

**DIPLOMA IN CIVIL ENGINEERING (DCLE(G))/
ADVANCED LEVEL CERTIFICATE COURSE IN
CIVIL ENGINEERING (DCLEVI/ACCLEVI)**

Term-End Examination

June, 2016

00280

BCE-024 : CONSTRUCTION TECHNOLOGY – I

Time : 2 hours

Maximum Marks : 70

Note : *Question no. 1 is compulsory. Attempt any four questions from the remaining questions. All questions carry equal marks.*

1. Choose the correct answer from the following four alternatives in questions (a) to (g) : $7 \times 2 = 14$
- (a) Plate load test is
- (i) a test for quality of cement
 - (ii) a laboratory test
 - (iii) a test for determination of bearing capacity of soil
 - (iv) used for determination of quality of construction

- (b) Which of the following may be prone to sliding ?
- (i) Pile foundations
 - (ii) Footings on sloping ground
 - (iii) Combined footings
 - (iv) Grillage foundation
- (c) A stiff beam is provided in
- (i) a strap footing
 - (ii) a grillage foundation
 - (iii) a pile foundation
 - (iv) a raft foundation
- (d) For very heavy loads on steel columns, we may use
- (i) a strap footing
 - (ii) a grillage foundation
 - (iii) a raft foundation
 - (iv) RCC column footing
- (e) Which of the following is used in black cotton soils ?
- (i) Wall footing
 - (ii) Under reamed piles
 - (iii) Combined footings
 - (iv) Strap footings

- (f) Parameter ϕ in the Rankine's formula for determining depth of foundation is
- (i) gross bearing capacity
 - (ii) density of soil
 - (iii) angle of repose of soil
 - (iv) pressure intensity
- (g) A complete layer of bricks laid on the same bed is known as
- (i) Header
 - (ii) Stretcher
 - (iii) Course
 - (iv) Face
2. (a) What is the purpose of providing a foundation to a structure ? Briefly discuss the role of the type of ground soil in the selection of the type of foundation. 7
- (b) Draw a neat sketch of a pile foundation. 7
3. (a) What do you understand by damp proofing ? Briefly describe a method used for this purpose. 7
- (b) Write the names of any three types of retaining walls. Describe any one of these briefly with a neat sketch. 7

4. (a) Describe any one test conducted on bricks. 7
(b) Give a classification of stone masonry. Describe briefly the features of any one class. 7
5. (a) Describe briefly the post-construction anti-termite treatment in buildings. 7
(b) Write the precautions to be taken in building construction to prevent dampness. 7
6. (a) Draw a neat sketch of a lintel. 7
(b) Give the classification of arches. Draw a neat sketch of a particular type provided in your classification. 7
7. (a) Write a brief note on the factors affecting selection of ground floorings. 7
(b) Give the classification of windows. Draw a neat sketch of any one type included in your classification. 7
8. Write short notes on any *two* of the following : $2 \times 7 = 14$
- (a) Types of window movement
 - (b) Damp proof course
 - (c) Lowering water table by well point
 - (d) Site investigation