

**B.TECH SEM – VII (2007 COURSE) (CIVIL ENGG.) : WINTER -  
2017**

**SUBJECT : INFRASTRUCTURE ENGINEERING - II**

Day: **Friday**  
Date: **19/01/2018**

**W-2017-2553**

Time: **02.30 PM TO 05.30 PM**  
Max. Marks: **80**

**N.B.:**

- 1) Q. No. 1 and Q. No. 5 are **COMPULSORY**. Out of the remaining attempt **ANY TWO** questions from each Section.
- 2) Figures to the **RIGHT** indicate full marks.
- 3) Answers to both the sections should be written in **SEPARATE** answer book.
- 6) Assume suitable data, if **NECESSARY**.

**SECTION - I**

- Q.1**
- a) Explain necessity of highway planning and development. [05]
  - b) What are the basic requirements of an ideal road alignment? [05]
  - c) Differentiate between flexible and rigid pavements. [04]
- Q.2**
- a) Explain procedure for determination of road length. [06]
  - b) How the roads are classified? Explain in detail. [07]
- Q.3**
- a) Define following terms : [06]  
a) Stopping sight distance      b) Overtaking sight distance
  - b) What is gradient? Enlist its types. [07]
- Q.4**
- a) What is the importance of surface and subsurface drainage for highway. [06]
  - b) which different tests are carried out to check quality of aggregates? Explain any one in detail. [07]

**SECTION – II**

- Q.5**
- a) Enlist and explain factors affecting choice of bridge superstructure. [05]
  - b) What are different methods of erection of bridges? Explain any one. [05]
  - c) What are the advantages and limitations of air transportation. [04]
- Q.6**
- a) Define following terms: [06]  
i) Economical span      ii) Afflux      iii) Scour depth
  - b) Enlist and explain loads, forces and stresses coming on bridge structures. [07]
- Q.7**
- a) Explain bridge bearings with the help of following points: [06]  
i) Purpose      ii) Types      iii) Suitability
  - b) What are different types of bridges? Explain any two in details. [07]
- Q.8**
- a) Define following terms: [06]  
i) Turning radius      ii) Taxiway      iii) Runway length
  - b) Enlist and explain factors affecting selection of site for airport. [07]

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