

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VIII • EXAMINATION – SUMMER • 2015****Subject Code:180602****Date:11/05/2015****Subject Name: Dock Harbour and Airport Engineering****Time:10.30AM-01.00PM****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) Draw the schematic diagram of harbour layout showing all components. **07**  
 (b) Write the advantages of water and air Transportation. **07**
- Q.2** (a) What is the purpose of the navigation aids? Explain any one type of navigation aids. **07**  
 (b) What are the important wind characteristics? Explain the Beaufort scale & wind rose diagram in brief. **07**
- OR**
- (b) Calculate the actual length of runway from the following data: **07**  
 i) Airport Elevation = R.L. 100  
 ii) Mean of average daily temperature = 32°c  
 iii) Mean of maximum daily temperature = 36°c  
 iv) Highest point along the length = R.L.99.5  
 v) Lowest point along the length = R.L.97.5  
 vi) Basic Runway length L=600m
- Q.3** (a) Explain the terms: **07**  
 i) Littoral drift ii) lock and passages iii) Wharves & fenders iv) Quays & Jetties  
 (b) What are the functions of airport authority of India? Draw the sketch showing the component of aeroplane. **07**
- OR**
- Q.3** (a) What is floating dock? Explain dry dock in detail. **07**  
 (b) Define airport capacity. What are the points to be considered in the selection of a site for an airport? **07**
- Q.4** (a) What is breakwater? Explain vertical wall and rubble mound type breakwater in detail. **07**  
 (b) Describe various aircraft parking systems along with sketches. **07**
- OR**
- Q.4** (a) Explain briefly requirement of an airport drainage system. **07**  
 (b) What are the objectives of dredging? Explain any dipper dredger. **07**
- Q.5** (a) What is function of taxiway in airports? Draw cross sections of taxiway showing all components. **07**  
 (b) Explain **07**  
 i) Pay load and Zero fuel weight  
 ii) Subsonic aircraft and supersonic aircraft
- OR**
- Q.5** (a) Write a short note on runway lighting and visual aids. **07**  
 (b) Write short note (any one): (i) Instrument landing system (ii) Holding apron **07**

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