

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

Term-End Examination

00427

December, 2017

BCE-043 : CONSTRUCTION TECHNOLOGY – II

Time : 2 hours

Maximum Marks : 70

Note : *Question no. 1 is compulsory. Answer any four questions from the remaining part. All questions carry equal marks.*

1. Choose the correct alternative in each of the following questions : $7 \times 2 = 14$
- (a) CPM stands for
- (i) Critical Path Method
 - (ii) Combined Path Method
 - (iii) Complete Path Method
 - (iv) Creative Path Method
- (b) Crushing strength of good building stone should be more than
- (i) 50 MPa
 - (ii) 100 MPa
 - (iii) 150 MPa
 - (iv) 200 MPa

- (c) Which of the following ingredients exerts maximum influence on properties of steel ?
- (i) Iron
 - (ii) Carbon
 - (iii) Manganese
 - (iv) Sulphur
- (d) Bricks are burnt at a temperature range of
- (i) 500°C to 700°C
 - (ii) 700°C to 900°C
 - (iii) 900°C to 1200°C
 - (iv) 1200°C to 1500°C
- (e) Surkhi is added to lime mortar to
- (i) prevent shrinkage
 - (ii) decrease setting time
 - (iii) increase bulk
 - (iv) impart hydraulicity
- (f) Which of the following stresses is used for identifying the quality of structural steel ?
- (i) Ultimate stress
 - (ii) Yield stress
 - (iii) Proof stress
 - (iv) None of the above

- (g) The slenderness ratio for masonry walls should *not* be more than
- (i) 10
 - (ii) 20
 - (iii) 30
 - (iv) 40
2. (a) Explain different visual elements of design. What are the components of an activity space? 7
- (b) Briefly describe the essential requisites for the supervision of contract works. What are the general objectives of supervision of construction? 7
3. (a) List out various priorities in the preparation of an annual maintenance programme. Name some agencies for carrying out repair works in government buildings. 7
- (b) Write a short note on fire alarm systems. Describe various methods of fire-fighting systems. 7
4. (a) Briefly describe various methods used for making connections in steel structures, discussing the salient features and advantages of each. 8
- (b) Describe in detail the noise control and sound insulation of a building. 6

5. (a) State the types of rollers used in compaction of cohesive soils, water bound macadam and fine grained soil. What is the advantage of tandem roller ? 7
- (b) Explain various types of crushers. What are the advantages of impact crusher ? Name the various components of jaw crusher. 7
6. (a) Explain various applications of bituminous compounds in building construction. What are the common defects causing leakage in buildings ? 7
- (b) Discuss various ground improvement techniques for foundation. 7
7. Write short notes on any *four* of the following : $4 \times 3 \frac{1}{2} = 14$
- (a) Pre-cast Framed Construction
- (b) Under-reamed Piles
- (c) Hot Mix Plant Batch
- (d) Foci and Dead Spots
- (e) Bolted and Riveted Connection
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