

**Total No. of Questions : 09**

**B.Tech.(AE) (E-I 2011 Onwards) (Sem.-6)**  
**TRACTOR & EARTH MOVING MACHINERY**  
**Subject Code : BTAE/DE-613**  
**Paper ID : [A2388]**

**Time : 3 Hrs.**

**Max. Marks : 60**

**INSTRUCTION TO CANDIDATES :**

1. **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. Answer briefly :**

- a. Name different types of wheel used in earth moving machinery.
- b. Write about the working principle of braking.
- c. Define compound transmission.
- d. What is use of ripper in earth moving machinery?
- e. How the transmission system used in tractors is different then used for earth movers?
- f. Write note on safety devices used in earth movers.
- g. What do you understand by articulated vehicles?
- h. Write at least four applications of tractors.
- i. What are basic characteristics of truck cranes?
- j. What is difference between double reduction final drive and planetary final drives?

### SECTION-B

2. Classify the special purpose vehicles and explain them with appropriate application.
3. Explain different final drives.
4. Discuss in detail about tracked vehicles.
5. Write briefly about Sovel and Bull Dozer.
6. What are the design features of mobile cranes? Explain its control system.

### SECTION-C

7. Discuss in detail about working, principle and design consideration of power system.
8. Explain all the aspects of different systems used for Tractors and for its agricultural implementation.
9. Write briefly about :
  - a. Tractor stability and weight.
  - b. Compactors.