Roll No. | | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 18

B.Tech. (Agriculture Engineering) (Sem.–3)

# FARM MACHINERY

Subject Code : BTAG-302-19

M.Code : 78588

Time : 3 Hrs. Max. Marks : 60

**INSTRUCTION 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

**Answer briefly :**

1) How a plough size is expressed?

2) What is a disc angle and its purpose in disc plough?

3) What is one way and a two-way plough?

4) Name the machine factors which affect soil pulverization by rotavator?

5) How will you designate the size of seed drill?

6) What are the basic jobs performed by a sprayer nozzle?

7) What are the differences between mowers and windrowers?

8) What are the differences between reaper and reaper binder?

9) What effect on seed rate occurs, if the speed of travel of tractor operated seed drill is double?

10) What is dibbler?

## SECTION-B

11) What is the need for heat treatment? Describe the process of annealing and its objectives.

12) What are the different types of seed metering mechanism? Explain the working of Fluted feed type and internal double run type metering mechanism.

13) What are the different weed control techniques adopted by Indian farmers? Explain any two mechanical weeding equipment with a neat sketch.

14) What are the main functions of a cultivator? A tractor is attached with a 9 tine cultivator. While field testing, the drawbar dynamometer shows an average pull of 14000 N. The speed of the tractor is 6 km per hour. Find the power of the tractor.

15) 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

16) What is the seed drill? Describe the process of calibration of the seed drill. Calculate the seed rate/hectare of an 11 × 23 cm seed drill, whose main drive wheel is 125 cm diameter and the total weight of grain collected in 20 revolutions is 0.450 kg.

17) Explain the construction and working principle of scraper and digger and their use in agriculture. How they differ from each other?

18) Describe the working principle of a combine. Name the important parts of a combine. Give a grain flow diagram of a combine.



**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.**