

**SEVENTH SEMESTER B.TECH DEGREE EXAMINATION**

**(2013 Scheme)**

**AUTOMOBILE ENGINEERING**

**13.706.13 Tractors and Farm Equipments (U)**

**Time: 3 Hours**

**Max. Marks: 100**

**PART- A**

*(Answer all questions. Each question carries 2 Marks)*

1. What is the use of power Take off unit in a tractor?
2. Derive the efficiency equation for the engine, which is preferred in a Tractor?
3. Write short note on gear box of a tractor?
4. Describe the lubricating system of tractors?
5. What you meant by Engine Balancing?
6. Enumerate some implements used in a farm tractor?
7. Describe the final drive in tractors?
8. What is tire ballasting? Explain?
9. What is Baler?
10. Why there is no suspension in a Tractor?

*(10 x 2 = 20 Marks)*

**PART- B**

*(Answer any one question from each Module. Each full question carries 20 Marks)*

**MODULE – 1**

- 11 A) How Tractors are classified?
- B) Narrate the safety rules to be considered while handling Tractors?

**OR**

- 12 A) With neat sketch explain the wheeled tractor?
- B) Explain the hydraulic system used in a tractor?

## MODULE – 2

- 13 A) What is meant by Haul distance? How it affects in selection of tractors?  
B) With the help of a neat diagram explain Layout of a Crawler Tractor?

OR

- 14 A) How you will select a Tractor based on the type of soil?  
B) What are the basic rules for matching machines?

## MODULE – 3

- 15 A) With the help of suitable diagrams explain the different types of cooling systems used in tractors?  
B) Explain the DOHC Mechanism used in Tractor Engines?

OR

- 16 A) Explain the different types of Air filters used in a tractor?  
B) with neat sketch explain the working of diaphragm type fuel pump?

## MODULE – 4

- 17 A) Explain any three different types of trailers used in a tractor?  
B) With neat diagram explain the steering system in crawler tractor?

OR

- 18 A) What are the factors affecting design of brake for a tractor?  
B) Explain the working of different types of clutches used in Tractors?

*(4 x 20 = 80 Marks)*