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[Total No. of Printed Pages : 3

**B.E. IVth Semester (CGPA)
Examination, 2017**

EF-329

**CIVIL ENGG.
(Transport Engg-I)
Paper : CE-404**

Time : 3 Hours]

[Maximum Marks : 60

Note :- Attempt all questions. All questions carry equal marks.

1. (a) What is Railway alignment ? Explain, how railway alignment is related ?
- (b) Explain different types of rails used on railway track.
- (c) Describe briefly the suitability of various materials which are commonly used as ballast in a railway track.
- (d) Define sleeper and its types.

2. (a) What is Cant deficiency ? Why is it provided ?
(b) Explain transition curve and why is it necessary in railway track. Write down equation for setting these curves.

Or

- (a) What is superelevation ? Why is it necessary for curves ?
(b) Determine the length of transition curve having 6 degree curvature. The speed of the curve is 60 kmph and cant is 12 cm. Assume the track to be meter gauge.
3. (a) What is marshalling yard and explain the purpose of marshalling yard.
(b) Explain different types of signals.
(c) Describe principles of signalling and interlocking.
(d) What are the modern techniques used for safety in railways.

4. (a) Define wind rose diagram and its use in airport planning.
- (b) Write short notes on the following :
- (i) Airport lightening
 - (ii) Traffic controls
- (c) Explain factors affecting while selecting airport site.
- (d) Write classification of airports.
5. (a) Explain docks and harbours with their types.
- (b) Explain design and construction of break water.
- (c) Explain design consideration and construction of Docks.
- (d) What is post building ? Define its features.