



Time: One (01) hours

Answer all questions

- 1) Automated or dynamic traffic light control systems are able to adapt their settings to traffic conditions in real time. You are required to design an automated traffic light system for a junction of two way lanes as in figure 01.

Problem Statement

Your system should detect traffic conditions and communicate with the traffic light post to turn on green, red and yellow lights. It should be able to adjust the timing of those lights turn ON and OFF according to the traffic condition. The light posts should communicate with each other to control the traffic.

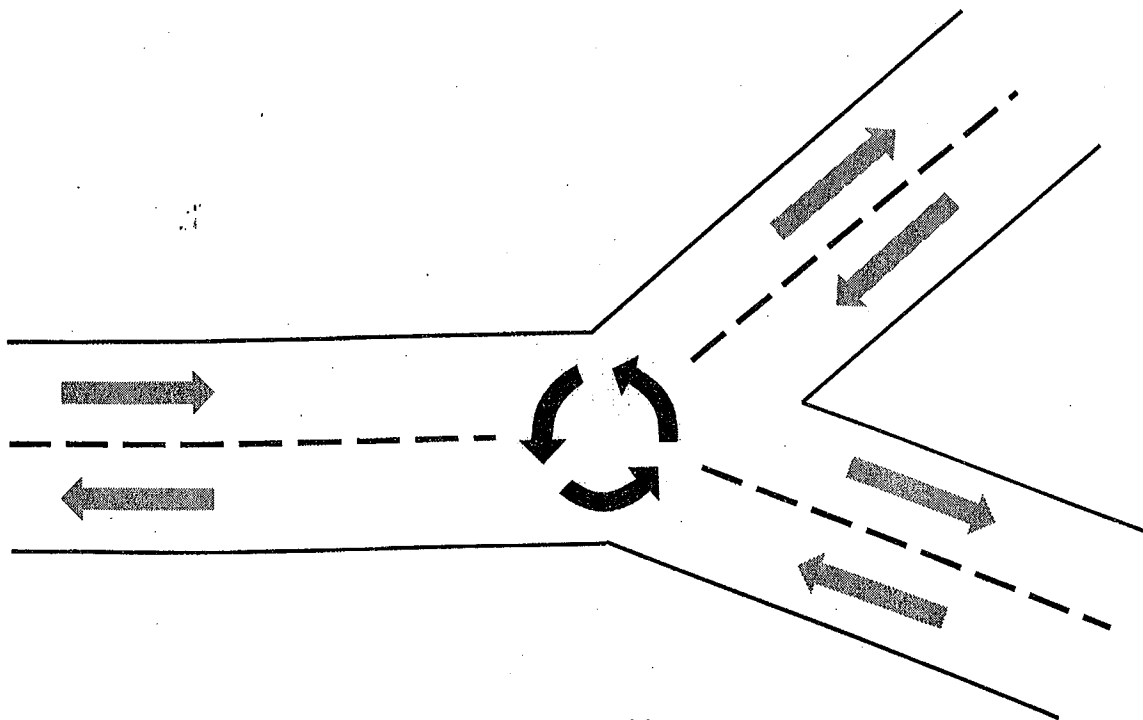


Figure 01

- I. What are the sensors/devices that can be used to detect the traffic condition? Give reasons for your selection. How do you connect the sensors/devices in order to detect the traffic?
(25 marks)
- II. Mark the positions to fix traffic light posts on the lanes. Justify your answer.
(20 marks)
- III. Briefly explain a method to implement a communication between light posts.
(20 marks)
- IV. Draw a flow chart to describe the control procedure of the dynamic traffic light system.
(35 marks)