

Seat
No.

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CAI1324

Transportation Engineering - I
(New) (1040)

P. Pages : 2

Time : Three Hours

Max. Marks : 100

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answersheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Attempt **all five** questions, from each unit attempt **any two** bit out of a,b,c.
5. Neat diagrams must be drawn wherever necessary.
6. Figures to the right indicate full marks.
7. Assume suitable data if necessary.

UNIT - I

1. a) What is mean by wear of Rail ? How do you classify the wear ?
Discuss various causes of wear. 10
- b) Explain giving facts & figures, the role played by railway in the development of modern India. 10
- c) i) Explain in detail coning of wheel. 5
ii) What is tilting of rails. 5

UNIT - II

2. a) What is creep ? Discuss the theories propounded for the probable causes of creep. 10
- b) i) Write short note on vertical curve & transition curve. 5
ii) Calculate shift and offsets at every 1.5m. of the transition curve. The transition curve of 90cm. long is to be used to join the ends of a 4° circular curve. 5
- c) Write short notes : 10
i) Extra widening of gauge on curve.
ii) Pusher & helper gradient.

UNIT - III

3. a) Write short notes : 10
- i) CTC & ATC system.
 - ii) Diamond crossing.
- b) i) Explain in brief the classification of railway stations. 5
- ii) What is turnout ? Draw neat labelled sketch of a left hand turnout. 5
- c) i) Enumerate & explain the types of switches. 5
- ii) Explain in detail signals & inter locking. 5

UNIT - IV

4. a) i) What are the safety measures in tunneling. 5
- ii) How drainage in tunnel is done ? 5
- b) i) Explain the use of tunnel boring machine. 5
- ii) What is Rock bolting & strata anchoring ? Explain the necessity. 5
- c) i) Describe linear plate method for construction of tunnel. 5
- ii) What is pilot tunnel ? What are the uses of it. 5

UNIT - V

5. a) i) Explain the function of light houses. 5
- ii) Explain in detail about break waters. 5
- b) i) Classify the harbours Explain any one in detail. 5
- ii) What are navigation aids ? Why they are necessary in harbours. 5
- c) i) Write short note on Quay walls. 5
- ii) What are different types of buoys ? Explain in short. 5
