

Diploma in Civil Engineering
Term-End Examination
June, 2008

BCE-043 : CONSTRUCTION TECHNOLOGY-II

Time : 2 hours

Maximum Marks : 70

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

1. Choose the correct alternatives : 7×2

- (a) Which of the following is a weakness of bar chart ?
- (i) Interdependencies of activities
 - (ii) Project progress
 - (iii) Uncertainties
 - (iv) All of the above
- (b) The role of Station Headquarter and MES are
- (i) preparing maintenance programme and allotting priorities in a station, adequate attention will be paid to the genuine and equitable needs of all units
 - (ii) preparing annual maintenance programme
 - (iii) preparing previous programme and calculating the available funds
 - (iv) preparing maintenance of heritage buildings

(c) According to IS : 1641, the energy limit (kJ/m^2) for retail shops, markets, shopping malls, emporiums, factories, workshops etc. is

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(i) $< 1.15 \times 10^6 \text{ kJ/m}^2$

(ii) $> 1.15 \times 10^6 \text{ kJ/m}^2$

(iii) $> 2.30 \times 10^6 \text{ kJ/m}^2$

(iv) $< 4.60 \times 10^6 \text{ kJ/m}^2$

(d) The transverse spacing between fillet welds shall **not** be more than

(i) 32 t or 300 mm

(ii) 35 t or 300 mm

(iii) 30 t or 300 mm

(iv) 31 t or 300 mm

(e) The acceptable noise level for residential buildings is

(i) 25 – 30 dB

(ii) 35 – 40 dB

(iii) 40 – 45 dB

(iv) 45 – 55 dB

(f) The smooth wheel roller is generally used for initial as well as final rolling of

(i) Soil

(ii) Gravel

(iii) Water Bound Macadam

(iv) Sand

- (g) The construction system in which several slabs are casted one over another with separating medium in between and are then lifted to their final positions by means of jacks are called
- (i) waffle unit flooring system
 - (ii) pre-cast shelving unit
 - (iii) pre-cast RC lintels
 - (iv) lift slab construction
2. (a) List out the functional aspects for design of buildings. 7
- (b) What do you understand by
- (i) supervision during construction, and
 - (ii) supervision after construction ? 7
3. (a) What are the roles of Station Headquarters and MES ? 7
- (b) List out the priorities while preparing annual maintenance programme. 7
4. (a) Briefly state the characteristic requirements of an ideal fire resistance material commonly used in building. 7
- (b) Write a note on scope of steel as a building material, its merits and demerits. Also describe usual sections used as
- (i) Compression members
 - (ii) Tension members, and
 - (iii) Flexural members. 7

5. (a) Write a note on different sound absorbing materials. How are you going to decide their suitability and effectiveness ? 7
- (b) Describe briefly the requirements of a good ventilation system for a building. 7
6. (a) Explain working of the following : 7
- (i) Sheep foot roller
 - (ii) Tandem roller
 - (iii) Vibratory roller
 - (iv) Pneumatic-tyred roller
- (b) Explain various components and working of hot mix plant. 7
7. (a) Explain the term frameless shuttering with diagram. 7
- (b) Explain various pre-cast framed construction with their advantages. 7