

Q.6 Attempt any two:

- | | | | | | |
|---|----------|---|-------------|---|---------------------------|
| i. Write the detailed note on knapsack hand compression sprayer | 4 | 4 | 1,2,
3,4 | 5 | 1,4,
6,7,
11,
12 |
| ii. How does a combine harvester work? What are its key components? | 4 | 4 | 1,2,
3,4 | 5 | 1,4,
6,7,
11,
12 |
| iii. Write the types of plant protection equipments. | 4 | 4 | 1,2,
3,4 | 5 | 1,4,
6,7,
11,
12 |

Total No. of Questions: 6

Total No. of Printed Pages: 4

Enrollment No.....



Faculty of Agriculture
End Sem Examination Dec 2024
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.

Marks	BL	PO	CO	PSO
Q.1 i. A strong man can develop maximum power of about _____.	1	1	1,2, 3,4	1,4, 6,7, 11, 12
(a) 75 Watts (b) 40 Watts				
(c) 50 Watts (d) 65 Watts				
ii. Combustion of fuel takes place inside the cylinder itself in-	1	1	1,2, 3,4	1,4, 6,7, 11, 12
(a) Internal combustion engine				
(b) External combustion engine				
(c) Steam engine				
(d) All of these				
iii. Which of the following components has the purpose to cool down the water received from the engine?	1	1	1,2, 3,4	1,4, 6,7, 11, 12
(a) Radiator (b) Fan				
(c) Water pump (d) Water Jacket				
iv. Which lubrication system is most commonly used in four stroke and high speed multi cylinder engine?	1	1	1,2, 3,4	1,4, 6,7, 11, 12
(a) Splash system				
(b) Force feed system				
(c) Pressure feed system				
(d) Both (b) and (c)				

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- v. Tillage is defined as the_____.
- Mechanical manipulation of soil
 - Drilling
 - Cultivating the soil
 - Sowing

1 1 1,2,
 3,4 3 1,4,
 6,7,
 11,
 12

- vi. _____ is the perpendicular distance between point of share and lower position of beam of plough.

- Throat clearance
- Vertical suction
- Horizontal suction
- Vertical clevis

1 1 1,2,
 3,4 3 1,4,
 6,7,
 11,
 12

- vii. _____ drops the seeds in furrow lines in a continuous flow and covering them with soil.
- Seed drill
 - Plough
 - Harrow
 - Cultivator

1 2 1,2,
 3,4 4 1,4,
 6,7,
 11,
 12

- viii. _____ is the actual area covered by the implement based on its total time consumed and its width.
- Effective field capacity
 - Theoretical field capacity
 - Field efficiency
 - Efficiency

1 2 1,2,
 3,4 4 1,4,
 6,7,
 11,
 12

- ix. Which machine is used to detach grains from harvested crop?

- Mower
- Thresher
- Reaper binder
- Plough

1 2 1,2,
 3,4 5 1,4,
 6,7,
 11,
 12

- x. A device which causes disintegration or atomization of liquid formulation, is known as _____.

- Duster
- Sprayer
- Seed drill
- Planter

1 2 1,2,
 3,4 5 1,4,
 6,7,
 11,
 12

Q.2 i. Define 2-stroke engine.

1 1 1,2,
 3,4 1 1,4,
 6,7,
 11,
 12

ii. Enlist different components of IC engine.

2 1 1,2,
 3,4 1 1,4,
 6,7,

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- iii. Describe various sources of farm power.

5 1 1,2,
 3,4 1 1,4,
 6,7,
 11,
 12

- OR iv. Compare CI and SI engines.

5 1 1,2,
 3,4 1 1,4,
 6,7,
 11,
 12

- Q.3 i. What is the function of carburetor?

1 2 1,2,
 3,4 2 1,4,
 6,7,
 11,
 12

- ii. Classify the cooling systems of IC engine.

3 2 1,2,
 3,4 2 1,4,
 6,7,
 11,
 12

- iii. Explain the necessity of clutch in the engine.

4 2 1,2,
 3,4 2 1,4,
 6,7,
 11,
 12

- OR iv. Give in short the fuel system of compression ignition engine.

4 2 1,2,
 3,4 2 1,4,
 6,7,
 11,
 12

- Q.4 i. Which are secondary tillage implements?

2 1 1,2,
 3,4 3 1,4,
 6,7,
 11,
 12

- ii. Enlist and explain the factors considered while selecting a tractor.

6 3 1,2,
 3,4 3 1,4,
 6,7,
 11,
 12

- OR iii. Explain with diagram and component details of mould board plough.

6 3 1,2,
 3,4 3 1,4,
 6,7,
 11,
 12

- Q.5 i. Give the functions of seed cum fertilizer drill.

2 3 1,2,
 3,4 4 1,4,
 6,7,
 11,
 12

- ii. Enlist different Sowing methods.

2 3 1,2,
 3,4 4 1,4,
 6,7,
 11,
 12

- iii. Enlist seed metering mechanisms and explain working of star wheel metering device.

4 3 1,2,
 3,4 4 1,4,
 6,7,
 11,
 12

- OR iv. Describe the working of seed drill with components details.

4 3 1,2,
 3,4 4 1,4,
 6,7,
 11,
 12

Marking Scheme
AG3CO20 - Farm Machinery and Power

Q.1		i) (a) 75 Watts ii) (a) Internal combustion engine iii) (a) Radiator iv) (d) Both b and c v) (a) Mechanical manipulation of soil vi) (a) Throat clearance vii) (a) Seed drill viii) (a) Effective field capacity ix) (b) Thresher x) (b) Sprayer	1 1 1 1 1 1 1 1 1 1	iii. Classification – 3 Marks Explain the necessity of clutch in the engine – 1 Marks Function of clutch – 1 Marks Necessity of clutch – 3 Marks OR iv. Summarize the fuel system of compression ignition engine – 2 Marks Components of fuel system of CI engine – 2 Marks Working of fuel system of CI engine – 2 Marks	4 4
Q.2		i. Define 2-stroke engine Definition – 1 Marks ii. Enlist different components of IC engine. List of components of IC engine – 2 Marks iii. Describe sources of farm power Sources of farm power – 2 Marks Description of farm power sources – 3 Marks	1 2 5	i. Which are secondary tillage implements? Name of secondary tillage implements – 2 Marks ii. Enlist and explain the factors considered while selection of tractor. List of factors – 2 Marks Explanations – 4 Marks OR iii. Explain with diagram and component details mould board plough. About Mould Board Plough – 1 Marks Diagram of Mould Board Plough – 2 Marks Component details 3 Marks	2 6 6
OR		iv. Compare CI and SI engine About CI engine – 2.5 Marks About SI engine – 2.5 Marks	5	Q.5 i. Give the function of seed cum fertilizer drill. Function - 2 Marks ii. Enlist the different Sowing methods. Name of sowing methods – 2Marks iii. Enlist seed metering mechanism and explain star wheel metering mechanism Different seed metering mechanism – 2 Marks About star wheel mechanism – 2 Marks OR iv. Describe the working of seed drill with components details About seed drill – 1 Marks Component details - 3 Marks	2 2 4 4
Q.3		i. Give the function of carburetor Function of carburetor – 1 Marks ii. Classify the cooling system of IC engine.	1 3	Q.6 Attempt any two: i. Write the detail note on knapsack hand compression sprayer Function – 1 Marks Components – 1 Marks Working – 2 Marks	4

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[3]

- ii. How does a combine harvester work, and what are its key components? 4

Working of combine harvester- 2 Marks

Components of combine harvester – 2 Marks

- iii. Write the types of plant protection equipments. 4

Types of plant protection equipments – 2 Marks

Functions – 2 Marks