Seat No. $\square$

Instructions: (1) All Questions are compulsory.
(2) Illustrate your answers with neat sketches wherever necessary.
(3) Figures to the right indicate full marks.
(4) Assume suitable data, if necessary.
(5) Use of Non-programmable Electronic Pocket Calculator is permissible.

## Marks

1. Attempt any FIVE of the following : 10
(a) Define Traffic Engineering.
(b) Write the essential road user characteristics to be considered in Traffic Engineering. 2
(c) Name the different types of Traffic Studies. 2
(d) Classify Road signs. 2
(e) Define traffic signal. 2
(f) List out the factors affecting reaction time of driver. $\mathbf{2}$
(g) Classify carriageway markings. 2
2. Attempt any THREE of the following : $\mathbf{1 2}$
(a) Explain the purpose of traffic volume study of a road section. 4
(b) Explain the points to be considered while erecting road signs. 4
(c) Explain the uses of various carriageway markings. 4
(d) Draw the following traffic signs for the urban area :
(i) Left-turn prohibited
(ii) No Parking
(iii) Railway crossing ahead
(iv) Hospital
3. Attempt any THREE of the following :
(a) Enumerate the advantages \& disadvantages of traffic control signals. 4
(b) Describe channelizing islands with neat sketch.4
(c) Describe the factors affecting visibility of road at night time. 4
(d) Define Arboriculture. Give it's objectives.
4. Attempt any THREE of the following :

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(a) Discuss the factors affecting selection of type of roadside trees. 4
(b) Suggest the preventive measures to prevent road accident. 4
(c) Enumerate different causes of road accidents. 4
(d) Explain the considerations to be taken for road safety. 4
(e) Explain the legislation \& Law enforcement, education in road accident studies.
5. Attempt any TWO of the following :
(a) Explain the methods of parking studies, stating necessities of it.
(b) Draw the following road markings :
(i) Center lines
(ii) Stop lines
(iii) Pedestrian or Zebra crossings.
(c) Explain the methods of conducting origin \& destination studies stating the necessities of it.
6. Attempt any TWO of the following :
(a) Draw the following road intersections showing traffic flow patterns on it.
(i) Clover leaf pattern
(ii) Trumpet type
(b) Explain with neat sketch Collision diagram \& Condition diagram.
(c) Explain the following type of traffic segregation.
(i) Place segregation
(ii) Time segregation

