Roll No.						Total No. of Pages: 0
						rotur nor or rugos ro

Total No. of Questions: 09

# B.Tech.(AE) (E-I 2011 Onwards) (Sem.-6) TRACTOR AND EARTH MOVING MACHINERY

Subject Code: BTAE/DE-613 Paper ID: [A2388]

Time: 3 Hrs. Max. Marks: 60

#### **INSTRUCTION TO CANDIDATES:**

- SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
- 2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
- 3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

# **SECTION A**

# 1. Write briefly:

- a. Name different types of final drives.
- b. Write about the principle of steering system.
- c. Define Auxiliary transmission.
- d. What is use of ripper in earth moving machinery?
- e. How the transmission system used in tractors and earth movers is different then used in other vehicles?
- f. Write note on safety devices used in tractors.
- g. What do you understand by articulated vehicles?
- h. Write at least four applications of earth movers.
- i. Define PTO shaft.
- j. What types of jobs are done with the special purpose vehicles?

## **SECTION-B**

- 2. Classify the special purpose vehicles and explain them with appropriate application.
- 3. Explain Working of braking system used in special purpose vehicles.
- 4. Discuss about construction feature of dumper.
- 5. Write briefly about multi-axle vehicles.
- 6. What are the design features of mobile cranes? How its stability is achieved?

## **SECTION-C**

- 7. Discuss in detail about working, principle and design consideration of braking system used in tractors.
- 8. Explain all the aspects of different systems used for earth moving machines.
- 9. Write briefly about:
  - a) Differential lock
  - b) Forces acting on a tractor on move.