

Total No. of Questions : 8]

[Total No. of Printed Pages : 3

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**CE-404-CBGS**  
**B.Tech., IV Semester**  
Examination, June 2020  
**Choice Based Grading System (CBGS)**  
**Transportation Engineering - I**

*Time : Three Hours*

*Maximum Marks : 70*

**Note:** i) Attempt any five questions from given eight questions.

ii) All questions carry equal marks.

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iii) In case of any doubt or dispute the English version question should be treated as final.

1. a) Define : Hauling capacity and tractive effort.  
b) List out various materials used as a ballast. Also give requirement of Good ballast.
2. a) What types of sleepers used in a railway track? Also explain suitability of sleepers according to global conditions.

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[2]

- b) Define : Fish plates, bearing plates, check rails and guard rails.
3. a) What do you understand by Super elevation? Also explain Cant deficiency.
- b) Explain principles of signaling and inter locking.
4. a) List out various types of Foundations. Also explain suitable materials used in bridges.
- b) Write a short note on Bridge failure.
5. a) Describe pressure relief phenomenon.
- b) What is the role of types of soils for construction of Tunnel? Explain clearly.
6. Write a detailed note on any two important tunnel of India or abroad.

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Contd...

[3]

7. Explain the following terms :

- a) Mucking operation
- b) Strengthening of bridge
- c) Abutment and piers
- d) Marshalling yard

8. Write short note on any four of the following :

- a) Wear and tear of rails
- b) Principle of Transportation
- c) Affix
- d) Cofferdam
- e) Pilot-shafts

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