



CBCS SCHEME

15CT54

Fifth Semester B.E. Degree Examination, Dec.2019/Jan.2020 Transportation Engineering

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. What are the characteristics of road transport in comparison with other system? (08 Marks)
b. What is Jayakar Committee and what are its recommendations? How is it implemented. (08 Marks)

OR

- 2 a. Mention and explain the different road pattern's, with neat sketches. (08 Marks)
b. The area of certain district in India is 13,400sq.Km and there are 12 towns as per 1981 census. Determine the lengths of different categories of road to be provided in this district. (08 Marks)

Module-2

- 3 a. Explain the factors affect an alignment. (08 Marks)
b. List out and briefly explain the engineering surveys to be conducted for a new alignment. (08 Marks)

OR

- 4 a. Calculate the minimum sight distance required to avoid a head on collision of two cars approaching from the opposite directions at 90kmph and 60kmph. Assume a reaction time of 0.7 and a brake efficiency of 50%, in either case. (08 Marks)
b. Calculate the safe overtaking sight distance for a design speed of 96kmph. Assume all other data suitably. (08 Marks)

Module-3

- 5 a. With neat sketch, explain permanent way. Also list out the requirements of ideal permanent way. (08 Marks)
b. Define gauge. List out the classification of gauge. What are the factors governing choice of different gauges. (08 Marks)

OR

- 6 a. What is coning of wheels? What are the advantages and disadvantages of coning of wheels? (08 Marks)
b. Compare between bull-headed, double headed and flat footed rails. (08 Marks)

Module-4

- 7 a. What are the requirements of good ballast? Mention the different types of Ballast. (08 Marks)
b. What would be the gradient for a B.G. track when the grade resistance together with curve resistance due to a curve of 3° shall be equal to the resistance due to a ruling gradient of 1 in 200? (08 Marks)

OR

- 8 a. Explain the functions of sleeper and explain the following :
i) Sleeper density ii) Concrete sleeper. (08 Marks)
b. Write detailed notes on hauling capacity and tractive resistances. (08 Marks)

Module-5

- 9 a. Define points and crossings. What is the necessity of points and crossings? (08 Marks)
b. Define turnouts. With the help of neat sketch, explain different parts of it. (08 Marks)

OR

- 10 a. What is marshalling yard? Explain its working with neat sketch. (08 Marks)
b. Explain the following :
i) Turn table
ii) Water columns
iii) Buffer stops. (08 Marks)
