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Diploma in Civil Engineering

Term-End Examination

December, 2010

BCEE-052 : CONSTRUCTION EQUIPMENT

Time : 2 hours

Maximum Marks : 70

Note : Question number 1 is compulsory. Attempt four more questions from questions number 2 to 7.

1. Select the correct alternative from the given four alternatives for each of the following questions.
- (i) Shovels are used for **7x2=14**
- (a) compacting earth
 - (b) finishing concrete surface
 - (c) excavating earth
 - (d) transporting equipment and people
- (ii) One difference between a hoe and a power shovel is that
- (a) a hoe is always bigger than a power shovel
 - (b) a power shovel is always bigger than a hoe
 - (c) a hoe is provided with a dipper.
 - (d) a power shovel is provided with a dipper.

- (iii) Jackhammers are also known as
- (a) Stopper drills
 - (b) Air leg drills
 - (c) Sinkers
 - (d) Feed leg drills.
- (iv) A Sheep's Foot roller can be used with advantage for
- (a) Cohesionless soils
 - (b) Cohesive soils
 - (c) alluvial soils
 - (d) any type of soil.
- (v) Elevators are
- (a) Compacting equipment
 - (b) Levelling equipment
 - (c) Loading and lifting equipment
 - (d) Drilling equipment
- (vi) Compared to a power shovel, the output of a drag line is
- (a) more
 - (b) less (75 - 80%)
 - (c) less (35 - 40%)
 - (d) Equal
- (vii) The unit of 'Burden' is
- (a) kgf / m^3
 - (b) kgf
 - (c) m
 - (d) m/sec

2. (a) What do you understand by bank measure and loose measure of earth. Explain the difference between the two. 7
- (b) Explain Sinking - fund method of finding depreciation. 7
3. (a) Compare suitability of crawler and wheel mounted equipment used for excavation work for different conditions. 7
- (b) Briefly explain various drilling patterns for underground works used in drilling and blasting operations. 7
4. (a) What are those factors which affect the output of compactors ? 7
- (b) Enlist various types of loading and lifting equipment. 7
5. (a) What is the purpose of Idlers in a belt conveyor system ? Explain with a neat sketch of an Idler. 7
- (b) Explain different types of cable ways briefly. 7
6. (a) Discuss post cooling systems used in concrete work. 7
- (b) What do you understand by Periodic maintenance ? Explain its aims. 7

7. Write short notes on any FOUR of the following.

(i) Logbook for maintenance **4x3½=14**

(ii) Maintenance of batteries

(iii) Concrete mixers

(iv) Trucks

(v) Rippers
