



R18 Regulation

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A' Grade)

Subject code: 2P5AC

B.Tech V Semester Regular Examinations, February 2021

TRANSPORTATION ENGINEERING

(Civil Engineering)

Maximum Marks: 70

Date: 22.02.2021 Duration: 3 hours

- Note:**
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit.
 4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks

(10x2M=20 Marks)

- 1 State the advantages of road transportation.
- 2 Define alignment.
- 3 What are the types of sight distance?
- 4 What is the necessity of widening of pavements in curves?
- 5 What is the need for road markings?
- 6 Explain applications of ITS
- 7 What is channelization?
- 8 What are the advantages of rotary intersection?
- 9 Mention the types of joints in rigid pavement.
- 10 Compare the rigid pavements and flexible pavements.

Part-B

Answer All the following questions.

(10M X 5=50Marks)

- 11 Describe the conventional and modern methods of engineering surveys to be carried out for highway locations. (10M)

OR

- 12 a) Explain the various classifications of roads. (5M)
b) List the factors affecting alignment. (5M)

- 13 Explain the salient features of highway cross sectional elements. (10M)

OR

- 14 a) Explain the types of gradient. (5M)
b) Derive an expression for calculating the super elevation. (5M)

- 15 a) Show various types of traffic signs with neat sketches. (5M)
b) Describe various causes for road accident. (5M)

OR

- 16 a) Explain various measures that may be taken to prevent accidents. (5M)

- b) What are the different types of traffic signal system? (5M)
- 17 What is Channelization and explain the importance with its advantages and disadvantages? (10M)
- OR
- 18 a) Define intersection? What are the types of Intersection? (5M)
b) What are the design factors that control the design of rotary intersection and explain them in detail? (5M)
- 19 Explain the step by step procedure of designing a Flexible pavement by IRC method-you have to support your design by assuming appropriate values of various elements of pavement design. (10M)
- OR
- 20 Design the pavement for construction of a new two lane carriageway for design life 15 years using IRC method. The initial traffic in the year of completion in each direction is 150 CVPD and growth rate is 5%. Vehicle damage factor based on axle load survey =2.5 std axle per commercial vehicle. Design CBR of sub grade soil =4%. (10M)