

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII (NEW) - EXAMINATION – SUMMER 2018

Subject Code: 2180602

Date: 02/05/2018

Subject Name: Harbour & Airport Engineering(Departmental Elective - III)

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.

- Q.1**
- (a) State advantages of water transport. **03**
 - (b) Draw the typical layout of a harbour showing all components. **04**
 - (c) Draw the typical layout of airport for single runway, two parallel runways, three non-intersecting runways and tangential runways. **07**
- Q.2**
- (a) What are the requirements of a good harbour? **03**
 - (b) Define: Airport, Runway, Taxiway and Apron. **04**
 - (c) What do you mean by tides? Which are the types of tides? **07**
- OR**
- Q.3**
- (c) Write short notes on ICAO and AAI. **07**
 - (a) Differentiate between wharf and jetty. **03**
 - (b) Explain floating dock with figure. **04**
 - (c) Enlist different types of breakwater and describe composite breakwater with figure. **07**
- OR**
- Q.3**
- (a) Explain floating landing stages. **03**
 - (b) Draw the typical layouts of transit shed and warehouse shed. **04**
 - (c) What are the different types of lock gates? Explain with sketch the mitre type gate and sector gate with a sketch of closed sector gate. **07**
- Q.4**
- (a) Enlist various causes of beach erosion. **03**
 - (b) What is dredging? Which are the objectives of dredging? **04**
 - (c) Write a short note on light house with figure. **07**
- OR**
- Q.4**
- (a) What is airport grading? What is its importance? **03**
 - (b) Which are the aims and functions of airport drainage? **04**
 - (c) Write a short note on runway lighting and visual aids. **07**
- Q.5**
- (a) What is clearway and stopway? **03**
 - (b) Which are the facilities required at terminal building? **04**
 - (c) Determine the design length of runway required if the length under standard atmospheric conditions is 2000m, the actual elevation of the site is 1000m above MSL and the airport reference temperature is 16°C. Maximum effective gradient is 0.5%. **07**
- OR**
- Q.5**
- (a) Determine turning radius of taxiway if the speed of aircraft is 93km/hour and coefficient of friction is 0.13. **03**
 - (b) Draw a typical layout of a small domestic terminal building. **04**
 - (c) Describe various aircraft parking systems with figures. **07**
