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Manipal Institute of Technology, Manipal

(A Constituent Institute of Manipal University)



VII SEMESTER B.TECH (AUTOMOBILE ENGINEERING)

END SEMESTER EXAMINATIONS, NOV/DEC 2015

SUBJECT: EARTH MOVING EQUIPMENTS AND FARM MACHINERY

[AAE 473]

REVISED CREDIT SYSTEM

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

- ❖ Answer **ANY FIVE FULL** the questions.
- ❖ Missing data may be suitable assumed.

- 1A. List the different types of attachments used in wheel loader and explain its applications. **04**
- 1B. With the help of neat sketch explain the working of scrapper. **04**
- 1C. List and explain the factors on which production of bull dozer depended? **02**
- 2A. Classify excavators based on type of carriers on which they mounted and list their special features. **03**
- 2B. Sketch and explain the working of bucket wheel excavator. **03**
- 2C. Classify material handling equipment's and explain the working of block and tackle unit. **04**
- 3A. With neat sketch explain the working of hydraulic lifts with jigger. **04**
- 3B. What do you mean by belt take-up system? With suitable sketches explain the types of belt take up system. **04**
- 3C. List the factors should be considered while selecting a material handling devices. **02**
- 4A. Sketch and explain the working and important features of a power shovel. **03**
- 4B. With suitable equations explain the power require to move belt conveyor in different conditions. **04**
- 4C. Classify booms of drag shovels and list their special features. **03**

- 5A.** What is disc plough? List the advantages and disadvantages of disc plough. **03**
- 5B.** With neat sketch explain the types of closed feedback systems used in earth moving equipment's. **04**
- 5C.** Classify oil filter system and explain them with the help of suitable sketch. **03**
- 6A.** With suitable sketch explain the features of vertical disc plough used in tractors. **04**
- 6B.** Calculate the size of a tractor to pull a five bottom 35 cm MB plough through a depth of 8 cm. The soil resistance is 0.8 kg/cm². The speed of the tractor is 5.5 kmph, transmission and tractive efficiency of the tractor being 80% and 30% respectively. **02**
- 6C.** With suitable diagram explain the working of power transmitting unit of a harvesting equipment. **04**