

Printed Pages : 3



AG-303

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 993303

Roll No.

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B. Tech.

(SEM. III) (ODD SEM.) THEORY
EXAMINATION, 2014-15
FARM MACHINERY

Time : 3 Hours]

[Total Marks : 100

Note : The question paper is divided into three sections.
Attempt each section.

SECTION - A

- 1** Attempt the following short answer type **10×2=20** questions :
- Define 'Farm mechanization' and specifies two objectives?
 - What are the objectives of primary tillage?
 - Why seed and fertilizer metering devices are essential?
 - What do you understand by Land grading?
 - Give any one basic difference between "Sprayers and dusters"?
 - For what purposes the Windrowers are used?
 - Define Alignment and Registration of mower?
 - What is the criteria for selecting sprayers?.
 - How weeds harm the crops?
 - List the equipments used for root crops?.

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[Contd...

SECTION - B

- 2 Attempt any three parts of the following : **10×3=30**
- (a) Discuss the various adjustments of a mould board plough?
 - (b) Differentiate between construction and working of seed drill and maize planter?
 - (c) With the help of suitable numerical example, find per hectare cost of harvesting wheat by combine harvester?
 - (d) Identify two most important farm machines of Indian farming and discuss their utility?
 - (e) What are dynamometer? For what purposes they are employed. Classify them and explain the working of any one of.

SECTION - C

- 3 Attempt any five question : **10×5=50**
- (a) Discuss the construction and adjustment of shear and impact type cutting mechanisms?
 - (b) Write short note on grain combine and straw combines?
 - (c) Explain the mechanics of hitching of a tractor.?
 - (d) Define the term field capacity, theoretical field capacity and field efficiency of a machine. Calculate the time required to drill 5 ha of wheat by bullock drawn seed drill with 5 furrow openers spaced 20 cm apart and the drill is operated at 50 m/min. Take field efficiency as 80%.?
 - (e) Give salient constructional details and working of self propelled rice transplanter?.

- (f) Assuming suitable numerical data, find per hectare cost of sugarcane planting?
 - (g) Write short notes on :
 - (i) Furrow openers.
 - (ii) Annealing and case hardening.
 - (iii) Calibration.
 - (iv) Forage harvester.
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