

No. of Printed Pages : 5

BCE-052

DIPLOMA IN CIVIL ENGINEERING
DCLE(G)

Term-End Examination, 2019

BCE-052 : TRANSPORTATION ENGINEERING

Time : 2 Hours

Maximum Marks : 70

Note : Question no.1 is compulsory. Attempt any four questions from the remaining ones. Use of scientific calculator is permitted.

1. Choose the correct answer in each of the following questions : [7×2=14]

(a) For buses PCU factor is :

(i) 1

(ii) 0.5

(iii) 3

(iv) 2.0



(b) Total width for a two lane pavement is :

(i) 3.75m

(ii) 5.5m

(iii) 7m

(iv) None of these.

(c) A reinforcing bar across a longitudinal joint to prevent separation of adjoining slabs :

(i) Dowel Bar

(ii) Tie Rod

(iii) Borrow Pits

(iv) Slip form Paver

(d) Pavement Condition Index is :

(i) A value to describe the condition of a pavement.

(ii) A value to describe vehicle damage.

- (iii) A value to measure the expansion of concrete slabs.
 - (iv) None of these
- (e) Small retaining structures provided in series to arrest landslides :
- (i) Retaining walls
 - (ii) Check walls
 - (iii) Gabion walls
 - (iv) Parapet walls
- (f) The rate of change of vertical alignment of a railway line :
- (i) Degree of curve
 - (ii) Cant
 - (iii) Gradient
 - (iv) All of the above

(g) A path over which an aircraft may taxi to and from the runway and apron is called :

(i) Apron

(ii) Taxiway

(iii) Runway

(iv) Hangar

2. (a) What is meant by multi-modal transport and what are its advantages ? [7]

(b) Discuss the problems that are faced by India's Urban transport system. [7]

3. (a) What are the desirable properties of bitumen for use as a binder in road construction ? [7]

(b) Write names of any five tests conducted on bitumen. Describe any one briefly. [7]

4. Why road drainage is necessary ? Discuss in detail with neat sketches. [14]

5. (a) Give a neat sketch of a left hand turnout. [7]
- (b) What are the types of culverts in Railway line ? Describe any one briefly. [7]
6. (a) What are the considerations influencing the selection of site for an airport. [7]
- (b) How is the maintenance of pavements in an airport carried out ? Explain briefly. [7]
7. (a) What are the constituent parts of a harbour ? Give a sketch to illustrate. [7]
- (b) What are the materials that can be transported in pipelines ? Compare the utility of pipelines with that of road network for such materials. [7]
8. Write short notes on **any two** of the following : [2×7=14]
- (a) Escalators
- (b) Metro Rail
- (c) Jetties
- (d) Overtaking Sight Distance.

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