

Printed Pages : 3



EAG-302/NAG-303

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

**PAPER ID : 180313**

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 :

- Give the advantages of custom hiring.
- What are the objectives of secondary tillage?
- Why seed and seed metering devices are essential.?
- What do you understand by earth moving equipments?

- (e) Give any one basic difference between “Sprayers and dusters”.
- (f) For what purposes the reaper binders are used?
- (g) Define disc angle and tilt angle with their standard values.
- (h) What is the criteria for selecting sprayers.
- (i) For what purposes paddy weeders are used?
- (j) List the equipments used for threshing.

### 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 zero till seed drill and maize planter.
- (c) Describe a package of farm equipment for potato cultivation.
- (d) Identify two most important farm machines of Indian farming and discuss their utility.
- (e) What are dynamometer? Explain the construction and working of strain gauge type dynamometer.

**SECTION - C**

**3** Attempt any **five** question : **10×5=50**

- (a) Discuss the construction and adjustment of shear & 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.