

**B.Tech Sem – VI (2007 Course) (Civil Engg.) : WINTER - 2018**

**SUBJECT : INFRASTRUCTURE ENGINEERING - I**

Day : Friday  
Date : 16/11/2018

**W-2018-2845**

Time : 10.00 AM TO 01.00 PM  
Max. Marks : 80

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**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.
  - 4) Assume suitable data if **necessary**.
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**SECTION - I**

- Q.1** a) What is meant by wear of rails? Categorize the types of rail wear and enumerate the methods by which wear in rails can be measured. (05)  
b) What are the requirements of sleepers used in a railway track? (05)  
c) Define Gauge. Enlist different types of gauges adopted in Indian Railways. (04)
- Q.2** a) What are the main causes of failure of a railway embankment? Discuss the remedial measures for each one of them. (07)  
b) Enlist different functions of sleepers. (06)
- Q.3** a) Discuss briefly the causes and effects of creep in the railway track. (07)  
b) What is the importance of traffic survey? (06)
- Q.4** a) Explain with the help of neat sketches the points and crossing used in railways. (07)  
b) What is cross over and semaphore signal? Explain. (06)

**SECTION - II**

- Q.5** a) What is the importance of Tribars and Hexapods? (05)  
b) Explain tunneling method using TBM. (05)  
c) Explain the importance of drainage in tunnel operation. (04)
- Q.6** a) What are the various geological conditions of tunnel which affect construction of tunnel? (07)  
b) Write short note on Guniting wire mesh. (06)
- Q.7** a) State precautions to be taken while using and storing the explosives. (07)  
b) Differentiate between docks and harbours. (06)
- Q.8** a) Write a short note on Fenders and Wharf. (07)  
b) What are the factors to be considered for a selection of a harbour site? (06)

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