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**M.E. (Civil) (Construction Management) (Semester - I) Examination,
May - 2016**

CONSTRUCTION EQUIPMENT

Sub. Code : 34322

Day and Date : Monday, 02 - 05 - 2016

Total Marks : 100

Time : 10.30 a.m. to 01.30 p.m.

- Instructions :**
- 1) Solve any **THREE** questions from **EACH** Section.
 - 2) **Figures to the RIGHT** indicate **FULL** marks.
 - 3) **Make suitable assumptions WHEREVER** necessary.

SECTION - I

Q1) An excavation for canal work with base width of 4 meter and side slopes of 2:1 in a loose soil for the length of 6 Km is to be completed within a period of 2Years. The average depth of excavation is 5 meters. Suggest the equipment you will propose with their operational features. Your selection is supposed to be the economical one. Assumption made by you if any to be clearly stated with justification. [17]

Q2) a) What do you understand by "Cycle Time" of a excavating equipment? What factors influence Cycle Time? How is related to output of an equipment? [8]

b) Explain in details with neat sketches different types of rollers used in soil compaction. [9]

Q3) a) Draw a neat sketch of Derrick. Name the components and indicate their functions. Discuss the suitability and limitations of Derrick in civil engineering projects. [8]

b) Explain with neat sketch the working of Belt Conveyor. Explain its suitability in major construction projects. [8]

P.T.O.

- Q4) a) Discuss the various methods of Pile Driving in loose soil. Explain the working of Diesel Hammer stating its advantages and limitations. [8]
- b) Explain with a neat sketch the Construction of Under ream pile and state its advantages. [8]

SECTION - II

- Q5) a) Compare Mole Tunneling with Conventional method of tunneling. Discuss the distinct advantages of Mole Tunneling. [9]
- b) Discuss the various methods to control over break in tunnel construction. [8]

Q6) Explain with sketches the following in connection with crushers [17]

- a) Classification of Crushers based on stages
- b) Jaw Crusher
- c) Hammer Mill
- d) Revolving Screen.

Q7) What are the different types of mixers used in concreting work of small and large projects? Enlist and discuss the factors affecting the selection of mixers in case of small and large projects. [16]

- Q8) a) Enlist various costs associated with a construction equipment and explain how they affect economics of the equipment. [8]
- b) Enlist four important aspects of preventive maintenance and discuss any two aspects in details. [8]

