

**DIPLOMA IN CIVIL ENGINEERING (DCLE(G))
DCLEVI**

Term-End Examination

June, 2013

BCE-043 : CONSTRUCTION TECHNOLOGY-II

Time : 2 hours

Maximum Marks : 70

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

1. Choose the correct alternatives in each of the following questions : 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) Crushing strength of a first class brick should not be less than :
- (i) 3.5 N /mm^2 (ii) 7.0 N /mm^2
(iii) 10.5 N /mm^2 (iv) 14.0 N /mm^2
- (d) Fire load is a measure of amount of heat liberated in a fire accident and is expressed in terms of
- (i) Kilogram of energy released per square meter of floor area of the building.
(ii) Kilo newton of energy released per square meter of floor area of the building.
(iii) Kilo joules of energy released per square meter of floor area of the building.
(iv) All the above
- (e) The acceptable noise level of residential building is :
- (i) 20 - 30 dB (ii) 35 - 40 dB
(iii) 45 - 55 dB (iv) 50 - 60 dB
- (f) A multi purpose hall to be utilized for both music and speeches will have recommended volumes for cinema hall in m^3 per person :
- (i) 4.0 - 5.5 (ii) 3.7 - 4.2
(iii) 2.8 - 3.7 (iv) 1.5 - 3.0

- (g) 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
2. (a) What are the various common functions in all types of buildings ? Why is energy conservation important in building ? 7
- (b) What tests are carried out for testing of 7
- (i) pavement
 - (ii) concrete and
 - (iii) structural steel work for hangars and industrial sheds.
3. (a) What role does staff of station HQ play in the planning of maintenance of buildings ? What is the role of MES -staff in the preparation of a maintenance programme ? 7
- (b) Describe various method of fire prevention and fire fighting. Briefly state the characteristic requirements of an ideal fire resistance material. 7
4. (a) Explain with the help of neat sketches, the built - up section of structural elements for 7
- (i) stanchion
 - (ii) plate girder and compression members of a steel bridge.

- (b) Write a detailed note on accoustical defects in a building and commonly adopted method of removing them. 7
5. (a) Discuss the necessity and requirements of a good thermal insulation of a building. Describing various factors contributing to the heat transmittance and transference. 7
- (b) State the type of roller used in compaction of cohesive soils, water bound macadam , fine grained soil. 7
6. (a) Explain the working of Hand - Fed tilting drum mixer and reverse drum mixer. 7
- (b) Explain with the help of a neat sketch various components and working of Hot Mix Plant. 7
7. Write short notes on *any four* of the following :
- (a) Bituminous compound 4x3½=14
- (b) Fire load course
- (c) Damp proofing course
- (d) Universal Concrete panel system
- (e) Pneumatic - tired Roller
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