RESOLVE MARINE
Advanced Firefighting

Advanced Firefighting

Time	Day 1	Day 2	Day 3	Day 4
8:00 AM	**Introduction to Resolve Academy** Basic Review SOLAS/IMO Ships Construction	Gear Issue Walkthrough S.C.B.A. Search & Rescue Hose handling Foam inductor	**Fire Scenario 1** Fire in the ECR room **Debrief** **Fire Scenario 2** Fire in the ECR with one missing person **Debrief**	Stability & Damage Control Fire Investigation Crew Drills
12:00	**Lunch**	**Lunch**	**Lunch**	**Lunch**
13:00	Tactics and Strategy Fire Control Plans Pre-Fire Planning	Topside Burn Burn Demo	**Fire Scenario 3** Fire in the ECR room with Fire team relief **Debrief** **Fire Scenario 4** Top deck fuel fire with extension into the ECR room. In addition, one person is missing from Muster.	In-Port Fire Fighting and Interface with Shore-Based Firefighters IMDG Code Inspection and servicing of Fire Equipment Yachts
				Final Exam

Vessel Types, Construction and Arrangement

1. List 3 major classification societies.

DNV/Lloyds/ABS

2. What are the 3 types of vessel designations recognized by SOLAS?

Passenger/Tanker/Cargo

3. Fire resistant ratings for bulkheads are found in what chapter of SOLAS?

SOLAS-CH-II-2

4. What is the meaning of a class A-60 Division?

Class A rated doors or bulkheads rated to withstand heat and smoke for 60 minutes.

5. List the 3 most common construction material.

Steel / Aluminum / Fiberglass / Carbon Fiber

6. Search and rescue procedures in these types of vessels can be time consuming and labor intensive.

Passenger

7. An opening that allows movement between main vertical zones above the main deck is know as.

Fire Doors

8. An opening in a bulkhead that allows movement between subdivisions below the main deck level is known as.

Watertight Doors

9. The recommended procedure for opening an individually dogged door that may have pressure behind it is to first release what?

Hinged side

10. When controlling ventilation should smoke be pushed or pulled through the ship?

Pulled

11. What is the purpose of a Fire Stop for a cable runs or penetrations through a rated bulkhead?

Stop the flow of heat and Gasses /Fire rated insulation / Fire collar

12. After a vessel is classified, it must meet the requirements of special, intensive surveys conducted every_____ year.

Five years

Shipboard Firefighting Operations / Command and Control

1. Who is responsible for the over-all safety of the crew and passengers?

Master / Captain of the vessel

2. Who initially sizes up a fire?

On-scene commander

3. When does size up end?

When the event is over

4. What indicators is the on-scene leader looking for to do a proper size-up?

Class of fire/Visible flame/Smoke conditions/Initial action taken

5. Who oversees the hose team if there is no hose team leader?

Nozzleman

6. What is the purpose of the BA controller?

Responsible for monitoring the air consumption of Fire Fighting teams.

7. When is the Incident Command System utilized aboard ship?

During any emergency event

8. When is it important to change from an Incident Command System to a Unified Command System?

When you have multilabel agencies involved

9. What determines which team serves as the primary fire attack team?

The fire area

10. Who is normally the on-scene leader for an engine room fire?

Chief engineer

11. What agency can assist with information and access to a shipboard emergency while in Port.

Coast Guard

General Fire Fighting Tactics & Strategies

1. What is an offensive strategy?

Taking direct action to mitigate the problem

2. These are specific task and duties to be completed to meet the overall strategy.

Tactics

3. This is an overall plan for incident attack and control.

Strategies

4. List the 5 parts of tactical priorities of your fire teams.

R.E.C.E.O

5. During an emergency, life safety is what?

Priority

6. Protecting the vessel sometimes may take priority over this procedure.

Search & Rescue

7. This method of fire attack directs the stream of water directly at the seat of the fire.

Direct attack

8. This method of fire attack directs the stream of water above the fire to generate steam that cools the space.

Indirect attack

9. The key indicator for choosing a method of fire attack is usually determined by.

Stage of the fire

10. First thing you do before opening a door is what?

Check for heat

11. What are three things that should be done prior to opening a door that is hot to the touch?

Cool the door / opposite side of the hinges / out of the path of travel

12. This is the process of searching for and extinguishing remaining fire after the main body of fire has been extinguished.

Overhaul

13. Why would you use ventilate during a fire?

Remove heat and smoke / increase visibility

14. Dewatering procedures should begin as soon as.

Any time you are applying water

15. In the event of a fire, when should lifesaving appliances be made ready?

At the onset of the event

16. The largest and most important responsibility during fire emergencies on passenger vessels is.

Crowed control

17. Which types of fires are most often encountered in engine rooms / machinery spaces?

Class B & C/Flammable liquid/Electrical

18. Stack fires are usually caused by.

Poor maintenance / and buildup of carbon deposits

Fire Control Plans / Pre-Fire Planning

1. SOLAS requires that fire control plans be permanently displayed on the bridge and located where?

Outside the wheelhouse or adjacent to the gangway

2. What information would you find on a set of fire control plans?

Main Vertical Zones/Class A/B divisions/Fire Alarm/ Fire Sprinkler……

3. Name three areas that would be a priority to pre-plan on a vessel.

Engine Room / Galley / Laundry Room / Paint Locker / Machine Shop

4. SOLAS requires fire control plans to be in the official language of the vessel's flag state and

English

5. A plan for fighting fire that is worked out before a fire occurs is known as

Pre-Fire Plan

6. All pre-fire planning should be based on a_____scenario.

Worst case scenario

7. The pre-fire plan should be tested.

Annually

8. A_____ is used to collect and organize pre-fire planning information.

Pre- Fire Survey Form

9. Construction considerations in performing a pre-fire survey should include what?

Classification Divisions

10. What's the best extinguishing agent for a grease fire in a galley?

Wet Chemical

11. What's the leading cause of laundry room fires aboard marine vessels?

Improper cleaning of lint traps

Crew Training and Drills

1. This document states where each person is to go during a specific emergency and what each person's responsibilities are.

Muster List / Station Bill

2. During a fire emergency, all crewmembers not present and accounted for during a muster are assumed to be.

Trapped / Injured or threatened by the fire

3. What is the international standard for General Emergency Alarm.

7 or more short followed by one long

4. What is the main purpose for fire drills?

Increases an individual's skill / Identify weak spots/ Team work

5. Communications between members of a firefighting team should be.

Must be clear / concise / acknowledged and timely

In–Port Fire Fighting and Interface with Shore–Based Firefighters

1. Approximately 65% of vessel fires occur in port.

2. Who is initially in charge of a fire, on board a vessel in Port?

Master/ Captain

3. What's one of the first priorities of the land-based fire departments arrival.

Life Safety/Accountability

4. During an emergency, report the outcome of any search on board and the probable locations of any missing persons to the___.

Command or on-scene commander

5. Who should determine whether to move a vessel during a fire emergency on board?

Master/Coast Guard/Fire Chief/Harbormaster/Tugboat

6. When fighting a fire aboard a ship in port, what should the ships' Master and crew accomplish?

Life safety / Exposure protection / Fire confinement

IMDG CODE

1. When fighting a fire involving dangerous goods, what publication can be referred to assist in the response action?

IMDG CODE- Emergency Schedules guide (ESG)

2. What are SDS sheets?

Safety Date Sheets

Inspection and Servicing of Fire Equipment

Fire Alarm Panels

1. Sample of detectors and manual call points are required how often.

Monthly

2. Fire alarm panels are to be certified how often?

Annually

3. The secondary power system must make the detection and signaling system fully operational within_seconds after the failure of the main power supply.

30 seconds

Fixed Fire Suppression Systems

1. The minimum percentage of carbon dioxide needed to extinguish most Class B fires is_____34_____.

2. A carbon dioxide total flooding system for machinery spaces must discharge_____85 %_____ percent of the total volume needed for the space within two minutes.

3. A time delay does what for a fixed CO2 system?

Evacuation of personal / Ventilation shut down

4. MCA- C02 Bottles for fix systems Hydro every_____ year.

Every 10 years

5. Coast guard – CO2 Bottles for fix systems Hydro every _____ year.

Every 12 years unless they have been discharged.

6. How often should the fusible link in a Wet Chemical suppression system be changed?

6 months

Fire pumps

1. How often do we run fire pumps?

Monthly

2. How often are fire pumps flow tested?

Annually

3. MCA-How often is fire hose tested.

Sample testing annually and max time interval of 5 years

4. Coast Guard – How often is fire hose tested?

Annually

5. Most regulatory agencies require at least__ Fire pump(s) for most vessels.

2

SCBA / PPE

1. Firefighting protective clothing has how many layers?

3

2. How often must fire-fighting gear be replaced

Every 10 years

3. What NFPA code regulates fire-fighting gear

NFPA-1851

4. At the very least, SCBA should be inspected how often.

Weekly

5. Steel SCBA bottles should undergo hydrostatic testing every_____ years.

5

Foam Fire Fighting Equipment

1. Foam is used on fires because it does what?

Cools / Smothers and Separates

2. The process of mixing foam and water is called_____. What other components are needed to make finished foam?

Proportioning

3. What are the three (3) methods of applying a foam stream?

Roll-On / Bank down / Rain Down

Portable and Semi-Portable Fire Extinguishers

1. How often should a fire extinguisher be inspected.

Monthly

2. Fire Extinguishers require inspection from licenses company how often?

Annually

3. Dry Chemical Extinguishers extinguish a fire by.

Inhibiting the chemical chain reaction

4. Carbon dioxide extinguishers are effective in extinguishing which classes of fire, and at what range?

B / C and 3-5 feet

5. When referring to portable extinguishers, what does P.A.S.S. stand for?

Pull / Aim / Squeeze / Sweep

Shipboard Damage Control

1. This is the term used to describe the vessel's ability to return to an upright position when heeled by an external force.

Stability

2. An upward force perpendicular to the surface of the water and equal to the weight of water displaced by the vessel is.

Buoyancy

3. What is freeboard?

Water line to upper most complete deck

4. The tendency of a liquid to remain level in a compartment as a vessel inclines or heels.

Free Surface effect

5. The free surface effect of loose liquids anywhere in a vessel impairs stability by decreasing the.

Metacentric height

6. How often should crewmembers measure liquids in all compartments, including void spaces and cofferdams?

Daily

7. How often is the ships draft checked? The draft markings are how big? The distance between the markings is how much?

Daily / 6in / 6in

8. An internal force on a vessel causes this effect.

List

9. What are the 3 general states of vessel stability?

Positive / Neutral / Negative

10. Every 100 GPM (379 L /min) of water flow adds_____tons of seawater per hour.

25 tons

Basic Fire Review

1. The most hazardous part of smoke is what?

Carbon Monoxide

2. What are the 4 parts to the fire tetrahedron?

Fuel/Heat/oxygen/Chemical chain reaction

3. Flaming combustion cannot be supported below what oxygen concentrations?

16

4. The transfer of heat from one body to another body by direct contact is known as.

Conduction

5. A handheld a few inches above a flame feels the heat by.

Convection

6. A handheld a few inches to the side of a flame feels the heat by.

Radiation

7. Temperature at which liquid fuels produce vapors sufficient to support continuous combustion once ignited by an outside source is known as.

Fire Point

8. The minimum and maximum percentage of a substance in air that burns once it is ignited is known as.

Flammable Range

9. Another name for a small fire in the ignition or growth stages is.

Incipient

10. The tendency of gases to form layers according to their temperature is known as

Thermal Layering

11. A condition that occurs when flames move through or across unburned gases during a fire's progression is known as.

Rollover

12. An explosive ignition of gases that results when air enters a compartment and mixes with hot, unburned gases is known as a.

Backdraft

13. What are American classifications? What are European classifications?

A/B/C/D/K A/B/C/D/E/F