R18 Regulation *Subject code: 2E8AA*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VIII Semester Regular/Supplementary Examinations, April 2023

Traffic Engineering & Management

(Civil Engineering)

Maximum Marks: 70 Date:03.05.2023 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 which carries 10M.
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 Distinguish between time mean and space mean speeds.

2 The free flow mean speed on a roadway is found to be 80 kmph. Under stopped condition the average spacing between vehicles is 6.9 m. Determine the capacity flow.

3 Differentiate basic capacity from highway capacity.

4 Outline the factors affecting level of service

5 Define the terms:
a) parking index
b) parking volume

6 Enumerate different types of parking facilities.

7 What are the various types of traffic signals?

8 Explain the importance of traffic control.

9 What is traffic management?

10 List out the various types of Travel Demand Management (TDM) techniques.

Part-B

Answer All the following questions. (10MX 5=50Marks)

11 A. Discuss about objectives of traffic volume study and explain Passenger Car Unit. [5M]
B. Explain about various methods of speed measurement. [5M]

OR

12 A. For the relationship u = 55-0.44k, where 'u' is the speed in kmph and 'k' is the density in vpkm, what will be the maximum flow in vph? [5M]
B. Outline headways and gaps in traffic flow. Write about significant types of headways. [5M]

13 A. Evaluate the step-by-step procedure to compute the level of service for multilane highways. [5M]
B. Briefly Discuss the importance of the concept of Highway capacity. [5M]

OR

14 A.Write down the procedure to compute the capacity and level of service for freeways. [5M]
B. Explain about the operating conditions for level of service which was selected by HCM.

[5M]

15 A. Explain in detail various causes of road accidents. [5M]
B. Explain about various types of parking patterns. [5M]

OR

16 A. Explain in detail about different types of parking facilities. [5M]
B. Distinguish between collision and condition diagrams with the help of a neat sketch. [5M]

17 A. The average normal flow of traffic on cross-roads A and B during design period are 400 and 250 pcu/hr; the saturation flow values on these roads are estimated as 1250 and 1000 pcu/hr respectively. The all-red time required for pedestrian crossing is 12 sec. Design two-phase traffic signal by Webster's method. [5M]
B. Write the principles of phasing. Explain with timing diagram. [5M]

OR

18 A. What is traffic signal? explain its advantages and disadvantages. [5M]
B. Explain in detail about warrants for signalization. [5M]

19 A. Discuss in detail about the traffic management measures as per IRC standards. [5M]
B. List out the uses of Intelligent Traffic System (ITS) in traffic engineering. [5M]

OR

20 A. What do you understand by Transportation System Management (TSM)? [5M]
B. Explain tidal flow operation in traffic management. [5M]