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Question Paper Code: 96102

B.E. / B.Tech DEGREE EXAMINATION, APRIL 2024

Professional Elective

Civil Engineering

19UCE902 – TRAFFIC ENGINEERING & 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. Which of the following is not an example of regulatory sign? CO1 U
(a) Give way sign (b) Stop sign (c) T Intersection sign (d) Pedestrian crossings.
3. Which of the following statement is correct with respect to Level I control at intersection CO4An
a. Sufficient sight distance is not essential for safe operation
b. Traffic signal is an example of Level I control
c. Driver is expected to obey the basic rules of the road such as right-of-way rule
d. All of these
4. An intelligent driver who consumed alcohol will have a chance of _____ CO 1 U
a) Increased alertness b) Increase in reaction time
c) Increase in speed d) Increase in judgment
5. The first stage in the function of traffic engineering department is CO1 U
a) Planning and design (b) Collection of data (c) Investigations (d) Finance

PART – B (5 x 3= 15Marks)

6. What are the various types of Traffic Studies. CO1U

7. Draw the GIVE WAY sign as per Indian Road Congress (IRC) with its relevance. CO1 U
8. What are the various types of conflicts at intersections? CO1 U
9. What are the objectives of accident studies ? CO1 U
10. How the cone of vision is important for locating traffic signs and signals? CO3 App

PART – C (5 x 16= 80 Marks)

11. (a) A)The results of a speed study is given in the form of a frequency distribution table. Calculate The time mean speed and space mean speed. E the variation in the result. CO5 E (16)

Speed Range	Frequency
2-5	1
6-9	4
10-13	0
14-17	7

Or

- (b) How the vehicular performance characteristic and Road User Characteristics influence the Traffic. CO5 E (16)
12. (a) A pre timed four phase signal has critical lane flow rate for the first three phases as 200,187,210 Vehicles/Hour with saturation flow rate of 1800 Vehicle/hour/lane for all phases. The lost time is given as 4secs for each phase. If the cycle length is 60 secs, Calculate the effective green time in secs of the fourth phase and Compared the result with other phases. CO4 AN (16)

Or

- (b) Explain the importance of Road Markings & Suitability of Road Markings in various areas in detail. CO4 AN (16)
13. (a) Which area you prefer rotary intersection .An the advantages and the disadvantages. CO4 An (16)

Or

- (b) Traffic flow in an urban section at intersection two highways in the design year are given below. The highways intersect @ right angles and have a carriage width of 15m. Design rotary intersection and An whether the Rotary intersection is suitable or not. Use PCU value of car-1, commercial vehicle (C.V)-2.8, Passenger cycle (P.C)-0.5 CO4 An (16)

APPRO ACH	Left turning			Straight ahead			Right turning		
	CAR	C.V	P.C	CAR	C.V	P.C	CAR	C.V	P.C
N	210	50	120	260	40	180	160	50	100
E	185	60	110	230	60	140	170	60	150
S	235	70	130	140	50	100	180	55	120
W	220	40	140	205	45	120	170	75	140

14. (a) How can we solve the traffic jam problem? CO2 App (16)
 Or
 (b) Suggest the manual traffic control in a developing countries. CO2 Ap (16)
15. (a) Suggest the type of sensors suitable for road traffic intensity detection? CO3 Ap (16)
 Or
 (b) Discuss the necessity of Transportation system management. CO3 Ap (16)

