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Enrollment No.....



Faculty of Agriculture
End Sem Examination Dec-2023
AG3CO20 Farm Machinery & Power

Programme: B.Sc. (Hons.) Branch/Specialisation: Agriculture

Duration: 3 Hrs.**Maximum Marks: 50**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

- Q.1 i. Medium size bullock can develop- 1
 (a) 0.50 to 0.75 hp (b) 0.75 to 1.5 hp
 (c) 1.5 to 1.85 hp (d) 2 to 2.5 hp
- ii. The thermal efficiency of petrol engine varies between- 1
 (a) 25 and 32 per cent (b) 32 and 38 per cent
 (c) 40 and 42 per cent (d) 45 and 50 per cent
- iii. Thermostat valve is used in: 1
 (a) Air-cooled engines (b) Water-cooled engines
 (c) Steam engines (d) All of these
- iv. The connecting rod of an engine connects the crankshaft with- 1
 (a) Piston pin (b) Cylinder liner
 (c) Crank pin (d) Cylinder head
- v. Ploughing is done to- 1
 (a) Improve soil aeration
 (b) Destroy weeds
 (c) Increase water-holding capacity
 (d) All are correct
- vi. Finer operation performed for seedbed preparation is: 1
 (a) Primary tillage (b) Strip tillage
 (c) Secondary tillage (d) Rotary tillage
- vii. Which of the following is not a tillage implement? 1
 (a) Desi plough (b) MB plough
 (c) Seed drill (d) Harrow

- viii. The disc angle of disc plough influences- 1
 (a) Depth of cut (b) Width of cut
 (c) Both (a) & (b) (d) None of these
- ix. Which sprayers are operated usually with internal combustion engines? 1
 (a) power sprayer (b) Hydraulic sprayer
 (c) foot sprayer (d) None of these
- x. What is the pressure at which power sprayers are operated? 1
 (a) 65-105 kg/cm² (b) 20-55 kg/cm²
 (c) 106-141 kg/cm² (d) 150-200 kg/cm²

- Q.2 i. What is Internal Combustion engine? 1
 ii. Define working of connecting rod. 2
 iii. Discuss the working process of four stroke engine. 5
- OR iv. Write the types of IC engine. 5
- Q.3 i. What is clutch? 1
 ii. Define working of inlet valve. 3
 iii. Write the types of piston ring. 4
- OR iv. Explain the fuel supply and hydraulic control system of a tractor. 4
- Q.4 i. What is tillage? 2
 ii. Describe the functions of the following: 6
 (a) Rotavator (b) Paddy puddler
- OR iii. Write the differences between primary and secondary tillage. 6
- Q.5 i. What do you understand by interculture operation? 2
 ii. Write the types of hoe. 2
 iii. Write the list of hand tools used for weeding and hoeing in vegetable crops. 4
- OR iv. Describe the working principle of seed drill with the help of diagram. 4
- Q.6 Attempt any two:
 i. Write the types of sprayer. 4
 ii. Explain working principle of plant protection equipment. 4
 iii. Describe combine harvester. 4
