



**KERALA AGRICULTURAL UNIVERSITY**  
**B.Tech. (Agrl. Engg.) 2023 & previous admissions**  
**V Semester Final Examination – January 2026**

**Fpme.3110**

**Farm Machinery and Equipment - I (2+1)**

**Marks: 50**  
**Time: 2 hours**

**I Define the following**

**(10x1=10)**

1. Sowing
2. Line of pull
3. Side draft
4. Disc angle

**Fill in the blanks**

5. .... is a method of ploughing: It is a method of plough around strip of unploughed land.
6. The draft per unit cross section area is called .....
7. The size of the seed drill is expressed as number of furrow opener X .....
8. .... is the maximum clearance under the landside and the horizontal surface in the working position of MB plough.
9. The set of disc, which are mounted on common shaft is called .....
10. The ..... harrow is useful for orchard cultivation.

**II Write short notes on ANY FIVE of the following**

**(5x2=10)**

1. Explain working of rotavator in brief.
2. Enlist different parts of rice transplanter. (any eight)
3. Enlist the various items to be considered for estimating cost of operation of farm equipments under fixed cost.
4. Enlist the various items to be considered for estimating cost of operation of farm equipments under variable cost.
5. Enlist the different types of manual weeders.
6. State different types of tractor harrow and explain Tandem disc harrow.
7. State types of tractor drawn cultivators, shovels and sweeps.

**III Answer ANY FIVE of the following**

**(5x4=20)**

1. Explain the Working of Manual Rice Transplanter.
2. The maximum yield of maize is obtained with a population of 40,000 plants per hectare. The row spacing is 1.4 m and average germination is 90%. How many seeds per hill should be planted if hills are 140 cm apart? What will be the seed spacing if seeds are drilled?
3. A three bottom 35 cm M.B. plough has a working depth of 12 cm. Draft is 1000 kg, field efficiency is 80% and working speed is 4.0 km/hr. Find
  - a) Unit draft
  - b) Power required
  - c) Actual field capacity
4. What is 'Farm mechanization? Discuss scope of farm mechanization.
5. Write in brief about the working of disc plough and explain standard disc plough in brief.
6. Explain procedure for draft measurement of tractor drawn tillage equipment.
7. State different types of ploughing and explain in brief.

**IV Write an essay on ANY ONE of the following**

**(1x10=10)**

1. Metering mechanisms in seed drill and planters
2. Land reclamation machine

\*\*\*\*\*