

- Q.27 Describe the working of constant mesh type gear box.
  - Q.28 What is the function of tyre? Also describe the causes of tyre wear.
  - Q.29 List various components of electrical system alongwith their functions.
  - Q.30 What are different factors affecting traction in a tractor?
  - Q.31 What are different methods of wheel ballasting?
  - Q.32 What are different types of tests used for testing a tractor?
  - Q.33 Write a short note on periodical maintenance of tractors.
  - Q.34 Explain the power steering system of tractor.
  - Q.35 What are various safety measures in the operation of a tractor?

## **SECTION-D**

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Describe the working of various types of brakes used on tractors.

Q.37 Write down the procedure for cost estimation of operation of a tractor.

Q.38 Describe the working of hydraulic system of a tractor along with its components.

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## **5th Sem / Branch : AGRI Engg. Sub. : Farm Tractor**

Time : 3Hrs. M.M. : 100

M.M. : 100

## **SECTION-A**

**Note:** Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 Wheel ballasting is done for  
a) Increasing stability b) Increasing traction  
c) Decreasing traction d) All of above

Q.2 Weight transfer of tractor is directly affected by  
a) Pull b) Hitch height  
c) Both A & B d) None of these

Q.3 Brakes work on the principle of  
a) Friction b) Vibration  
c) Sliding d) Suction

Q.4 It is the ratio of brake power to indicated power  
a) Mechanical efficiency  
b) Thermal efficiency  
c) Volumetric efficiency  
d) None of these

- Q.5 Inflation pressure of front tyre of a tractor is  
a) 0.8 to 1.5 kg/cm<sup>2</sup>    b) 1.0 to 1.5 kg/cm<sup>2</sup>  
c) 1.5 to 2.5 kg/cm<sup>2</sup>    d) 2.0 to 2.5 kg/cm<sup>2</sup>
- Q.6 The decrease in value of a machine with passage of time is  
a) Interest                         b) Depreciation  
c) Hiring cost                      d) None of these
- Q.7 The angle between the centre line of the king pin of the tractor and the vertical line.  
a) Camber angle                    b) Caster angle  
c) Toe-in                          d) Angle of inclination
- Q.8 The force required in the direction of travel to overcome the resistance of motion.  
a) Tractive efficiency            b) Rolling resistance  
c) Traction                        d) None of these
- Q.9 The horizontal distance between the front and rear wheels of the tractor measured at the ground contact is called  
a) Wheel base                    b) Track  
c) Ground clearance            d) Turning space
- Q.10 What are the traction aids  
a) Cage wheel                    b) Dual wheel  
c) Chain                          d) All of these

## SECTION-B

**Note:** Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 Define Rolling resistance.  
Q.12 Define Farm power.  
Q.13 What do you mean by Mechanization?  
Q.14 Write methods of hitching.  
Q.15 Write the functions of rear axle.  
Q.16 Write four sources of farm power.  
Q.17 What is the function of PTO?  
Q.18 Which device is used to connect and disconnect the tractor engine?  
Q.19 List four components of steering system.  
Q.20 What is wheel slip?

## SECTION-C

**Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 What are the factors to be considered for selection of a tractor?  
Q.22 Enlist various controls and gauges on tractors.  
Q.23 What is Tractive efficiency? Describe different factors that affect it.  
Q.24 Describe dual plate clutch system used in tractor.  
Q.25 How would you maintain battery?  
Q.26 What is differential and differential lock?