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**B.Tech. Degree VI Semester Regular/Supplementary Examination in
Marine Engineering June 2023**

**19-208-0603 SHIP FIRE PREVENTION AND CONTROL
(2019 Scheme)**

Time: 3 Hours

Maximum Marks: 60

Course Outcome

On successful completion of the course, the students will be able to:

CO1: Understand basics of management function, organizing organizational structures.

CO2: Gain knowledge production planning and control and operations research.

CO3: Understand resource allocation, work study, job evaluation and merit rating.

CO4: Explain the different aspects of finance management.

CO5: Understand the functions of human resource management.

Bloom's Taxonomy Levels (BL): L1 – Remember, L2 – Understand, L3 – Apply, L4 – Analyze, L5 – Evaluate, L6 – Create

PI – Programme Indicators.

(Answer *ALL* questions)

(5 × 15 = 75)

		Marks	BL	CO	PI
I.	Write short notes on:	15	L2	1	1.4.1
	(i) Fire Chemistry.				
	(ii) Spontaneous combustion.				
	(iii) Classification of Fire and suitable extinguishing agents.				
	OR				
II.	(a) Explain Fire Triangle and Fire Tetrahedron. Also Explain extinguishing processes.	8	L2	1	1.4.1
	(b) Explain advantages and disadvantages of CO ₂ as a fire fighting medium.	7	L2	1	1.4.1
III.	(a) Briefly explain different types of bulkheads, with respect to fire protection. Where are these bulkheads fitted in the ship?	8	L2	2	1.4.1
	(b) Explain SOLAS Convention recommendations to be adopted with respect to fire protection in the construction of ships.	7	L2	2	1.4.1
	OR				
IV.	Write short notes on:	15	L2	2	1.4.1
	(i) Standard Fire test.				
	(ii) Escape means.				
	(iii) Fire Zones.				
	(iv) Fire Door.				
	(v) Fire-fighting systems in Tankers.				
V.	(a) Make an assessment of Fire Safety precautions to be taken in a Cargo Ship during loading.	5	L3	3	1.4.1
	(b) Explain periodic testing of Fire detector and alarm systems with the help of a simple line diagram.	10	L2	3	1.4.1

OR

(P.T.O.)

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		Marks	BL	CO	PI
VI.	(a) Explain various types of fire detectors in Marine Industry.	10	L2	3	1.4.1
	(b) Explain the suitability of the detectors in different parts of a ship.	5	L3	3	1.4.1
VII.	(a) Explain fire hydrant system fitted in a ship with the help of a labelled line diagram.	10	L2	4	1.4.1
	(b) Explain International shore connection / coupling using a neat sketch.	5	L2	4	1.4.1
OR					
VIII.	(a) Explain fixed Dry Chemical Powder fire-fighting system and its operation using a neat line diagram.	7	L2	4	1.4.1
	(b) Explain portable CO ₂ Extinguisher using a neat diagram. Also explain its operation.	8	L2	4	1.4.1
IX.	(a) Describe Fire-fighting arrangements in machinery spaces.	5	L2	5	1.4.1
	(b) Explain procedure of re-entry to engine room after carbon dioxide flooding.	5	L2	5	1.4.1
	(c) Describe safe working practice.	5	L2	5	1.4.1
OR					
X.	(a) Describe fire control plan. Where and how is it kept?	5	L2	5	1.4.1
	(b) Explain Fire precautions to be taken in a Gas Carrier.	5	L2	5	1.4.1
	(c) Explain Fire precautions to be taken while the Ship is in dry dock	5	L2	5	1.4.1

Bloom's Taxonomy Levels
L2 - 93%, L3 - 7%.
