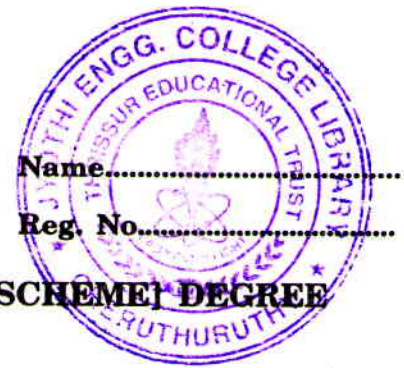


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Name.....

Reg. No.....

**SIXTH SEMESTER B.TECH. (ENGINEERING) [09 SCHEME] DEGREE
EXAMINATION, APRIL 2016**

CE/PTCE 09 605—TRANSPORTATION ENGINEERING—II

Time : Three Hours

Maximum : 70 Marks

Part A

Answer all questions.

Each question carries 2 marks.

1. What are the types of rail joints ?
2. Differentiate between the Dog spike and Round spike.
3. Give the sketches of the Tunnel spiral and Switch back.
4. Differentiate Buoys and Bollard.
5. What are the methods of tunnelling in hard rocks ?

(5 × 2 = 10 marks)

Part B

Answer any four questions.

Each question carries 5 marks.

6. How is maintenance of rolling stock done ?
7. Discuss about the Fang-bolt and Hook bolt.
8. What are the modern methods of track maintenance ?
9. A B.G. track has a sleeper density $(n + 6)$. If the track is laid with welded rails of 26 m. length, workout the number of sleepers on the rail length.
10. Sketch with clear explanatory notes the cross-section of a rock-marine breakwater for a depth of sea of 50 ft. and height of wave 20 ft.
11. Discuss about the ventilation in tunneling.

(4 × 5 = 20 marks)

Part C

Answer all questions.

Each question carries 10 marks.

12. (a) What are the factors which are influence the failures of rail and explain its types ?
(b) Discuss about types of rail joints. And explain the requirements of an ideal fastening.

Or

13. Why are Marshalling yards necessary ? Describe the layout of a typical Marshalling yard.

Turn over

14. Define a locomotive and explain the design and types of locomotives.

Or

15. Calculate the steepest gradient on a straight track from the following data :

No. of wagons = 26

Weight of one wagon = 2 tonnes

Rolling resistance of wagon = 2 kg/tonne

Speed of train = 50 kmph

Weight of locomotive with tender = 180 tonnes

Tractive effort of locomotive = 15 tonne

Rolling resistance of locomotive = 3 kg/tonne

Velocity resistance = $0.0016 V^2$ kg/tonne weight of train.

16. Describe with sketches the various types of quay structure that are normally adopted for structure.

Or

17. Why are dock entrance and locks necessary for non-tidal berths ? Briefly describe one of these.

18. What are the salient factors to be considered in deciding the alignment of a tunnel in a hydel project ?

Or

19. Discuss about the different methods of lighting and drainage in tunneling.

(4 × 10 = 40 marks)