

B.Tech. Civil Engineering

Term-End Examination

December, 2011

BICE-009 : CIVIL ENGINEERING

Time : 3 hours

Maximum Marks : 70

- Note :**
- (i) *All answers are to be answered in English only.*
 - (ii) *One part of answer for a question to be written at one place.*
 - (iii) *Question of Group "A" is compulsory.*
 - (iv) *Answer any six questions from Group "B".*

GROUP - A

1. (a) Select *any one* correct answer : (*any five*)
- (i) Number of lift required for each 1200 sqm floor area. **5x2=10**
 - (A) TWO
 - (B) ONE
 - (C) THREE
 - (D) Not required.
 - (ii) Fibre boards are used in :
 - (A) Thermal insulation
 - (B) Acoustic control
 - (C) Thermal and acoustic control
 - (D) Mainly decorative purpose

- (iii) Bitumen-base fibre boards are usually used for :
- (A) Interior decoration wall.
 - (B) Interior as well as exterior decoration of wall.
 - (C) Thermal Insulation
 - (D) Dampproof and water proofing
- (iv) The minimum thickness of steel for Tensile members not exposed directly to weather :
- (A) 4 mm.
 - (B) 6 mm.
 - (C) 8 mm.
 - (D) 10 mm.
- (v) Fire load in building is expressed in :
- (A) kcal/m²
 - (B) cal /m³
 - (C) cal/m²
 - (D) k cal/kg-m.
- (vi) Tropical climate refer to :
- (A) Fire
 - (B) Cold waves
 - (C) Heat
 - (D) Snow fall.
- (vii) Sprayed asbestos over the surface of prestressed concrete help in :
- (A) Water Proofing
 - (B) Strength
 - (C) Durability
 - (D) Fire resistance.

GROUP - B

2. (a) Write short note on lightning and ventilation of rooms in different climates. 5+5=10
- (b) What are the characteristics of Good Acoustics ?
3. (a) What are the different types of foundation failure of a structure ? Briefly describe reasons for foundation failures. 5+5
- (b) Describe briefly earthquake proof construction.
4. (a) Explain fire detection system and warning methods in buildings. 5+5=10
- (b) Explain fire proof construction method with materials and technique to be used.
5. Explain briefly concept of sun control devices and external shading devices with suitable diagram. 10
6. (a) Describe at least five requirements for good acoustics. 5+5=10
- (b) Describe various methods of sound insulation construction of walls, floors and roofs.

7. Write short notes : **4x2½=10**
- (a) Thermal gradient
 - (b) Classification of climate
 - (c) Light weight building construction materials.
 - (d) Air conditioning.
8. (a) Explain briefly different types of elevators.
- (b) Describe design consideration for elevators for building. **5+5=10**
9. (a) What are qualitative requirement of illumination ? **5+5=10**
- (b) Explain briefly the Design of Artificial lighting system in a Building.
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