GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VII (NEW) EXAMINATION – WINTER 2022

Subject Code:3170623   **Date:16-01-2023**
Subject Name:Port and Harbour Engineering
Time:10:30 AM TO 01:00 PM   **Total Marks:70**
Instructions:
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Simple and non-programmable scientific calculators are allowed.**

Q.1	**(a)**	State merits and demerits of Water Transportation.	**03**
	(b)	Describe modern trends in water transportation system.	**04**
	(c)	Discuss selection of site and planning of harbour.	**07**
Q.2	**(a)**	What are the principles of a seaport planning?	**03**
	(b)	Explain surveys to be carried out for seaport planning.	**04**
	(c)	Discuss the classification of harbour based on Utility & Location.	**07**
		OR	
	(c)	Draw the schematic diagram of harbour layout showing all components and Briefly write each component.	**07**
Q.3	**(a)**	Draw the sketch showing Direction, Duration and intensity of wind.	**03**
	(b)	Define : Neap tides, Lunar day, Quay, Jetty	**04**
	(c)	What do you understand by floating dock? Also Discuss the types of floating docks.	**07**
		OR	
Q.3	**(a)**	State the uses of Wet dock.	**03**
	(b)	Enlist the requirement of lock hydraulic system in brief.	**04**
	(c)	Explain the various types of breakwater with neat sketches.	**07**
Q.4	**(a)**	State the construction requirements for a transit shed.	**03**
	(b)	What is mooring? Explain any two mooring accessories with neat sketch.	**04**
	(c)	Explain the functions of Jetty, Dock fenders, Piers, Wharves and Dolphin.	**07**
		OR	
Q.4	**(a)**	Discuss in brief slipways.	**03**
	(b)	Write short note on warehouse.	**04**
	(c)	Explain Buoys. Also discuss the classification of buoys.	**07**
Q.5	**(a)**	What are the types of locks?	**03**
	(b)	Explain Bulkhead with neat sketch.	**04**
	(c)	What are the purposes of navigation aids? Enlist navigation aids and explain Beacon lights.	**07**
		OR	
Q.5	**(a)**	Describe various indicators for economic evaluation of port project.	**03**
	(b)	What are Navigational aids? Why are the necessary in the harbour?	**04**
	(c)	What are the types of dredgers? What are the criteria for selecting various types of dredgers?	**07**

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