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

Subject Code:2180602   **Date:14-12-2022**
Subject Name:Harbour & Airport 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)**	Define: Turning basin, Jetties and Wharf.	**03**
	(b)	What do you mean by breakwater? Explain anyone.	**04**
	(c)	Describe the corrections applied to the calculated basic runway length to get its actual length.	**07**
Q.2	**(a)**	Explain three principal controls of an aeroplane.	**03**
	(b)	Define: Airport, Runway, Apron and Taxiway.	**04**
	(c)	Draw the schematic diagram of the harbour layout showing all components.	**07**
		OR	
	(c)	Draw the schematic diagram of the Airport layout showing all components.	**07**
Q.3	**(a)**	What is airport grading? What is its importance?	**03**
	(b)	Discuss various runway patterns.	**04**
	(c)	Describe various airport parking with neat sketches.	**07**
		OR	
Q.3	**(a)**	Distinguish between harbour and port.	**03**
	(b)	What are the requirements of a good harbour?	**04**
	(c)	What do you mean by currents? Explain each type of ocean current.	**07**
Q.4	**(a)**	What is littoral drift?	**03**
	(b)	Differentiate between the dry dock and wet dock.	**04**
	(c)	What do you mean by tides? Which are the types of tides?	**07**
		OR	
Q.4	**(a)**	Write a short note on holding the apron.	**03**
	(b)	Write a short note on exit taxiways.	**04**
	(c)	What do you understand about terminal building? Draw layout of airport terminal building.	**07**
Q.5	**(a)**	What is runway orientation?	**03**
	(b)	Explain the aims and functions of airport drainage.	**04**
	(c)	Explain runway lighting and visual aids.	**07**
		OR	
Q.5	**(a)**	Write a short note on wave breaking.	**03**
	(b)	What is dredging? Why is it necessary?	**04**
	(c)	What are the purposes of navigational aids? Enlist various navigational aids and explain lightships.	**07**

****