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. | | | | | | | | | | |

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 questions : **10×2=20**

(a) Give the advantages of custom hiring.

(b) What are the objectives of secondary tillage?

(c) Why seed and seed metering devices are essential.?

(d) 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 threashing.

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.
