

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Sc. Agriculture (2014 to 2018) (Sem.-4)

**FARM POWER & MACHINERY**

Subject Code : BSAG-408

M.Code : 72760

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTIONS TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

**SECTION-A**

**Q1. Write short notes on :**

- a) Crankshaft
- b) Jointer
- c) Effective field capacity
- d) Tractive efficiency
- e) Back furrow
- f) Two stroke engine
- g) Scavenging
- h) Disc angle
- i) Thermostat
- j) Primary tillage

## SECTION-B

- Q2 A four bottom 40 cm M.B. plough has a working depth of 15 cm and draft of 1500 kg. It is working at a speed of 5 km/hr. with the field efficiency of 75 %. Find :
- a) Unit draft
  - b) Drawbar power
  - c) Theoretical field capacity
  - d) Actual field capacity.
- Q3 List the different components of forced circulation system and with the help of neat sketch explain the working of forced circulation system.
- Q4 Explain the working of four stroke cycle engine with neat sketches. Compare the advantages and disadvantages of four stroke cycle engine and two stroke engines.
- Q5 What are the different types of sprayers? Describe the working of knapsack type sprayer with the neat sketch.
- Q6 A chaff cutter having two knives cut dry hay at 60 rev/min giving 500 kg per hour. If the throat size is 18 cm × 6 cm, find the effective density of dry hay for a theoretical length of cut 2.5 cm.

## SECTION-C

- Q7 Describe the working principle of a combine with the help of a neat diagram. Name the important parts of a combine.
- Q8 What is tillage? What are the main objectives of tillage? Write the differences between primary and secondary tillage tools?
- Q9 Describe the process of calibration of seed drill. Calculate the seed rate/hectare of a 11 × 23 cm seed drill, whose main drive wheel is 125 cm diameter and total weight of grain collected in 20 revolutions is 0.450 kg.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**