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**DIPLOMA IN CIVIL ENGINEERING**

**Term-End Examination**

**December, 2010**

**BCE-043 : CONSTRUCTION TECHNOLOGY-II**

*Time : 2 hours*

*Maximum Marks : 70*

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*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 : **2x7=14**
- (a) PERT technique of network analysis is mainly useful for :
- (i) small projects
  - (ii) large and complex projects
  - (iii) research and development projects
  - (iv) deterministic activities
- (b) The basic action involved in sheep foot rolling is :
- (i) Kneading (ii) Pressing
  - (iii) Tamping (iv) Vibration

- (c) The most suitable type of equipment for compaction of cohesive soils is :
- (i) Smooth-wheeled roller
  - (ii) Vibratory rollers
  - (iii) Sheep foot rollers
  - (iv) Tampers
- (d) Building occupancy as per High Fire load for Godowns, warehouses and similar buildings the energy limits (in  $\text{kJ}/\text{m}^2$ ) of :
- (i)  $< 1.15 \times 10^6$
  - (ii)  $> 1.15 \times 10^6 < 2.3 \times 10^6$
  - (iii)  $> 2.30 \times 10^6 < 4.60 \times 10^6$
  - (iv) All
- (e) Impact test is carried out in structural steel work for the test of :
- (i) pile work
  - (ii) sample weld
  - (iii) concrete work
  - (iv) drain and sewers work
- (f) The acceptable noise level of residential buildings is :
- (i) 25 - 30 dB
  - (ii) 35 - 40 dB
  - (iii) 45 - 55 dB
  - (iv) 50 - 60 dB

- (g) A multipurpose hall to be utilized for both music and speeches will have recommended volumes for cinema hall in m<sup>3</sup> per person :
- (i) 4.0 - 5.5      (ii) 3.7 - 4.2
- (iii) 2.8 - 3.7      (iv) 1.5 - 3.0
2. (a) Define balance, moment, repetition, pattern, rhythm, emphasis, contrast and space, in relation to aesthetic functions of a building design. 7
- (b) Explain in details the maintenance process of records for passing of works at various important stages. 7
3. (a) What is the aim of maintaining buildings ? What are the steps for planning annual maintenance of MES assets ? 7
- (b) Explain the role of users in maintenance of buildings. Which are the agencies for carrying out repair works ? 7
4. (a) Describe various methods of fire prevention and fire fighting recommended for a multi-storey commercial complex. 7
- (b) Describe briefly various methods used for making connections in steel structures, discussing the salient features and advantages of each. 7

5. (a) Explain the necessity and requirements of a good thermal insulation of a building, describing various factors contributing to the heat transmittance and transference. 7
- (b) Describe in details the noise control and sound insulation of a building. 7
6. (a) What are various types of concrete mixers used to mix concrete ingredients ? Explain any one with neat sketch. 7
- (b) Explain the term safety measures. What are the main objectives behind taking safety measures in construction industries ? List various safety measures. 7
7. Write short notes on *any four* of the following :
- (a) Polymers and plastics 4x3½=14
- (b) Pre-cast Framed construction
- (c) Tubular structures
- (d) Waffel unit flooring systems
- (e) Trouble - shooting in plants and equipment.
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