

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2021****Subject Code:3170623****Date:17/12/2021****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) Discuss advantages of water transportation.	03
	(b) Write classification of harbour based on protection needed.	04
	(c) Draw the schematic diagram of harbour layout showing all components and briefly write each component.	07
Q.2	(a) Explain Dry port.	03
	(b) What are the principles of a seaport planning?	04
	(c) Enlist different types of breakwater and describe composite breakwater with figure.	07
	OR	
	(c) Why fenders are provided on docking platform? Draw the sketch of wooden and rubber fenders.	07
Q.3	(a) Explain Spring tide and Neap tide.	03
	(b) Write short note on wave breaking.	04
	(c) Discuss about study of natural phenomena for harbour planning.	07
	OR	
Q.3	(a) Distinguish between Jetty and Wharves.	03
	(b) What is mooring? Explain any two mooring accessories with neat sketch.	04
	(c) Write short note on Gravity dock.	07
Q.4	(a) Define ferry and ferry slip.	03
	(b) Write short note on warehouse.	04
	(c) List cargo handling equipments and explain any two.	07
	OR	
Q.4	(a) Distinguish between dry dock and wet dock.	03
	(b) What is dredging? Which are the objectives of dredging?	04
	(c) What are the purposes of navigation aids? Enlist navigation aids and explain beacon lights.	07
Q.5	(a) Give requirements of signals in navigation.	03
	(b) Discuss harbour maintenance	04
	(c) What are the causes of beach erosion?	07
	OR	
Q.5	(a) Define: (a) load line (b)Draft (c) Ballast	03
	(b) What are the types of locks?	04
	(c) Discuss environmental impacts of port activities.	07

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – SUMMER 2022****Subject Code:3170623****Date:14/06/2022****Subject Name:Port and Harbour Engineering****Time:02:30 PM TO 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.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) Write a critical note on water transportation.	03
	(b) Distinguish between natural and artificial harbours.	04
	(c) Discuss the classification of harbour based on utility.	07
Q.2	(a) Explain the term: Cargo handling capacity of a port.	03
	(b) Explain the principles of seaport planning.	04
	(c) Describe the Surveys to be carried out for seaport planning.	07
	OR	
	(c) Explain dynamic effect of wave action in deep water and shallow water.	07
Q.3	(a) Explain the terms: Littoral drift, Neap tide, Spring tide.	03
	(b) Explain the phenomena of the breaking of waves.	04
	(c) What considerations govern the size and position of harbour entrances?	07
	OR	
Q.3	(a) Differentiate between Dry docks and Wet docks.	03
	(b) Explain the common terms used in connection with ship characteristics.	04
	(c) Explain with neat sketches how mound breakwaters are protected from wave action.	07
Q.4	(a) Explain the terms: Jetty, Fender.	03
	(b) State the construction requirements for a transit shed.	04
	(c) What are the moorings? Mention the accessories of fixed and floating types of the moorings.	07
	OR	
Q.4	(a) Draw a neat sketch of RCC warehouse having many floors.	03
	(b) Discuss the necessity of providing facilities like aprons, transit sheds and warehouses at the ports.	04
	(c) Describe various floating signals.	07
Q.5	(a) What is lighthouse? How is it constructed?	03
	(b) What is dredging? Classify different types of dredging works.	04
	(c) List various shore protection works and explain sea walls.	07
	OR	
Q.5	(a) Distinguish between Dipper dredge and grapple dredge.	03
	(b) Describe various indicators for economic evaluation of port project.	04
	(c) Discuss the environmental impacts of port activities.	07
