

**DIPLOMA IN CIVIL ENGINEERING  
DCLE(G)**

**Term-End Examination**

00693

**June, 2018**

**BCE-052 : TRANSPORTATION ENGINEERING**

*Time : 2 hours*

*Maximum Marks : 70*

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

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1. Choose the correct answer from the multiple choice list.  $7 \times 2 = 14$
- (a) Streets meant for through traffic on a continuous route are called
- (i) Arterial Streets
  - (ii) Sub-arterial Streets
  - (iii) Collector Streets
  - (iv) Local Streets
- (b) The long-term road plan prepared for 1961-1981 is known as
- (i) Nagpur plan
  - (ii) Bombay plan
  - (iii) Delhi plan
  - (iv) Lucknow plan

- (c) The PCU (Passenger Car Unit) for a bus may be taken as
- (i) 1
  - (ii) 0.5
  - (iii) 3
  - (iv) 20
- (d) For concrete roads, Camber is
- (i) 2%
  - (ii) 2.5%
  - (iii) 3.0%
  - (iv) 3 - 4%
- (e) The main defects that show up in a concrete road are
- (i) cracks
  - (ii) loss of sealant
  - (iii) spalling at joints
  - (iv) All of the above
- (f) The raising of the outer rail to counteract centrifugal forces on curves is known as
- (i) Degree of curve
  - (ii) Super-elevation
  - (iii) Gradient
  - (iv) None of the above

(g) The area adjacent to a runway intended as a safety measure for aircraft running off the pavement is

- (i) Apron
- (ii) Taxiway
- (iii) Hangar
- (iv) Shoulders

2. What are the various modes of transport ? Briefly discuss the role of each mode of transport with advantages and disadvantages. 14

3. (a) Draw a labelled sketch for a road cross-section. 7

(b) Why is a transition curve provided ? Explain briefly. 7

4. (a) Draw sketches to show how surface run-off is taken away in a single carriageway road and dual carriageway road. 7

(b) Draw a sketch showing subsurface drainage in a hill road. 7

5. (a) Explain the need for maintenance of railway lines and the activities covered in the maintenance operation. 7

(b) Draw a neat labelled sketch for a diamond crossing. 7

6. (a) Discuss the requirements of various authorities for a passenger terminal building in an airport. 7
- (b) Briefly explain various amenities and facilities provided for passengers in a railway station. 7
7. Write short notes on any *two* of the following :  $2 \times 7 = 14$
- (a) Importance of good drainage for a road
- (b) Considerations for layout of an airport
- (c) Flexible pavements
- (d) Types of sleepers used in railways
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