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BCE-052

DIPLOMA IN CIVIL ENGINEERING
DCLE(G)
Term-End Examination
June, 2015

00515

BCE-052 : TRANSPORTATION ENGINEERING

Time : 2 hours *Maximum Marks : 70*

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

1. Choose the appropriate answer from the options given for the following questions : *7×2=14*

(a) VR and ODR are grouped together and defined as

(i) Expressways

(ii) Urban roads

(iii) Rural roads

(iv) None of the above

(b) The passenger car unit factor for a bus is

(i) 1

(ii) 2

(iii) 3

(iv) 4

(c) The gauge dimension of a broad gauge track in our nation is

(i) 1·676 m

(ii) 1·0 m

(iii) 0.762 m

(iv) 1·5 m

(d) A coarse grained sand is used for the construction of pavement. It has the following properties : $C_u > 6$ and $C_c = 1·7$. The sand is classified as

(i) SC

(ii) SP

(iii) SW

(iv) SM

(e) Arboriculture is

(i) maintenance of road

(ii) maintenance of trees on roadsides

(iii) construction of brick work

(iv) construction of drains along the roads

(f) The waterway of a river is estimated by Lacey's formula. If the discharge in the river is 25 m^3/sec, the waterway will be

(i) 24·00 m

(ii) 12·00 m

(iii) 36·00 m

(iv) 6·00 m

(g) The maximum stripping value allowed for aggregate is

(i) 15%

(ii) 25%

(iii) 35%

(iv) 45%

2. (a) What is superelevation ? How is it calculated ? What is the reason for providing superelevation ? *7*

(b) Calculate the values of the ruling minimum radius of horizontal curve of a NH in plain terrain. Assume the design speed as 100 kmph. *7*

3. Describe the merits and demerits of various modes of transportation in India. *14*

4. (a) What are the functions of ballast in a railway track ? *7*

(b) What are the different aspects of planning of railway stations ? *7*

5. (a) Explain the salient features of design standards for an airport facility. *7*

(b) How is the drainage of an airport carried out ? Give the cross-section of a runway. *7*

6. (a) What are the materials that can be transported in pipelines ? What are the advantages of pipeline transportation of materials ? 7

(b) Describe the features of the following : $2 \times 3\frac{1}{2} = 7$

(i) Passenger conveyors

(ii) Belt conveyors

7. Write short notes on any ***two*** of the following : $2 \times 7 = 14$

(a) Maintenance of Airport Pavements

(b) CBR Test

(c) DBM and BC