

C 80769

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Name

Reg. No.

**SIXTH SEMESTER B.TECH. (ENGINEERING) (09 SCHEME)
DEGREE EXAMINATION, APRIL 2015**

CE/PTCE 09 605—TRANSPORTATION ENGINEERING—II



Time : Three Hours

Part A

Answer all questions.

1. What is a pandrol clip ?
2. Define a way-side station.
3. What is meant by marshalling yard ?
4. Define a pier.
5. What is meant by monkey drift ?

(5 × 2 = 10 marks)

Part B

Answer any four questions.

6. What is a ruling gradient ?
7. What is the function of rail web ?
8. Define a CTC system.
9. What is meant by switch angle ?
10. What is a tetrapod ?
11. What are the tunnel cross-sections generally used for railway track ; why ?

(4 × 5 = 20 marks)

Part C

Answer all questions.

12. (a) (i) When is gradient compensated ? (5 marks)
(ii) Explain why and how negative superelevation is designed in a railway track ? (5 marks)
- Or
- (b) (i) With neat sketches describe how alignment is done on hilly terrains. (6 marks)
(ii) Describe any two rail fasteners with sketches. (4 marks)
13. (a) (i) With neat sketches explain the lay-out of sleepers at a turn-out. (3 marks)

Turn over

- (ii) Calculate the design elements of a turn out for a 1 in 12 crossing, with a straight arm of 20 cm between the curve and theoretical nose of crossing. Heel divergence is 11cm. Switch angle is 1.25° .

(7 marks)

Or

- (b) (i) What is an automatic train control system ? How does it differ from an absolute block system ? (5 marks)
- (ii) Draw typical lay-out of a Terminal station. (5 marks)
14. (a) (i) What are the different types of docks ? Explain with sketches. (5 marks)
- (ii) What is a buoy ? What are its functions ? (5 marks)

Or

- (b) (i) What is littoral drift ? What is its significance ? Explain with a sketch. (5 marks)
- (ii) Briefly discuss the ship features related to port planning. (5 marks)
15. (a) What is the difference between needle beam method heading and bench method ? (10 marks)

(10 marks)

Or

- (b) Describe with sketches the techniques of tunnel ventilation. (10 marks)

[4 × 10 = 40 marks]