

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

Term-End Examination

June, 2018

00333

BCEE-052 : CONSTRUCTION EQUIPMENT

Time : 2 hours

Maximum Marks : 70

Note : *Question no. 1 is compulsory. Attempt any four questions out of the remaining questions. Use of calculator is permitted.*

1. Fill in the blanks in parts (i) to (vii) below by selecting terms from those given in the following list : $7 \times 2 = 14$

trench digging, front end loader, reduce, reduce, cohesive, water bound macadam, below, same, fixed vane, paddle mix, average, maximum rated, the quarry, output of primary crushers

- (i) Primary stone crushers receive the stone directly from _____ while secondary crushers receive it from the _____.
- (ii) Cold mix plants are of _____ type and _____ type.
- (iii) Load Factor is defined as _____ load during a given period of time to the _____ load.

- (iv) Dragline is used to excavate _____ the level it rests while Bulldozer is used at _____ the level.
- (v) High altitude _____ efficiency of plant and poor tractive effort _____ efficiency.
- (vi) Sheep foot roller is used for _____ soils while smooth wheel roller is good for _____.
- (vii) JCB can perform _____ job as well as _____ job.

2. Differentiate between the given terms in the following parts :

$$4 \times 3 \frac{1}{2} = 14$$

- (a) Elevators and Belt Conveyors
- (b) Crawler Tractor and Wheel Tractor
- (c) Tower Cranes and Heavy Lift Cranes
- (d) Dragline and Motor Grader/Scraper

3. Enumerate the use and functions of the following plants and equipments briefly :

$$4 \times 3 \frac{1}{2} = 14$$

- (a) Tower Crane
- (b) Hot Mix Plant
- (c) Batching Plant
- (d) Air Compressors

4. Determine how many passes will be required to compact 60 cu.m. of material by a sheep foot roller for the following data :

14

Travel speed of roller = 6.0 km/hr

Time of rolling = 1 hr

Length of drum = 3.0 m

Number of drums = One

Fraction of overlap = 1/5

Layer thickness = 1.0 m

5. (a) What are the safety measures and precautions required while operating a pneumatic plant ?

- (b) Discuss the effect of various factors affecting the efficiency and output of a power shovel.

7+7=14

6. Write short notes on any *two* of the following : $2 \times 7 = 14$

- (a) Log Book
(b) Hydraulic Cranes
(c) Fork-lifter
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