

DIPLOMA IN CIVIL ENGINEERING

Term-End Examination

June, 2010

00385

BCE-043 : CONSTRUCTION TECHNOLOGY-II

Time : 2 hours

Maximum Marks : 70

Note : Question No. 1 is compulsory. Answer any four questions from the remaining part. All questions carry equal marks.

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1. Choose the correct alternative in each of the following questions : 2
- (a) Critical path :
- (i) is always the longest path
 - (ii) is always the shortest path
 - (iii) may be the longest path
 - (iv) may be the shortest path
- (b) Compaction Factor test is used for determining the : 2
- (i) Setting time of cement
 - (ii) Soundness of cement
 - (iii) Tensile strength of concrete
 - (iv) Workability of concrete

- (c) A low class fire has a fire load (in kJ/m^2) of : 2
- (i) 4.60×10^6 or more
 - (ii) 2.10×10^6 to 4.60×10^6
 - (iii) 1.15×10^6 to 2.10×10^6
 - (iv) less than 1.15×10^6
- (d) As per BIS recommendations, the minimum cover for reinforcement in all structural elements should be : 2
- (i) 25 mm
 - (ii) 40 mm
 - (iii) 50 mm
 - (iv) 60 mm
- (e) The highest frequency which a human ear can identify as audible is : 2
- (i) 10000 cps
 - (ii) 20000 cps
 - (iii) 25000 cps
 - (iv) 30000 cps
- (f) A smooth wheel roller is used for initial as well as final rolling of : 2
- (i) Water bound macadam
 - (ii) Tar macadam
 - (iii) Bituminous pavements
 - (iv) All the above
- (g) Under reamed piles are used for : 2
- (i) Sandy soils
 - (ii) Clayey soils
 - (iii) Black cotton soil
 - (iv) Rocky terrain

2. (a) What are various common functions in all types of buildings ? Why is energy conservation important in a building ? 7
- (b) What do you understand by supervision during construction and after construction ? 7
3. (a) What are the steps in the planning of annual maintenance of MES assets ? Are there any constraints in maintenance of buildings ? 7
- (b) What role does staff of station HQ play in the planning of maintenance of buildings ? What is the role of MES-staff in the preparation of a maintenance programme ? 7
4. (a) Write a short note on Fire Alarm Systems. Describe various methods of fire fighting systems. 7
- (b) Write a general classification of fires according to the material involved in it ? Explain in brief. 7
5. (a) Explain different types of riveted connections. Discuss their advantages over welded connections. 7
- (b) Show, with the help of neat sketches, a built-up section of a stanchion, to be used for a railway platform shed. Explain various components of it briefly. 7
6. (a) Describe various measures taken for noise control and sound insulation of a building. 7
- (b) Enlist different natural and artificial methods of ventilation of a building. Discuss their merits, demerits and limitations briefly. 7

7. Write short notes on *any four* of the following :

- (a) Stone crusher $4 \times 3\frac{1}{2} = 14$
(b) Framed construction
(c) Prefabricated wall panel
(d) Shallow foundations
(e) Ground improvement techniques
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