CLASS TEST 1
SECOND YEAR CIVIL ENGINEERING
SUBJECT – TRANSPORTATION ENGINEERING

Time – 1 Hour Max. Marks: 15

Q.1 – Explain briefly various factors controlling the alignment of roads. (03)

Q.2 – List the various surveys conducted, various drawings and reports to be prepared for a highway project. (02)

Q.3 – Draw typical cross sections of National Highway in embankment and cutting. (03).

Q.4 – Define stopping Sight distance. Calculate stopping sight distance on a highway at a descending gradient of 2% for a speed of 80 kmph. Assume other data as per IRC recommendations. (03)

OR

State the necessity of extra widening on horizontal curves on roadways. Calculate the extra widening required for a pavement of width 7 cm on a horizontal curve of radius 250 m. The longest wheel base of vehicle expected on road is 7 m and design speed is 70 kmph.

Q.5 – Explain briefly with figures the following terms, their necessity, and types. Also state their standard values as per IRC recommendations. (04).

i) Camber ii) Gradient

CIVIL ENGINEERING DEPARTMENT
SECOND YEAR CIVIL ENGINEERING 2016-17
CLASS TEST I – TRANSPORTATION ENGINEERING CEU402

Time – 1 Hour Max. Marks: 15

Q. 1 List classification of roads based on different criteria. Explain in brief the classification of roads based on third road development plan. (2)

Q2 Draw a neat sketch showing a typical cross section of a National Highway in embankment. Indicate all the important dimensions. (2)

Q3 -Explain in brief the various drawings and reports to be prepared for a road project. (2)

Q4 - Explain the term 'Camber'. State the objects of providing a camber. What are the different types of cambers provided to a road surface? Discuss the factors on which the amount of camber to be provided depends. Also specify the recommended ranges of camber for different types of pavement surfaces. (3)

OR

Explain with sketches the following terms. Also state the equations to determine them.

a) Stopping sight distance b) Super elevation (3)

(P.T.O.)

Q.5 -List the various tests on road aggregates. Explain in brief the aggregate crushing value test. (3)

Q.6- Calculate the extra widening required for a national highway pavement of width 7.0 m on a horizontal curve of radius 240 m. Assume suitable data. (3)

OR

An ascending gradient of 1 in 100 meets a descending gradient of 1 in 120. A summit curve is to be designed for a speed of 70 kmph so as to have an overtaking sight distance of 470 m. Calculate the length of summit curve. (3)