

Roll No. ....

Total No. of Questions : 09]

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**B.Tech. (Sem. - 6<sup>th</sup>)**

**TRANSPORTATION ENGINEERING - II**

**SUBJECT CODE : CE - 302**

**Paper ID : [A0618]**

[Note : Please fill subject code and paper ID on OMR]

**Time : 03 Hours**

**Maximum Marks : 60**

**Instruction to Candidates:**

- 1) Section - A is **Compulsory**.
- 2) Attempt any **Four** questions from Section - B.
- 3) Attempt any **Two** questions from Section - C.

**Section - A**

**Q1) (10 × 2 = 20)**

- a) Write short note on sleepers.
- b) Explain loading gauze and construction gauze.
- c) Discuss adzing of sleepers.
- d) Write the object of level crossing.
- e) Distinguish between switch lead and curve lead.
- f) Why heavy rails are preferred to light rails.
- g) Explain the classification of Airports.
- h) Explain the imaginary surfaces.
- i) Discuss the utility of ballastless track.
- j) Write a short note on holding apron.



## Section - B

(4 × 5 = 20)

- Q2) Explain and draw the neat sketches of Rail Sections.
- Q3) Discuss the advantages of prestressed sleepers over R.C.C sleepers. Draw a sketch of monoblock prestressed concrete sleeper.
- Q4) Discuss the factors affecting the selection of Airport site.
- Q5) Explain the constituents of crossings on Railways.
- Q6) Explain the windrose diagram and its utility.

## Section - C

(2 × 10 = 20)

- Q7) Calculate all the necessary elements required to set out a 1 in 8.5 turnout, taking off from a straight B.G track with its curve starting from the toe of the switch i.e. tangential to the gauze face of the outer main rail and passes through theoretical nose of crossing. Given heel divergence (d) = 11.4cm.
- Q8) Explain the semaphore signals and its working.
- Q9) Discuss the different types of runway patterns.

