

C 6125

(Pages : 2)

Name.....

Reg. No.....

**SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION
JUNE 2010**

CE 04 605—TRANSPORTATION ENGINEERING

Time : Three Hours

Answer all questions

Maximum : 100 Marks

Missing data, if any, may suitably be assumed.

- I. a. What is creep ? How is it minimised ?
b. Explain permanent way and its requirements.
c. What are the factors which govern the suitable shape for tunnels ?
d. Mention the sequences of operation in laying a rail track.
e. Describe the economic considerations in planning of harbours.
f. Describe the working of a dry dock.
g. What are the recommendations of Jayakar committee report ? Explain.
h. Explain briefly the various factors affecting the vehicle operation cost.

(8 X 5 = 40 marks)

- II. a) Explain the necessity of sleepers in a railway track. Explain also the requirements of a good sleeper. (8 marks)
b) Explain the following : i) cant deficiency ii) negative cant.
Mention the limiting values of cant deficiency for different types of gauges. (7 marks)

OR

- c) On a B.G. yard, 8 degree curve branches out from 4 degree main curve in opposite direction. If the speed is restricted to 30 kmph on branchline, with a permissible cant deficiency of 7.2 cm., determine the allowable speed on the mainline. (8 marks)
d) Mention the types of ballast and suitability of each material. (7 marks)

- III a) How are signals classified ? Explain with a neat sketch the working of a semaphore signal. (8 marks)
b) Why is maintenance of railway track required ? List out the various measures required for maintenance of the track. (7 marks)

OR

- c) What is meant by compressed air tunneling ? When do we adopt this method of tunneling ? (7 marks)
d) Explain the principles of inter-locking ? Describe at least two devices which could be used for interlocking. (8 marks)

Turn over

- IV. a) Give the classification of navigational aids and briefly explain their functions. (7 marks)
- b) With the help of a neat sketch explain the working of a floating dock. (8 marks)
- OR**
- c) Write a note on :
 i) Transit sheds.
 ii) Quay walls. (6 marks)
- d) What is a dry dock? Explain the construction and uses of a dry dock. (9 marks)
- V. a) Briefly discuss the role of transportation in society. Compare Nagpur road plan and the second twenty year road plan. (9 marks)
- b) Explain the economic analysis of a highway project by rate of return method with an example. (6 marks)
- OR**
- c) Explain the engineering surveys needed for locating a new highway. (8 marks)
- d) Write a note on economics of highway pavements. (7 marks)
- (4 X 15 = 60 marks)**