Q. Code:261666

Reg. No. | | | | | | | | | | | | |

B.E./B.TECH. DEGREE EXAMINATIONS, MAY 2024

Fourth Semester

MR22402 – SHIP CONSTRUCTION

(Marine Engineering)

(Regulation 2022)

TIME: 3 HOURS **MAX. MARKS: 100**

COURSE OUTCOMES	STATEMENT	RBT LEVEL
CO 1	Understand the concepts of Ship terms and stresses on-board the ships.	**2**
CO 2	Apprehend the concepts of double bottom, ship floors and watertight doors to work on-board the ships.	**2**
CO 3	Understand the concepts of Fore and aft end arrangements to work onboard the ships.	**2**
CO 4	Apprehend the knowledge of Tonnage regulations, shipyard practice to work on-board the ships.	**2**
CO 5	Understand the concepts of offshore technology to work on-board the ships.	**2**

PART- A (20 x 2 = 40 Marks)

(Answer all Questions)

		CO	RBT LEVEL
1.	Explain moulded depth and moulded draft.	**1**	**2**
2.	What are the stresses to which a ship in subject?	**1**	**2**
3.	Expand ULCC.	**1**	**3**
4.	Any two welding defects.	**1**	**2**
5.	What do you mean by duct keel?	**2**	**3**
6.	Draw a bilge keel.	**2**	**3**
7.	Weather deck water tight doors. How it will be tested?	**2**	**3**
8.	Any two methods of hatch opening.	**2**	**2**
9.	Purpose of bulbous bow.	**3**	**2**
10.	What is Collision bulkhead? Where it is located?	**3**	**3**

11.	Types of rudders.	**3**	**3**
12.	Difference between balanced and unbalanced rudder.	**3**	**3**
13.	What do you mean by free board?	**4**	**2**
14.	Draw a free board markings and tonnage marks.	**4**	**2**
15.	How automatic plate cutting done in shipyard?	**4**	**3**
16.	What do you mean by shipyard?	**4**	**3**
17.	What is the meaning of supply vessels?	**5**	**2**
18.	Explain DP vessels.	**5**	**2**
19.	What do you mean by platform?	**5**	**2**
20.	What do you understand periodical surveys?	**5**	**2**

PART- B (5 x 10 = 50 Marks)

			Marks	CO	RBT LEVEL
21. (a)		What is racking, pounding and panting? How strengthening members given to counteract?	**(10)**	**1**	**2**
		(OR)			
(b)	**(i)**	With reference to cumulating of water on the open decks of ships, explain the importance of ensuring that there is no accumulation of water.	**(5)**	**1**	**2**
	(ii)	Explain with the aid of sketches, how it is prevented?	**(5)**	**1**	**2**
22. (a)		Draw a double bottom construction and explain.	**(10)**	**2**	**2**
		(OR)			
(b)		Explain the meaning and purpose of the following terms. Girder and Frame.	**(10)**	**2**	**2**
23. (a)	**(i)**	With reference to forward Collision bulkheads, state their functions.	**(5)**	**3**	**2**
	(ii)	State their position, giving a reasons for this positioning.	**(5)**	**3**	**2**
		(OR)			

(b)	Draw unbalanced rudder bearings. Locking Pintle and Bearing Pintle.	**(10)**	**3**	**2**
24. (a)	Explain about international convention on tonnage measurements of ship.	**(10)**	**4**	**3**
	(OR)			
(b)	Draw a layout of a shipyard.	**(10)**	**4**	**3**
25. (a)	Mention the ten types of supply vessels used in offshore technology.	**(10)**	**5**	**2**
	(OR)			
(b)	Briefly discuss about DP vessels and their functions.	**(10)**	**5**	**2**

PART- C (1 x 10 = 10 Marks)

(Q.No.26 is compulsory)

			Marks	CO	RBT LEVEL
26.	**(i)**	Assess the structural integrity and functional efficacy of water-tight bulkheads in ship construction, detailing their design, placement, and performance under varying hydrodynamic and environmental conditions.	**(5)**	**2**	**5**
	(ii)	Critically analyze and justify the methodologies utilized to assess the effectiveness and integrity of integrated watertight bulkheads in ship construction, elucidating the techniques employed for testing their ability to withstand hydrostatic pressure and prevent water ingress under simulated maritime conditions.	**(5)**	**2**	**5**

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