

Diploma in Civil Engineering

Term-End Examination

June, 2010

01915

BCE-052 : TRANSPORTATION ENGINEERING

Time : 2 hours

Maximum Marks : 70

Note : All questions carry equal marks. Question number 1 is compulsory. Attempt any four questions out of questions number 2 to 7.

1. (a) Fill in the blanks : (Choose true option from the bracket) 7x1=7
- (i) The central reserve for providing space separating dual carriageway is _____ .
(Camber/median/superelevation)
- (ii) The long-term road plan prepared for 1981-2001 is known as _____ .
(Bombay plan/Nagpur plan/Lucknow plan)
- (iii) _____ is a machine used to assess the riding quality of a pavement.
(Penetrometer/Bump integrator/Compactor)

(iv) The number of sleepers per unit length of rail is _____ .

(Sleeper volume/Sleeper density/
Sleeper number)

(v) The angle subtended at the centre by a chord of 100 ft length is called _____.

(grade of curve/degree of curve/
angle of curve)

(vi) _____ is a shed for accommodating aircraft for repairs and maintenance.

(Hanger/lifter/radiator)

(vii) _____ is a place where ships can be moored and sheltered from wind and waves.

(Docks/ harbour/ports)

(b) Differentiate between the following :

(i) Railway Over-bridge and fly over slab 3½

(ii) Prime coat and tack coat 3½

2. Explain advantages and disadvantages of various modes of transport. 14

3. (a) Describe the advantages of a transition curve over a horizontal curve. Why are the pavements widened on curves ? 7

- (b) Explain briefly the types of sight distance along with the IRC recommendations. 7
4. (a) Describe the various terms used in the cross-section of a road. Sketch a cross section of an urban arterial street. 7
- (b) Explain any two types of test used to determine the strength of aggregates. 7
5. (a) Describe the construction of Water Bound Macadam (WBM) and Wet Mix Macadam (WMM). What are the advantages of WMM over WBM ? 10
- (b) Describe in brief, the various construction methods of concrete pavements. 4
6. (a) What are the main causes contributing to landslides ? Suggest corrective measures to prevent landslides. 7
- (b) Explain the functions of ballast and sleepers in a railway track. 7
7. (a) Explain various considerations which govern the choice of site for an airport. 7
- (b) Describe the features of ropeways, belt conveyors and passenger conveyors. 7