Q.28 What are the different systems of hitching?

Q.29 What are the factors responsible for tyre wear and how these can be minimized?

Q.30 What are different methods of wheel ballasting?

Q.31 Write a short note on differential and differential lock.

Q.32 What are different factors affecting traction in a tractor?

Q.33 Describe the working of prony brake dynamometer.

Q.34 Write down the procedure for cost estimation of a tractor.

Q.35 Write a short note on position control and draft control system.

SECTION-D

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

Q.36 Describe the working principle of hydraulic, system of a tractor alongwith basic components and their function.

Q.37 Describe the constructional detail and working of a steering system. Also explain power steering system.

Q.38 What are different types of brake systems? Describe the working of disc brakes in details.

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5th Sem / Branch : Agri
Sub.: Farm Tractor

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 The angle between the centre line of the tyre and the vertical line.

a) Camber angle b) Caster angle
c) Toe-in d) Angle of inclination

Q.2 The ratio of the total force output of the traction device in the direction of travel to the dynamic weight on the traction device.

a) Tractive efficiency b) Rolling resistance
c) Coefficient of traction d) None of these

Q.3 A device to enable two wheels, driven from a single shaft to rotate at different speeds of tractor.

a) Differential b) Drawbar
c) Hydraulic d) None of above

Q.4 The tractive force between the rubber tyres of the driving wheel and the surface on which they travel.

a) Wheel slip b) Rim pull
c) Hitch d) None of these

Q.5 The distance between the two wheels of the tractor on the same axle is called.

a) Wheel base b) Track

c) Ground clearance d) Turning space

Q.6 The useful life of tractor is

a) 8000 Hours b) 10000 Hours

c) 12000 Hours d) 15000 Hours

Q.7 The application of brakes convert the kinetic energy into

a) Mechanical energy b) Electrical energy

c) Heat energy d) Chemical energy

Q.8 The power required to run the engine at a given speed without producing any useful work is

a) Indicated power b) Brake power

c) Frictional power d) Drawbar power

Q.9 The brake system based on the principle of Pascal's Law is

a) Disc brake b) Hydraulic brake

c) Shoe type brake d) None of these

Q.10 The difference in the distance of the centre lines of the back end and front end of front wheels of tractor

a) Toe-in b) Toe-out

c) Camber angle d) None of these

SECTION-B

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

Q.11 Define 3 point linkage.

Q.12 Define Mechanization.

Q.13 List four components of electrical system.

Q.14 What is the function of clutch?

Q.15 List any four control and gauges on tractors.

Q.16 What are the different components of power train?

Q.17 Define tractive efficiency.

Q.18 What is the use of PTO shaft?

Q.19 Define rolling resistance.

Q.20 Define Final drive.

SECTION-C

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

Q.21 Describe the power train in detail.

Q.22 What are various components of electrical system and their functions?

Q.23 What do you mean by periodical maintenance of tractors?

Q.24 Describe the working of sliding mesh type gear box.

Q.25 What is multi plate clutch system?

Q.26 What are various factors that affect the right selection of a tractor?

Q.27 Describe different types of tests for testing a tractor.