Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

Subject Code: 2741303

ME - SEMESTER IV (NEW) - EXAMINATION - SUMMER - 2017

Date:03/05/2017

Tin	Subject Name: Docks and Harbour Engineering Time:02:30PM-05:00 PM Total Marks: 70 Instructions: 1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks.		0
Q.1	(a)	Draw the typical layout of a harbour with port facilities. Show all components and	07
	(b)	write their functions. Briefly explain the terms: Port, G. R. T., D. W. T., RO-RO, Tetrapods, Fenders, Dolphins.	07
Q.2	(a)	Explain different types of water transportation with their merits in the development of a Nation.	07
	(b)	Describe the factors to be considered for the sea port site selection. OR	07
	(b)	Discuss following with respect to harbour planning: (a) size and shape of harbour, (b) width of entrance channel.	07
Q.3	(a)	Draw the sketch and show elements of ship. Briefly explain how ship dimensions affect design of harbour structures?	07
	(b)	Explain following phenomena and its importance in design of berthing structures: (a) tides, (b) waves.	07
Q.3	(a)	OR Discuss the water waves' reflection and littoral drift phenomena, their effects on	07
	(b)	harbour structure design. Explain with sketches 'spring tides' and 'neap tides', their effects on harbour structure design.	07
Q.4	(a)	Explain with sketches vertical wall type break water and its construction procedure.	07
	(b)	Explain with sketches lock gates and their design criteria. OR	07
Q.4	(a)	Explain with sketches rubble mound type break water and its construction procedure.	07
	(b)	Explain with sketches dry dock and its construction procedure.	07
Q.5	(a) (b)	Describe with sketches: (a) Bucket-ladder dredger, (b) Grab dredger. Suggest the measures to be considered for improving cargo handling capacity of the port.	07 07
Q.5	(a)	OR Explain with sketches: (a) Light house, (b) Fenders.	07
V. 2	(a) (b)	Discuss the impacts of port activities.	07
