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Highway & Traffic Engineering

Learning Activities: INTERSECTION DESIGN PRINCIPLES & CONTROL SYSTEM

by

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QUESTION 1

- a) The directions of traffic flow to definite paths at intersections are determine by means of traffic markings, islands or other means is known as channelization. Using sketches, construct the flow of traffic before and after installation of channelization at a three legged junction (T-junction) in order to minimize traffic conflicting movements.
- b) With clear neat sketches propose the layout which shows the form of channelization needed for the following:
- i) Elimination of excessive intersectional area
 - ii) Control of speed

QUESTION 2

The approached to a traffic signal controlled intersection has the characteristics listed in below. For the North – South approach the inter-green period and lost time is four (4) seconds and two (2) seconds respectively. Meanwhile for East-West approach the inter-green period and lost time is eight (8) seconds and two (2) seconds respectively. The amber for both approaches is three (3) seconds. From the given data:

- i. Sketch the phase diagram
- ii. Calculate the optimum cycle time and green time
- iii. Draw the time phase diagram for each phase

Approach	North	South	East	West
Q (pcu/hr)	1119	1178	1575	1638
S (pcu/hr)	3413	3413	3938	3938

END OF QUESTION