

**DIPLOMA IN MECHANICAL ENGINEERING
(DME)**

01014

Term-End Examination

June, 2013

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. 7x2=14
- (a) In case of fully saturated soil , the voids are completely filled with :
- (i) soil solids
 - (ii) air
 - (iii) water
 - (iv) mixture of water and air
 - (v) None of the above
- (b) The horizontal dividing member in a window or door frame is :
- (i) sill
 - (ii) transom
 - (iii) soffit
 - (iv) none of the above

- (c) Hand compaction can be done with :
- (i) rodding
 - (ii) ramming
 - (iii) tamping
 - (iv) all of the above
 - (v) None of the above
- (d) A paved path provided for the purpose of allowing aircrafts to move to and from the runway and the apron is called as :
- (i) taxiway
 - (ii) apron
 - (iii) runway
 - (iv) None of the above
- (e) In volume batching ingredients are measured in :
- (i) litre
 - (ii) kg
 - (iii) pound
 - (iv) None of the above
- (f) Compaction of concrete is the process adopted for expelling :
- (i) air from concrete
 - (ii) water from concrete
 - (iii) air and water from concrete
 - (iv) None of the above

- (g) One bag of cement contains :
- (i) 35 litre
 - (ii) 50 litre
 - (iii) 75 litre
 - (iv) 100 litre
 - (v) None of the above
2. (a) Discuss the applications of machines and equipments in construction projects. 7
- (b) Define substructure and superstructure. 7
Draw the sketch to show the basic parts of a building.
3. (a) Explain methods of improving bearing capacity of soil. 7
- (b) Discuss plate load test with sketch. 7
4. (a) Compare English bond and Flemish bond. 7
- (b) Explain the methods of construction of brick masonry with sketches. 7
5. (a) Explain properties of concrete in harden stage. 7
- (b) Define concrete. Draw the process diagram of concrete operations. 7

6. (a) Draw the sketches of rolled steel sections. 7
(b) Differentiate between riveted connection and welded connection. 7
7. Write short notes on *any four* of the following :
- (a) Workability **4x3¹/₂ =14**
(b) Plaster in three coats
(c) Airport layouts
(d) Construction of concrete roads
(e) Panelled door
(f) Flemish bond.
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