**Code: 9A01606**

**R09**

B.Tech III Year II Semester (R09) Supplementary Examinations May/June 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 are the significant recommendations of Jayakar committee? Mention how these recommendations helped in road development in India.

(b) Explain the salient features of Nagpur road development plan.

2 (a) Define Super elevation. Derive an expression for computing the rate of super elevation for a road section on a horizontal curve analyzing the various forces acting on the vehicle moving on the curve.

(b) Calculate the rate of super elevation to be provided at a horizontal curve of radius 400 m on a plain terrain for a design speed of 100 kmph. Is there a need for restricting the super elevation? If so, what is the restricted super elevation rate and find out whether there is need to restrict the speed or not.

3 (a) What are the possible causes for accidents? Explain.

(b) What kind of data is collected in accident studies? Discuss.

4 What are the studies to be done to collect the required data while designing the traffic signal at an intersection? Explain. Also discuss the important design components in a traffic signal control.

5 Draw a neat sketch of a full cloverleaf and show the movement of traffic.

6 (a) What are the different types of pavements? Explain the differences between them.

(b) Explain about the components of a pavement structure and their functions.

7 (a) Draw a neat sketch of an aero plane and explain its various component parts.

(b) Discuss about various components of aircraft weight.

8 The length of a runway under standard conditions is 1700 m. The airport site has an elevation of 280 m and its reference temperature is $34.5^0$C. If the runway is to be constructed with an effective gradient of 0.20 percent, determine the corrected runway length.

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