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BCE-052

DIPLOMA IN CIVIL ENGINEERING
DCLE(G)
Term-End Examination
00535 **December, 2014**

BCE-052 : TRANSPORTATION ENGINEERING

Time : 2 hours *Maximum Marks : 70*

Note : *Question number **1** is **compulsory**. Attempt any **four** questions from the remaining. Use of calculator is allowed.*

1. Choose the correct answer in the following : *7x2=14*

(a) A continuous structure, that acts as a retaining wall along a shore line is

(i) Dock

(ii) Jetty

(iii) Wharf

(iv) Sheet pile

(b) Middle elevated/raised portion of highway is called

(i) Super elevation

(ii) Camber

(iii) Sight distance

(iv) Vertical curve

(c) C.B.R. method is used for the designing of

(i) Traffic density

(ii) Rigid pavements

(iii) Airfield pavement

(iv) Flexible pavements

(d) A facility, where goods wagons are sorted out for being dispatched to different stations is called

(i) Loco yard

(ii) Sorting yard

(iii) Marshalling yard

(iv) Cargo yard

(e) Rail joint supported on a single sleeper is known as

(i) Supported joint

(ii) Suspended joint

(iii) Bridge rail joint

(iv) Square rail joint

(f) It is an artificial enclosure for reception of ships and is called

(i) Harbour

(ii) Dock

(iii) Jetty

(iv) Wharf

(g) Runways are provided with lighting arrangements at

(i) high mast light

(ii) both edges

(iii) centre line

(iv) centre line and edges

2. (a) Give broad features of Nagpur plan of highway development in India.

(b) What are the various modern trends in transportation ? Explain. *2×7=14*

3. (a) What are the surveys and investigations needed for preparing a good road project ?

(b) Explain summit and valley curves with the help of neat sketches. *2×7=14*

4. (a) Calculate the radius of a horizontal curve for the design speed of 80 km/hr and super elevation of 0·07.

(b) Explain OMC and MDD for highway subgrade compaction. Illustrate with the help of neat sketches. *2×7=14*

5. (a) What do you understand by creep in railways ? How is it adjusted ?

(b) What is a turn-out ? Show its various components by neat sketches. *2×7=14*

6. (a) Explain heliports and STOLports by neat sketches.

(b) What are the main components of an airport ? Give an airport layout. *2×7=14*

7. Write short notes on any ***four*** of the following : $4 \times 3\frac{1}{2} = 14$

(i) Metro rails

(ii) Escalators

(iii) Wharves and Jetties

(iv) Reinforced earth

(v) Causeways

(vi) Retaining walls

(vii) Maintenance of roads