

B.Tech. CIVIL ENGINEERING

Term-End Examination

December, 2013

BICE-009 : CIVIL ENGINEERING

Time : 3 hours

Maximum Marks : 70

Note : Question No.1 is compulsory and in the remaining answer any six.

1. Answer any five of the following : **5x2=10**

(a) Which of the following is not a method of compaction of soil ?

- (i) Ramming moist soil
- (ii) Vibration
- (iii) Flooding the soil
- (iv) Chemical treatment

(b) What is the unit to measure frequency of sound ?

- (i) Hertz
- (ii) Joule
- (iii) Newton
- (iv) No Unit

- (c) India does not enjoy, which climate ?
 - (i) Monsoonal climate
 - (ii) Arid climate
 - (iii) Mediteranean climate
 - (iv) Tropical climate
- (d) Thermal insulation of exposed walls can be acheieved by :
 - (i) Decreasing the wall thickness
 - (ii) Painting the wall with Dark colour
 - (iii) Providing steel reinforcement within
 - (iv) Providing cavity inbetween
- (e) The higher value of illuminance may be used, when :
 - (i) Reflectance/contrast are unusually high
 - (ii) Visual work is critical
 - (iii) Speed and accuracy not important
 - (iv) task is executed only occasionally
- (f) Ventillation and air conditioning installation shall aim at controlling :
 - (i) Air movement
 - (ii) Relative humidity
 - (iii) Fire safety
 - (iv) All the above

2. (a) Explain any two properties of sound and its impact on Acoustical design. 5
(b) Give an account on general principles of acoustic design. 5
3. Explain the operation and arrangement of escalator and discuss its advantage and disadvantage over elevators, in regard to design and layout. 10
4. Make an assessment of general fire safety requirements for different types of buildings, as classified under NBC. 10
5. (a) Differentiate Mechanical and Natural Ventilation. 5
(b) Explain the beneficial effects of Ventilation in a building. 5
6. (a) Define Daylight factor and elaborate some of its components. 5
(b) Give some suggestions to reduce the noise in school buildings. 5
7. (a) What is meant by Prefabrication ? Give a list on some types of Prefabricated components. 5
(b) Discuss the advantages of Prefabricated elements for tall buildings. 5

8. What are the different types of foundation failure ? Explain some foundation failures with the causes and remedial measures. 10
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