a fire rated

cabinet. These should have appropriate signage on them. Avoid storage of solvents / Flammable materials. Waste should be disposed of regularly

- b. <u>Flammable Gases</u>. Hydrogen, Acetylene. Need to be secured Leak testing should be carried out
- c. <u>Flammable Solids</u>. Carbonaceous materials. Wood (furniture), Paper (tissues, books and office paperwork), cardboard (boxes), foam and plastics (packing materials, contents of upholstered furniture), textiles (clothing, curtains), animal bedding materials.

20. SOURCES OF IGNITION:

- a. Naked Flames Bunsen Burners
- b. Hot Surfaces Hotplates
- c. Faulty Electrical Equipment
- d. Loose and un covered Electric connections
- e. Extension leads are a particular hazard and have caused fires in the past
- f. MACHINERY / HEATERS
- g. Materials stored up against vents of fridges and centrifuges
- h. Chemical reactions
- i. Hot Oils.

21. Prevention

- a. Proper storage and handling of flammable and combustible materials will help prevent fires from occurring
- b. Prevent generation of Static electricity. It is important to dissipate this electric charge through grounding.

- c. Naked Flames be kept covered or switched off.
- d. All Electrical equipment should be subject to Checking / Testing for faults by specialists.
- e. Extensions leads should be tested and ensure they are not being overloaded.
- f. Loose connections should be tapped.
- g. Prohibit smoking and other sources of ignition. No-smoking signs should be posted in all regulated areas'.
- h. All work areas will be kept free of debris and other combustible materials.
- i. Each fire extinguisher will be inspected monthly to make sure it is in its designated location and has not been tampered with or actuated.
- j. Each fire extinguisher will be clearly visible with nothing obstructing or obscuring it from view.
- k. Don't allow rubbish and waste to accumulate.
- 1. **Inspections**. When justified by the size or nature of the operation, security services personnel or other assigned personnel must frequently inspect buildings, storage areas, employee quarters, and work areas.
- m. Post emergency telephone numbers and reporting instructions at the job site.
- n. All equipment must be inspected periodically.
- o. Do not burn waste materials inside the premises.

22. Fire fighting Teams

The basic tasks of firefighting Teams include, fire suppression, rescue, fire prevention, basic first aid, and investigations. All Deans are

responsible to nominate their office staff for these teams on yearly basis.

Firefighting is further broken to extinguishing, ventilation, search and rescue, salvage, containment, mop up and overhaul.

- a. <u>Fire Prevention Team</u> (Will take all measures to prevent fire)
 - (1) Responsible to check any inflammable material inside building
 - (2) Responsible to inspect fire fighting equipment of their building

b. Safety Team

- (1) In case of Fire they have to give alert to all. Call to all emergency numbers.
- (2) Switch Off the main Electric Panel.
- (3) Call fire brigade

c. Extinguish Team

(1) This team should attempt to extinguish the fire.

d. Salvage Team

- (1) This team should help to people or handicapped to rescue.
- (2) Check for the trapped people.
- (3) Conduct rescue using breathing apparatus and rescue lines

e. Search & Rescue Team

 Search and rescue the public. Conduct rescue using breathing apparatus and rescue lines

f. Evacuation & Medical Team

- (1) Responsible to mark evacuation route with signs & will manage evacuation
 - (2) Take care of injured and casualties.

23. State of Fire Extinguishers

Extinguishor Typo	Constitu	Quantity	Location	DOE	Rem
Exunguisher Type	Capacity	Quantity	Location	15-11-17	
AFFF (Foam)	50 Ltr	02		15-11-18	
Dry Chemical Powder	50 kg	02		15-11-18	
Dry Chemical Powder	01 kg	02		15-11-18	
Dry Chemical Powder	06 kg	46		15-11-18	
CO2	03 kg	38		15-11-18	
CO2	06 kg	08		15-11-18	
CO2	35 kg	01		15-11-18	
HFC -236 Halotron	04 kg	46		15-11-18	
TOTAL	145				
Fire Hose Reel Point			SSK		
Buckets		12			
Fire Blankets					
Fire Alarm					
Fire Control Panel					
Smoke Detectors					
Fire Alarm – Manual					
Call point					

24. Locations of Fire Extinguishers

S #	Location	Qty	Туре	Remarks
01	Main Gate			
а	SAM Office	1		
b	ASO Office	1		
С	Main Guard Room	3		
	Total	05	ABC powder – 03 C02 - 02	
02	Admin Building			

а	Ground Floor (Both Sides)	2		
b	1st Floor	2		
С	2 nd Floor (Purchase Dept)	3		
	Total	07	CO ₂ - 07	
			· · · · · · · · · · · · · · · · · · ·	
03	Academic Building			
а	Basement	1		
b	Ground Floor (Left Side)	2		
С	First Floor (Left Side)	2		
	Total	05	ABC Powder ,02	
			CO2, 03	
			·	
04	IT Building			
а	Ground Floor (Both Sides)	2		
b	1st Floor (Both Sides)	2		
С	2nd Floor (Both Sides)	2		
d	3rd Floor (Both Sides)	2		
	Total	08	ABC Powder 08	
05	Library Building			
а	Basement (Right Sides)	2		
b	Basement (Left Side)	2		
С	Ground Floor (Left Side)	2		
d	Ground Floor (Right Side)	5		
e	(Ground Floor) AC Shop	1		
	Total	12	ABC Powder, 12	
06	Eng. Building			
а	Ground Floor (Left Side)	2		
b	Ground Floor (Right Side)	1		
С	Gr Floor Wksp (Left Side)	1		

	<u>Total</u>	04	ABC Powder 04
			· · ·
07	Old Exam. Building		
а	Basement (Exam Hall)	2	
b	Ground Floor (Right Side)	1	
С	1st Floor (Right Side)	3	
d	Top Floor (AC Shop)	1	
	Total	07	ABC Powder 01
			Halatron 06
08	Student Activity Center		
а	Ground Floor (Both Sides)	2	
b	Ground Floor (Sitting Hall)	2	
С	Ground Floor (Kitchen)	1	
d	1 st Floor (Both Sides)	2	
	Total	07	ABC Powder 04
			CO2 03
09	Generator Room		
а	Main Hall (Entrance)	2	
b	Main Hall (Beside	2	
	Generators)		
С	Main Hall (Operator Loc)	4	
	Total	08	CO2 08
			· · ·
10	Media.S.Bldg (Old)		
а	Main Entrance	5	
	Total	05	ABC Powder 05
			· · · · · · · · · · · · · · · · · · ·
	TOTAL	122	
			· · · · · · · · · · · · · · · · · · ·
11	<u>CHS</u>	54	

а	CHS Guard Room	1	
b	Basement Room-102	1	
С	Basement Room-105	1	
d	Basement Room-109	1	
е	Sports Hall	4	
f	School Hall	2	
g	Ground Floor Entry Gate	1	
h	Main Library-(Ground Floor)	2	
i	Room-201 (Madam's Portion)	1	
j	Room-201 (Principal's Portion)	1	
k	Canteen	1	
	Room-202	1	
m	Room-203	1	
n	Gallery (Right Side)	1	
0	Electric Panel Room	5	
р	Gallery (Left Side)	1	
q	Room-102	1	
r	Room-304 (First Floor)	1	
S	Room-305	1	
t	Room-308	1	
u	Electric Panel Room - (T 26)	1	
V	HM Office/Secondary Library	2	
w	Room-208	1	
х	Room-209	1	
У	Room-306 (Biology Lab)	1	
Z	Computer Lab	1	
aa	Room 404 (2 nd Floor)	1	
bb	Room-405 (2 nd Floor)	1	
CC	Gallery (2 nd Floor)	1	
dd	Room-309	1	
ee	Electric Panel Room - (T 25)	1	
ff	Gallery-(2 nd Floor Left Side)	1	

gg	Room-301	1		
hh	Room-503 (3 rd Floor)	1		
ii	Room-502	1		
jj	Gallery-(3 rd Floor Left Side)	1		
kk	Gallery-(3 rd Floor Right Side)	1		
II	Room-507 (Both Sides)	1		
mm	Gallery-(3 rd Floor Both Sides)	2		
nn	Room-406	1		
00	Room-404	1		
	TOTAL	54	ABC Powder 16 Halation 38	
			1	
	G.TOTAL	145		

25. Emergency Phone Numbers

NAME	PHONE NO.
IOBM - Exchange	021-35090961-7 then Dial Extn- PTCL-Inquiry : 1217
IOBM - Universal Number	111-00-2004 then Dial Extn
HOD Security Major Nadeem	03333451968, Extn 345, 021-35092663
Snr Security Offr, Major Asad	03458252111 Extn 775
ASO Security, Mr.Faheem	03473546226 Extn 362
ASO Security Ms. Uzma	021-35090961-7 Extn 362
Security Supervisor Sub Arif	03226940643 , Extn 222 / 399 ,021-35092663
Security Supervisor Sub Iqbal	03092989114 , Extn 222 / 399 ,021-35092663
Security Supervisor Mr.Naseer	03003586526 Main Gate Extn 222 & Gate 4
Alam (Night)	Extn 399
IOBM Area Police Station (PS-Ibrahim Haidri)	Exch #: 021-35090066, HM: Iftiqhar 0333- 3016369 , SHO #: Sobail Akber: 0300-9207045
	Exchange: $021.34494201 = 0310.8484047$
84 Wing Bhitai Rangers -	Adjutant: DSR Masood 03003210110
COD Company	Wing Comd: Lt.Col.Fawad Raza 0316-
(IOBM Area)	1238484
	Second In Comd: Maj.Mumtaz 0345-

	3777873
	DSR: (Area) Asghar: 0313-9996815
	Police 15, Rangers 1101, Army-1135, Traffic
Help Lines	1915, CPLC 1102
	Indus: 021-35112717, NMC: 111-222-662,
Hospital	Civil: 99215740, 99215960, Agha Khan:
-	34930051 Extn 1091
Ambulance	Aman 1021 , Chipa 1020, Edhi 115
Troffic Dolice Ibrohim Heidri	SO Ashraf Mughal: 0300-2208234, Majeed:
I faille Police Ibranim Haldri	0302-9256928
	KE: 118, Electrician Waheed: 0333-3595473
Utilities	, Nafees: 0333-2353761, Admin Arif Sh:
	0300-2461746, Railway: 117
Fire Brigade	16, 021-35066260-1, Landhi: 35015888-988
Fire Brigade-Central Fire	CEO.021 37773252 00215007 8 37724801 2
Station	CF0.021-37773232, 39213007-8, 37724831-2
Bomb Disposal Squad (021-	39212680, 39212690,
99212690)	39212646,39212655,32416626, 37722645
CDI C / CM Complaint Office	CPLC Korangi: 35114444,
CFLC / CWI Complaint Office	DSP : 0300-3060476,
Civil Defense	32412222, 32415111