GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VII (NEW) EXAMINATION – WINTER 2023

Subject Code:3170623   **Date:01-12-2023**
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.**

			Marks
Q.1	**(a)**	Enlist major ports of India.	**03**
	(b)	Discuss advantages and disadvantages of water transportation.	**04**
	(c)	Explain classification of Harbours and enlist classification of port.	**07**
Q.2	**(a)**	Enlist functions of dry port.	**03**
	(b)	Give the basic difference between wharves & jetty?	**04**
	(c)	Explain different types of breakwaters with sketch.	**07**
		OR	
	(c)	Explain different ship characteristics that affect the design of Harbour in brief.	**07**
Q.3	**(a)**	Define 1) Tidal range 2) Clapotis 3) Neap Tides	**03**
	(b)	Enlist uses of dredged materials.	**04**
	(c)	Write short note on Harbour maintenance.	**07**
		OR	
Q.3	**(a)**	Define dredging. Explain purposes of dredging.	**03**
	(b)	Explain i) Littoral drift ii) lock iii) Wharves iv) fenders.	**04**
	(c)	Enlist different types of ferries and explain any one in detail.	**07**
Q.4	**(a)**	Explain functions of LORAN and RADAR.	**03**
	(b)	Draw neat sketch of light house.	**04**
	(c)	Enlist different cargo handling equipment and explain anyone with sketch.	**07**
		OR	
Q.4	**(a)**	Differentiate dry dock and wet dock.	**03**
	(b)	Enlist different wind characteristics represented by wind rose diagram. Also draw a schematic wind rose diagram.	**04**
	(c)	Enlist classification of navigational aids. Explain any two in detail.	**07**
Q.5	**(a)**	Enlist different types of dredger.	**03**
	(b)	Explain function of 1) breakwater 2) Jetty.	**04**
	(c)	Explain causes of beach erosion in detail.	**07**
		OR	
Q.5	**(a)**	Explain the purpose of the navigation aids.	**03**
	(b)	Enlist different factors considered for selection of site for Harbour.	**04**
	(c)	Discuss Economic evaluation of port project.	**07**

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