

**DIPLOMA IN MECHANICAL ENGINEERING
(DME)**

Term-End Examination

00983 December, 2016

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. $7 \times 2 = 14$
- (a) In case of perfectly dry soil, the voids are completely filled with
- (i) Air
 - (ii) Water
 - (iii) Soil solids
 - (iv) Mixture of water and air

- (b) The strongest bond in brick-work is
- (i) English bond
 - (ii) Flemish bond
 - (iii) Stretcher bond
 - (iv) Header bond
- (c) Workability of concrete is generally measured by
- (i) Slump cone
 - (ii) Le-Chatelier apparatus
 - (iii) Vicat apparatus
 - (iv) Compression Testing Machine
- (d) Runway is usually oriented in the direction of
- (i) Head wind
 - (ii) Cross wind
 - (iii) Prevailing wind
 - (iv) Wind
- (e) One bag of cement contains _____ cement.
- (i) 25 kg
 - (ii) 50 kg
 - (iii) 75 kg
 - (iv) 100 kg

- (f) Hand compaction can be done with
- (i) Rodding
 - (ii) Tamping
 - (iii) Ramming
 - (iv) All of the above
- (g) The horizontal dividing member in a window or door frame is
- (i) Sill
 - (ii) Soffit
 - (iii) Transom
 - (iv) None of the above
2. (a) Discuss the applications of civil engineering to mechanical engineering related constructions. 7
- (b) Enlist the disciplines of civil engineering. Explain in brief transportation engineering. 7
3. (a) Explain plate load test with sketches. 7
- (b) Discuss the objectives of foundation in a building structure. 7
4. (a) Enlist the points to be observed while supervising the brick masonry. 7
- (b) Explain Flemish bond with the help of neat sketches. 7

5. (a) Explain in brief workability, segregation and bleeding. 7
- (b) Describe the various components of an airport. 7
6. (a) What is meant by bulking of sand ? 7
- (b) Explain the construction of a collapsible door with a sketch. 7
7. Write short notes on any *four* of the following : $4 \times 3 \frac{1}{2} = 14$
- (a) Waterproofing
- (b) Built-up Sections
- (c) Gable Window
- (d) Terrazzo Flooring
- (e) Cross Drainage
- (f) Panelled Door
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