

Code: 9A01606

B.Tech III Year II Semester (R09) Supplementary Examinations December/January 2014/2015

TRANSPORTATION ENGINEERING

(Civil Engineering)

Time: 3 hours

Max Marks: 70

Answer any FIVE questions

All questions carry equal marks

- 1 What are obligatory points? How do they influence the road alignment? With the help of neat sketches explain about various obligatory points.
- 2 (a) Discuss the importance of stopping sight distance at intersections and the factors that influence the visibility at intersections. Explain the design principle of an intersection to ensure the minimum sight distance required.
(b) Calculate the minimum sight distance required to avoid a head-on collision of two cars approaching from the opposite direction at 100 kmph and 80 kmph on a road section. Assume a reaction time of 2.5 seconds, coefficient of friction of 0.7 and brake efficiency of 50 percent in either case.
- 3 (a) What are the methods of accident data recording? Briefly discuss.
(b) What measures can be adopted to prevent road accidents? Explain.
- 4 (a) What are the advantages and disadvantages of traffic signals? Discuss.
(b) Explain the IRC method of traffic signal design.
- 5 What are the objectives of channelization? What are the features of channelizing islands?
- 6 (a) Explain the concept of ESWL.
(b) Calculate the ESWL of a dual wheel assembly carrying 2400 kg each for different pavements with thicknesses of 15 cm, 20 cm and 25 cm. Take centre to centre tyre spacing as 27 cm and the distance between the walls of tyres as 11 cm.
- 7 What factors are to be given consideration in the selection of a site for an airport? Explain.
- 8 Write short notes on the following:
 - (a) Apron flood lighting.
 - (b) Taxiway edge lighting.
 - (c) Taxiway centre line lighting.
