B.E.(with Credits)-Regular-Semester 2012 - Civil Engineering Sem VIII

CE802 - Transportation Engineering-II

P. Pages : 2 **GUG/W/16/7018**

Time : Three Hours * 4 8 0 6 * Max. Marks : 80

Notes : 1. All questions carry equal marks.
2. Answer all questions.
3. Due credit will be given to neatness and adequate dimensions.
4. Assume suitable data wherever necessary.
5. Illustrate your answers wherever necessary with the help of neat sketches.
6. Only non-programmable calculator is allowed.

1. a) What do you understand by" permanent way" mentions the requirements of an ideal permanent way. **8**

b) Illustrate the various types of rail failure with sketches. **8**

OR

2. a) Explain the necessity of sleepers in railway track. What are the desirable qualities of good sleepers. **8**

b) Discuss the suitability of materials used as ballast in railway track. **8**

3. a) What are the objects of providing superelevation on a curve of a track. Drive the relation between superelevation, gauge (G), Speed (v) and radius of the curve (R). **10**

b) Find out the steepest gradient on a straight track using the following given data, for a train having 20 wagons. **6**

i) Weight of each wagon = 18 tonnes.

ii) Rolling resistance of wagon = 2.5 kg/tonne.

iii) Speed of the train = 50 km/hr

iv) Weight of locomotive with tender = 120 tonnes.

v) Tractive effort of locomotive = 3.5 kg/tonnes.

OR

4. a) Determine the lengths of transition curve and draw offset at every 15 m – Givens that the design speed of the train is 90 kmph can a B. G. Track. **6**

b) Draw a neat diagram of right hand turnout by showing its various component parts. Also explain the working principle of the turnout. **10**

5. a) Describe the principle operation is laying the B.G. track in India by manual labour. **10**

b) Write a note an" Maintenance of railway track". **6**

OR

6. a) Describe the ways of providing effective drainage during and after the construction of a tunnel. **8**

b) What is the object of providing lining to tunnel interior? Discuss in brief. **8**

7. a) Explain the various survey to be conducted and data to collected for airport site selection. **8**

b) Discuss "zoning laws" and "clear zone". **8**

OR

8. a) Explain with neat sketches the limiting heights of objects in the approach and turning zones of an instrumental runway. **7**

b) The length of runway under standard conditions is 1800 m The airport is to be provided at an elevation of 300 m above MSL. The airport reference temperature is 28° c. If the effective gradient is 0.2%. Determine the corrected runway length. **9**

9. a) What do you understand by terminal area? what facilities are provided in this area. **8**

b) What are the different system of aircraft parking? Explain any one with a neat sketch. **8**

OR

10. a) What is the function of air traffic control? What different on route aids and landing aids are used in modern air transport. **8**

b) Write a note on. **8**

a) Airport marking and lighting of runway.

b) Hangers.

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