No. of Printed Pages : **4 + Drawing Sheet** **BCE-024**

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

01761

Term-End Examination

December, 2012

BCE-024 : CONSTRUCTION TECHNOLOGY-I

Time : 2 hours *Maximum Marks : 70*

Note : *Question number **1** is **compulsory**. Attempt **any four** more questions from the remaining questions. All questions **carry equal** marks.*

1. Choose the correct alternative in questions (a) to (g) : **7x2=14**

(a) The minimum depth of foundation (D) can be determined by :

(i) $\frac{q}{r}\left(\frac{1-\sin\Phi}{1+\sin\Phi}\right)^2$

(ii) $\frac{q}{r}\left(\frac{1+\sin\Phi}{1+\sin\Phi}\right)^2$

(iii) $\frac{q}{r}\left(\frac{1-\sin^2\Phi}{1+\sin^2\Phi}\right)$

(iv) $\frac{q}{r}\left(\frac{1+\sin^2\Phi}{1-\sin^2\Phi}\right)$

(b) A depression on the top face of a brick provided to form a key for holding the mortar is known as :

(i) Closer (ii) Frog

(iii) Joint (iv) Cornice

(c) A structure should be checked for :

(i) sliding (ii) overturning

(iii) settlement (iv) all the above

(d) The width of lintel should be equal to :

(i) thickness of wall

(ii) height of wall

(iii) length of wall

(iv) twice the thickness of wall

(e) The vertical face of a window or door opening which supports the frame is known as :

(i) jamb (ii) reveal

(iii) parel (iv) transom

(f) The size of doors used in India is generally regulated as :

(i) Height = Width

(ii) Height = Width + 1.2 m

(iii) Height = 2 Width

(iv) None of the above

(g) A row of arches supporting a wall above and being supported by piers is known as :

(i) pringer (ii) haunch

(iii) arcade (iv) ring

2. (a) Explain the governing criteria to determine the depth of foundation at different levels in granular soil. 7

(b) Briefly discuss various types of shallow foundations with the help of neat sketches. 7

3. (a) What do you mean by a Cavity Wall ? Explain its advantages. 7

(b) Explain various points required to be checked while supervising masonry construction. 7

4. (a) Discuss the essentials of termite proofing in buildings. 7

(b) Explain the requirements of an ideal damp proofing material. 7

5. (a) Explain the details of an RCC lintel with the help of a neat sketch. 7

(b) What do you mean by scaffolding ? Explain its various components. 7

6. (a) Explain precautions generally taken during the construction of ground floor of a building. 7

(b) Describe different types of window used in buildings. 7

7. Write short notes on the following : 4x3½=14

(a) Retaining wall

(b) File foundation

(c) Causes of dampness

(d) Precautions for stone masonry work

8. Differentiate between the following : 4x3½=14

(a) Shallow and Deep foundations

(b) English and Flemish Bond

(c) Damp Proofing and Water Proofing

(d) Lintel and Arch