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**SUBJECT CODE NO:- E-292**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**T.E.(Civil) Examination Nov/Dec 2017**  
**Transportation Engineering-I**  
**(REVISED)**

[Time: Three Hours]

[Max.Marks:80]

- N.B
- Please check whether you have got the right question paper.
- i) Q.No.1 from section A and Q.No.6 from section B are compulsory.
  - ii) Attempt any two questions from the remaining questions in each section
  - iii) Figures to the right indicate full marks.
  - iv) Assume suitable data of required.

**Section A**

- Q.1 Solve any five. 10
- a) Airport Engineering
  - b) Define runway
  - c) Define Deck bridge
  - d) Viaduct
  - e) Linear waterway
  - f) Define Scoring
  - g) What is mean by free board?
  - h) Bridge Alignment.
- Q.2 a) What is economic span for a bridge? Derive the relation for the economic span for a bridge. 08
- b) State and explain any two empirical method for flood estimation in India. 07
- Q.3 a) Describe with neat sketches the various types of wing walls with their advantages and disadvantages. 08
- b) What is coffer dam? Where it is used? Explain with sketch the construction of any coffer-dam used in shallow water. 07
- Q.4 a) Explain in detail the procedure for orienting the runway. 08
- b) Discuss in brief the relationship between Aircraft and Airport. 07

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Q.5 Write Short notes on (Any Three)

15

- a) IRC Loading on bridges.
- b) Bridge Foundation
- c) Airport Lighting & Marketing
- d) Wind Rose Diagram
- e) Bridge Approaches.

Section – B

Q.6 Solve Any five.

10

- a) Define Dock & Harbour.
- b) Define interlocking
- c) Define Buckling of Rail.
- d) Define yard
- e) Define water column
- f) Define turn table
- g) Packing of Ballast
- h) Turn-out.

Q.7 a) What is the necessity of geometric design of railway track? Enumerate the significant features of design of a railway track.

08

b) Draw the cross section of broad gauge track in embankment and in cutting for a single lane.

07

Q.8 a) Differentiate between natural and artificial harbours. Draw the neat sketch of typical artificial harbours.

08

b) State the site selection criteria for docks and Harbours.

07

Q.9 a) What are the functions of railway sleepers? Explain any one type with neat sketches.

07

b) What is station yard? What are the different types of yards? Describe any one in detail.

08

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Q.10 Write short notes on (Any Three)

- a) Creep and its effect
- b) Modern trends in railway
- c) Characteristics of good ballast
- d) Spikes.
- e) Coning of wheel.