No. of Printed Pages : 4

BCE-025

DIPLOMA IN MECHANICAL ENGINEERING (DME)

00445

Term-End Examination

December, 2014

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 **8**.*

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

(a) Bulking of sand is caused due to

(i) surface moisture

(ii) air voids

(iii) viscosity

(iv) All of the above

(b) The part of structure which is above plinth level is called as

(i) sub-structure

(ii) framed structure

(iii) super structure

(iv) None of the above

(c) The minimum thickness of load bearing R.C.C. wall should be

(i) 5 cm

(ii) 10 cm

(iii) 15 cm

(iv) 30 cm

(d) Minimum pitch of the rivets shall not be less than

(i) 1·5 d

(ii) 2·5 d

(iii) 2·0 d

(iv) 3·0 d

where, d is the gross diameter of rivets.

(e) If the plasticity index of a soil mass is zero, the soil is

(i) sand

(ii) silt

(iii) clay

(iv) gravel

(f) Camber in road is provided for

(i) effective drainage

(ii) proper sight distance

(iii) proper gradient

(iv) All of the above

(g) Falling drops of water become a sphere due to

(i) surface tension

(ii) viscosity

(iii) capillarity

(iv) None of the above

2. (a) Give the general classifications of the soil with proper notations. 7

(b) Define permeability and state the Darcy's law, giving a sketch. 7

3. (a) Explain the batching of concrete with a neat diagram. 7

(b) What are the methods of curing the concrete ? Explain membrane curing. 7

4. (a) Explain the different types of riveted connections with a neat sketch. 7

(b) What are the different types of steel trusses used in buildings ? Give suitable sketches. 7

5. (a) Describe the classification of doors based on working operations. 7

(b) Explain the metal windows with a neat diagram. 7

6. (a) Discuss the points to be considered while selecting the location for an airport. 7

(b) Describe the different types of bonds used in brick masonry. 7

7. (a) What are the causes of dampness in a building ? 7

(b) Explain the various types of floorings with neat diagrams. 7

8. (a) What is the difference between a deep and a shallow foundation ? 7

(b) Discuss the application of Civil Engineering to allied fields. 7