

Diploma in Civil Engineering

Term-End Examination

December, 2006

BCE-024 : CONSTRUCTION TECHNOLOGY – I

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 alternatives : 2×7
- (a) A combined footing is generally used when
- (i) number of columns is more than two and they are spaced far apart
 - (ii) number of columns is two and they are spaced close to each other
 - (iii) number of columns is two and they are spaced far apart
 - (iv) there is only one column

(b) An ornamental projection from the face of a masonry wall is

- (i) Corbel
- (ii) Cornice
- (iii) Header
- (iv) Stretcher

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

(d) Soffit is the

- (i) inner surface of an arch
- (ii) external curve of an arch
- (iii) highest part of extrados of an arch
- (iv) end support of an arch

- (e) Common criterion for sizes of doors used in India is as follows :
- (i) Height = Width
 - (ii) Height = Width + 2 m
 - (iii) Height = Width + 12 m
 - (iv) Height = Width + 1.2 m
- (f) The windows which projects outward from the face line of the wall or a building are called
- (i) Corner Windows
 - (ii) Clay-storey Windows
 - (iii) Bay Windows
 - (iv) Dormer Windows
- (g) As compared to English bond, Double Flemish bond is
- (i) stronger
 - (ii) more compact
 - (iii) costly
 - (iv) None of the above
- 2.** (a) What are the various types of foundations ? Explain with the help of a systematic sketch. 7
- (b) Briefly describe the Grillage foundation with the help of a neat sketch. 7
- 3.** (a) What is dampness in building ? Discuss its possible causes and effects on the performance of a building structure. 7
- (b) Explain the procedure of post construction anti-termite treatment given in buildings. 7

4. (a) What do you mean by partition wall ? Describe the functions served by it in a building. 7
- (b) Explain the three systems of a building structure. 7
5. (a) Explain the various functions served by an Arch. Also write merits of Lintels over the Arch. 7
- (b) What do you mean by Scaffolding ? Explain its various components. 7
6. (a) Explain the various factors affecting the selection of Ground Floorings. 7
- (b) Describe Timber floors with the help of a neat sketch. 7
7. (a) Explain the circumstances under which sliding doors are used. Draw a neat sketch of a sliding door. 7
- (b) Explain the various types of Window Movement. 7