

**DIPLOMA IN MECHANICAL ENGINEERING
(DME)**

Term-End Examination

00864

June, 2017

BCE-025 : ELEMENTARY CIVIL ENGINEERING

Time : 2 hours

Maximum Marks : 70

Note : *Question no. 1 is compulsory. Attempt any four more questions out of questions no. 2 to 7. All questions carry equal marks. Explain your answers with the help of neat and labelled sketches.*

1. Choose the correct alternative : 7×2=14

(a) A paved path provided for the purpose of allowing aircrafts to move to and from the runway and the apron is called

(i) Taxiway

(ii) Apron

(iii) Runway

(iv) None of the above

(b) The distance between the inner faces of the rails in a narrow gauge railway track is

- (i) 0.765 m
- (ii) 1.00 m
- (iii) 1.50 m
- (iv) 0.50 m

(c) The vertical face of a window or door opening which supports the frame is called

- (i) Rebate
- (ii) Jamb
- (iii) Transom
- (iv) Mullion

(d) Vibrators should be penetrated in concrete in

- (i) Horizontal direction
- (ii) Inclined direction
- (iii) Vertical direction
- (iv) None of the above

(e) The volume of one bag of cement is

- (i) 50 litres
- (ii) 35 litres
- (iii) 25 litres
- (iv) None of the above

- (f) M 30 grade of concrete is judged by strength criteria of
- (i) 30 kN/m^2
 - (ii) 30 N/m^2
 - (iii) 30 N/cm^2
 - (iv) 30 N/mm^2
- (g) The bearing capacity of soil goes on increasing as the depth of the foundation
- (i) increases
 - (ii) decreases
 - (iii) remains the same
 - (iv) None of the above
2. (a) Explain the role of a civil engineer in various construction activities. 7
- (b) Discuss the various methods of irrigation system. 7
3. (a) Explain soil as a three-phase system. 7
- (b) Discuss the procedure of determining the width and depth of a shallow foundation. 7
4. (a) Describe the methods of damp proof treatment. 7
- (b) Discuss the classification of rubble masonry. 7

5. (a) Define concrete. Draw the process diagram of concrete operations. 7
- (b) Discuss the properties of concrete in the plastic stage. 7
6. (a) Define curing of concrete. Explain in brief, the methods of curing concrete. 7
- (b) Enlist types of doors and explain any one with a labelled sketch. 7
7. Write short notes on any **four** of the following : $4 \times 3 \frac{1}{2} = 14$
- (a) Marble Flooring
- (b) Hangar
- (c) Flush Door
- (d) Lap Joint and Butt Joint
- (e) Compaction of Concrete
- (f) Plasticity Chart
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