R18 Regulation *Subject code: 2P5AC*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech V Semester Regular/Supplementary Examinations, December 2021

Transportation Engineering

(Civil Engineering)

Maximum Marks: 70 ***Date:05.01.2022*** 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 Write a short note on central road fund (CRF).
2 List the classification of highways based on Nagpur Road Plan.
3 Distinguish between Right of way and carriage way.
4 Define Super Elevation.
5 List the types of road markings with diagram.
6 Write a note on road traffic signs?
7 Define Traffic Island.
8 Write about Rotary intersection?
9 Write a short note on stresses in rigid pavement?
10 Distinguish between rigid and flexible pavement?

Part-B

Answer All the following questions. (5X10M=50Marks)

11 Explain Jayakar Committee Recommendations and Nagpur Road plans. (10M)

OR

12 Explain in detail the various factors affecting the location of highway alignment. (10M)

13 Calculate the length of transition curve for a highway of design speed 65kmph, radius of circular curve = 220 m, pavement width including extra widening = 7.5m, allowable rate of introduction of super elevation is 1 in 150 (pavement is raised with respect to the center line). (10M)

OR

14 Calculate the safe OSD for a design speed of 96kmph. Take reaction time of driver as 2.5sec and acceleration of overtaking vehicle as 2.5kmph/sec. Draw OSD Zone. Assume data wherever necessary. (10M)

15 Explain the causes of accidents and safety measures that can be adopted in Highways. (10M)

OR

16 Describe the features of Intelligent Transportation Systems. (10M)

17 Explain the impact of geometrics on intersection with reference to safety and operational capacity. (10M)

OR

18 Explain the different types of road intersections. (10M)

19 Explain the joints in Rigid pavement. (10M)

OR

20 Explain the design of flexible pavements as per IRC recommendations. (10M)