B. Tech Degree V Semester (Supplementary) Examination June 2011

CE 504 B TRANSPORTATION ENGINEERING

(2002 Scheme)

Time : 3 Hours Maximum Marks : 100

I. (a) Draw the typical cross section of a highway pavement on an embankment. (10)
(b) Explain the requirements of an ideal alignment. (10)

OR

II. (a) What are the factors affecting the stopping sight distance? Explain. (10)
(b) The design speed of a highway is 80 kmph. There is a horizontal curve of radius 200m on a certain locality. Calculate the super elevation needed to maintain this speed. Calculate the allowable speed on this horizontal curve. (Take f as 0.15). (10)

III. (a) How the crushing value of the aggregate is determined in the lab? Give IRC specifications. (10)
(b) Explain the construction of WBM roads. (10)

OR

IV. Explain the various types and causes of failures in flexible and rigid pavements in detail. (20)

V. (a) Which are the aircraft characteristics which affect the planning and design of airport? (10)
(b) Write notes on surveys for airport site selection. (10)

OR

VI. (a) Explain anyone type of wind rose diagram in detail. (10)
(b) The length of runway under standard condition is 1620m. The airport site has an elevation of 280m. Its reference temperature is 30^0C. If the runway is to be constructed with an effective gradient of 0.2%, find the corrected runway length. (10)

VII. (a) Which are the requirements of an ideal permanent way? (10)
(b) A 6 degree curve branches off from a 3 degree main curve in an opposite direction in the layout of a B.G.yard. If the speed on the branch line is restricted to 35 kmph, determine the speed restriction on the main line. (10)

OR

VIII. (a) Explain the center line transference to the inside of the tunnel. (8)
(b) Explain in detail any one method of tunneling through soft rock with the help of sketches. (12)

IX. (a) Explain briefly the classification of harbours. (10)
(b) Explain the method of construction of any one type of breakwater with the help of a neat sketch. (10)

OR

X. (a) Explain the functions and types of docks. (10)
(b) What is the purpose of dredging? With a neat sketch, explain a dipper dredger. (10)

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