

25/10/13

Roll No.

--	--	--	--	--	--	--	--	--	--

B.E. / B.Tech. (Full Time) DEGREE ARREAR EXAMINATIONS, NOV / DEC 2013

AGRICULTURAL AND IRRIGATION ENGINEERING BRANCH

SECOND SEMESTER

①

AI 8201 – PRINCIPLES OF AGRICULTURAL AND IRRIGATION ENGINEERING

(REGULATION 2012)

Time: 3 hours

Answer ALL Questions

Max Marks: 100

Part – A (10 x 2 = 20 Marks)

- 1) List any 4 Institutes / Centres / Directorates under ICAR with their location.
- 2) What are the branches of Agricultural Engineering?
- 3) Differentiate a *cattle shed* and *stanchion barn*.
- 4) What do you understand by Irrigation Scheduling?
- 5) Write a note on *Rotovator*.
- 6) How are primary and secondary tillage important for land preparation?
- 7) List some material handling equipments and where are they used?
- 8) Why is pasteurization of milk important?
- 9) Compare and contrast gobar gas and LPG.
- 10) With few examples, justify how agricultural waste is utilised.

Part – B (5 x 16 = 80 Marks)

- 11) i) What is renewable energy? Discuss its advantages and disadvantages. (8)
ii) With a neat sketch, explain the working of a wind mill. (8)
- 12) a) i) Define watershed management and its objectives. (8)
ii) Explain how soil erosion is calculated. (8)
(or)
b) i) Classify the soils based on their irrigability. (8)
ii) Explain the different types of soil erosion. (8)
- 13) a) i) Discuss the design requirements of a poultry shed. (16)
(or)
b) i) What are the methods of irrigation? Discuss any one method of micro irrigation in detail with a neat sketch. (16)

14) a) i) Discuss the importance of mechanized agriculture. (12)

ii) Maximum yield of maize is obtained with a population of 25000 plants per hectare. The rows are 120 cm apart and an average emergence of 90% is expected. Find (a) how many seeds per hill should be planted if hills are 120 cm apart and (b) what would be the spacing if crop is drilled? (4)

(or)

b) i) Explain a power tiller, its components and functions in detail. (16)

15) a) i) Discuss the types of packaging, packaging materials and the ways to improve the same. (16)

(or)

b) i) Why is post harvesting important for crops? (6)

ii) Discuss the various unit operations in processing milk. (10)