

01245

B.Tech. Civil Engineering

Term-End Examination

June, 2012

BICE-009 : CIVIL ENGINEERING

Time : 3 Hours

Maximum Marks : 70

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- Note :** (i) *Group A compulsory*
(ii) *Any six questions from group B.*
(iii) *Answer to be written in English only.*
(iv) *One part of question to be answered at one place.*
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GROUP - A

Answer any five : correct answer to be written.

1. (a) The minimum load that cause failure of a foundation is called **5x2=10**
- (i) Ultimate tensile strength
 - (ii) Nominal strength
 - (iii) Ultimate compressive strength
 - (iv) Ultimate bearing capacity.
- (b) For important buildings in stair the rise is not greater than.
- (i) 10 cm (ii) 15 cm
 - (iii) 18 cm (iv) 22 cm

- (c) Which is the import terminology for Earthquake :
- (i) Lux
 - (ii) Epicentre
 - (iii) Ohm
 - (iv) S.W.P
- (d) The value of fire load applying to generally domestic building, hotels and offices :
- (i) Exceeding $275000 \text{ k cal /m}^2$
 - (ii) Not exceeding $275 \times 10^3 \text{ k cal/m}^2$
 - (iii) Average of 550000 k cal/m^2
 - (iv) None.
- (e) Air change per hour for a bed room is
- (i) 1
 - (ii) 3
 - (iii) 5
 - (iv) 8
- (f) Orientation of building depends on
- (i) Architecture
 - (ii) Structure
 - (iii) Climatic Condition
 - (iv) Bearing capacity of soil.
- (g) One of the cause of crack in building is
- (i) vehicle movement
 - (ii) settlement of foundation more than permissible limit
 - (iii) lift movement
 - (iv) all the above

GROUP - B

2. (a) Write briefly classification of fire zone as per National Building code of india. $5 \times 2 = 10$
(b) What is meant by Apparent movement of sun ? Also explain with solar charts and its use.
3. (a) What are the different types of thermal insulation of building ? Write four advantages of thermal insulation. $2+3$
(b) Explain how will you achieve thermal insulation of roofs in tropical region. 5
4. (a) Explain general rules for natural ventilation ? 5
(b) What is meant by Air conditioning ? 5
Describe criteria for selection of Air, conditioning of a Building?
5. (a) What is the role of mounting height in determining quantity of artificial light ? Also explain details Lumen method for artificial lighting. $5+5=10$
(b) Write briefly sewage disposal arrangement for a four storied building with suitable sketch.
6. Describe briefly : $5 \times 2 = 10$
(a) What are the different modes of Building failures? Explain any one briefly.
(b) Difference between Natural and Mechanical Ventilation.

7. Write short notes. (*Any four*) 4x2½=10
- (a) Sound insulation
 - (b) Water proof treatment of roof
 - (c) Earthquake resistant building.
 - (d) Different types of stair case
 - (e) Floor trap
8. Explain five protection and detection system of 10
high rise building (15m or above) ?
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