C Reg. No. : ☐☐☐☐☐☐☐☐☐☐

Question Paper Code: 99102

B.E. / B.Tech DEGREE EXAMINATION, NOV 2023

Professional Elective

Civil Engineering

19UCE902 – TRAFFIC ENGINNERING & MANAGEMENT

(Regulations 2019)

Duration: Three hours   Maximum: 100 Marks

Answer All questions

PART A - (5 x 1 = 5Marks)

1. Enoscope is used to find   CO1 - U

   (a) space-mean speed only   (b) spot speed only

   (c) spot speed and space-mean speed   (d) flow of vehicles only

2. The most efficient traffic signal system is   CO1-U

   (a) Simultaneous system   (b) Alternate system

   (c) Flexible progressive system   (d) Simple progressive system

3. The provision of traffic signals at inter-sections   CO1- U

   (a) reduces right angled and rear end collisions

   (b) increase right angled and rear end collisions

   (c) reduces right angled collision but may increase rear end collision

   (d) reduces rear end collisions but may increase right angled collisions

4. The brake efficiency in the braking test is assumed as   CO1- U

   (a) 95%   (b) 96%   (c) 99%   (d) 100%

5. Traffic forecast is not influenced by _____   CO1-U

   (a) GDP   (b) Industrial output   (c) Population   (d) Weather

PART – B (5 x 3= 15Marks)

6. Difference between Traffic volume & Density   CO1- U

7.	What are mandatory signs?	CO1- U
8.	Write the formula to calculate optimum cycle time.	CO3 App
9.	What is meant by condition diagram .	CO1- U
10.	Outline the methods of conducting origin Destination survey	CO1- U

<center>PART – C (5 x 16= 80 Marks)</center>

11. (a) As a Traffic engineer, List the major difference you observed in Hourly Volume and Sub Hourly Volume. CO1- U (16)

<center>Or</center>

(b) Give brief discuss about fundamentals of traffic flow. CO1- U (16)

12. (a) As a Traffic Engineer develop the suitable intersection for newly planned National Highway. CO3 - App (16)

<center>Or</center>

(b) For designing a 2 phase fixed type signal at an intersection having North-South and East-West road where only straight ahead traffic is permitted the following data is available. Total time lost per cycle is 12s.Calculate the cycle length (second)as per webster's approach. CO3 - App (16)

Parameter	North	South	East	West
Design hour flow(PCU/h)	1000	700	900	550
Saturation flow(PCU/h)	2500	2500	3600	3000

13. (a) An the need for traffic signal co-ordination control and list the types of Coordination of signal system. CO1 - U (16)

<center>Or</center>

(b) Explain in detail with neat sketches about channelization. CO1 - U (16)

14. (a) Illustrate the necessity of Accident studies. Explain the various causes of Accidents. CO3 - App (16)

<center>Or</center>

(b) How to detect vehicles in a captured photo by normal digital camera? CO3 - App (16)

15. (a) Recommend the Possible solutions to reduce pollution near crowded places? Suggest some innovative ideas. CO2 - App (16)

<center>Or</center>

99102

(b) Explain in detail about the road pricing techniques and its   CO2 - App   (16)
importance.

99102