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Code: 9A01606 **R09**

B.Tech III Year II Semester (R09) Supplementary Examinations December/January 2015/2016

TRANSPORTATION ENGINEERING

(Civil Engineering)

Time: 3 hours Max Marks: 70

Answer any FIVE questions

All questions carry equal marks

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1 (a) What is the classification of highways adopted in different road development plans? Discuss.
(b) Briefly explain about the efforts made in India for a planned development of highways since Independence.

2 (a) What factors influence the design of vertical curves? Explain.
(b) A summit curve is to be designed for a speed of 80 kmph so as to have an overtaking distance of 470 m. Calculate the length of the curve, considering an ascending gradient of 1 in 100 meters and a descending gradient of 1 in 120.

3 (a) What are the objectives and scope of Traffic engineering? Discuss.
(b) What are the road user characteristics that influence the traffic on roads? Explain.

4 Write short notes on the following:
(a) Prohibitory signs.
(b) Cautionary signs.
(c) Informative signs.
(d) Parking related signs.

5 What are the advantages and limitations of unchannelized and channelized intersections?

6 (a) Explain the use of triaxial test for designing the pavement thickness.
(b) Design the pavement section by triaxial test method using the following data:
Wheel load = 4100 kg
Radius of contact area = 15 cm
Traffic Coefficient = 1.5
Rainfall Coefficient = 0.8
Design Deflection = 0.25 cm
E value of sub-grade soil = 100 kg/ cm^2
E value of base course material = 400 kg/ cm^2
E value of surface course = 1000 kg/ cm^2
The surface course is of bituminous concrete with 7.5 cm thickness.

7 What are the special characteristics of jet aircraft? How do they affect the planning and design of airports? Explain in detail.

8 What are the various corrections to be applied to standard runway length to obtain the actual length of a runway? Explain.

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