

**6th Sem.**  
**Branch :Automobile Engineering**  
**Sub. : Tractor & Special Purpose Vehicles**

Time : 3 Hrs. M.M. : 60

**SECTION-A**

**Note: Multiple type Questions. All Questions are compulsory. (6x1=6)**

- Q.1 What is wheel's force?
- a) Force = Wheel torque \* wheel radius
  - b) Force = wheel torque + wheel radius
  - c) Force = Wheel torque / Wheel radius
  - d) Force = Wheel torque - wheel radius
- Q.2 How many splines are there on a standards PTO shaft?
- a) 6
  - b) 12
  - c) 24
  - d) 36
- Q.3 Wheel base of tractor is
- a) Distance between the centers of the front tyres
  - b) Distance between the centers of the front and rear wheels
  - c) Distance between the centers of the rear tyres
  - d) all of the above

- Q.4 The device for engaging and disengaging the power shaft from the gearbox in known as  
 a) Shaft                          b) Gear  
 c) Clutch                        d) Circuit
- Q.5 Where is the dynamometer inserted?  
 a) Hitch between tractor and the pulling load  
 b) Hitch between wheel and steering  
 c) Hitch between tractor and steering  
 d) Hitch between pulling load and wheel
- Q.6 A \_\_\_\_\_ is very useful equipment and it can be used for construction work like to clear the site of work, to make the land level, etc.  
 a) Scraper                        b) Grader  
 c) Excavator                     d) Bulldozer

### **SECTION-B**

**Note:** Objective/Completion type questions. All questions are compulsory. **(6x1=6)**

- Q.7 Define the tractor chassis.
- Q.8 Write full form of PTO.
- Q.9 Write the name of hydraulic that is most widely used in tractor.
- Q.10 Hydraulic oil is the life of hydraulic system in tractor. (True/False)
- Q.11 Write on Indian tractor manufacturing company full name.
- Q.12 Write one function of crane.

### **SECTION-C**

- Note:** Short answer type Questions. Attempt any eight questions out of ten Questions. **(8x4=32)**
- Q.13 Enlist five basic trends in tractor design.
- Q.14 What is the purpose of draw bar in a tractor? Explain its working?
- Q.15 Describe the working of power take off shaft with figure.
- Q.16 Write the function of clutch.
- Q.17 Explain the procedure of operator seat design
- Q.18 Describe tractor tyre tread design terms along with sketch.
- Q.19 Classify the tractor on different basis.
- Q.20 Describe the depth control, position control, draft control.
- Q.21 Describe any five selection criteria for tractor.
- Q.22 Write the application of Excavator.

### **SECTION-D**

- Note:** Long answer questions. Attempt any two questions out of three Questions. **(2x8=16)**
- Q.23 Enumerate ten applications of tractor.
- Q.24 Draw the layout of tractor hydraulic system and explain its working.
- Q.25 Explain layout working and application of Tripper and crane.