

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VIII (Old) EXAMINATION – WINTER 2019****Subject Code: 180602****Date: 21/11/2019****Subject Name: Dock Harbour & Airport 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.

- Q.1** (a) Discuss the significance of road, air and water transport in context of present India and national economic growth. **07**
(b) Describe the role of each component of a standard airport with neatly labeled sketch. **07**
- Q.2** (a) Write short notes on i) Harbour ii) ILS **07**
(b) Discuss the role of navigational aids in the era of GPS. Briefly describe the conventional navigational aids used in the sea transport with their suitability. **07**
- OR**
- (b) Discuss the challenges faced during night navigation in air and water transport. How are these overcome? **07**
- Q.3** (a) Write short notes on airport lighting and airport drainage. **07**
(b) Write the Airport classification of ICAO and the air airport authorities in India. **07**
- OR**
- Q.3** (a) Discuss the function and types of breakwaters. **07**
(b) Write notes on: i) effect of waves and tides on marine structures ii) Coastal protection. **07**
- Q.4** (a) Write a short note on port amenities with sketch. **07**
(b) Describe wind rose diagram and its application in runway orientation. **07**
- OR**
- Q.4** (a) Describe the following: i) lock gates ii) tidal basin iii) wet dock iv) fender v) jetty vi) dolphin vii) littoral drift **07**
(b) Describe the elements of airport terminal and functions of terminal building. **07**
- Q.5** (a) Explain briefly various factors affecting site selection of an airport. **07**
(b) Discuss the methods for deciding runway length. **07**
- OR**
- Q.5** (a) Write short note on: i) Air Traffic Control (ATC) ii) Apron and Hangar **07**
(b) The length of runway under standard condition is 1600mt. The airport site has an elevation of 275mt and its reference temperature is 32.4°C. If the runway is to be constructed with an effective gradient of 0.20%, calculate corrected length of runway. **07**
