

B.Sc. (Honours) Agriculture Semester-II Examination, 2019

Course No: AGR-121 (New)
(Fundamentals of Agronomy-II)

Signature of Centre Superintendent

Roll No. : (in figure) _____ (in words) _____

Student Index No. _____ Regn. No. _____ of _____

Time : Two Hours

Full marks : 50

Questions are of value as indicated in the margin

Part - I
(Objective and Short Answer Type)
(Use only ball point pen)

Time : 30 minutes

Full marks : 20

- Note:** 1. Answer in question paper itself.
2. Striking, rewriting or overwriting are not allowed in the objective type questions.

1. Tick (✓) the correct alternatives:

1×10=10

- a) The shape of a typical growth curve is
i) I-shaped ii) L-shaped iii) S-shaped iv) inverted U
- b) Which one of the following is not a growth characteristic of a crop?
i) plant height ii) flower bud formation
iii) leaf number iv) stem diameter
- c) Which crop is successfully grown under waterlogged condition?
i) Maize ii) Rice iii) Wheat iv) Chickpea
- d) Water is a _____ type of resource.
i) Abiotic ii) Non-renewable iii) Biotic iv) Cyclic
- e) India shares _____% of the world's water resources.
i) 2 ii) 4 iii) 8 iv) 10
- f) Liming corrects _____ problem of the soil.
i) Acidity ii) Alkalinity iii) Salinity iv) Sodidity
- g) The upper limit of plant available water in soil is
i) Saturation ii) Field capacity
iii) Permanent wilting point iv) Hygroscopic coefficient
- h) Which one is climate-based approach for scheduling of irrigation?
i) Soil moisture tension ii) Critical growth stages
iii) IW/CPE ratio iv) Indicator plants
- i) The instrument which can directly measure crop ET is
i) Pan Evaporimeter ii) Sunken Evaporimeter
iii) Lysimeter iv) Tensiometer
- j) The method of irrigation followed in potato crop is
i) Border strip ii) Check basin iii) Furrow iv) Sprinkler

P.T.O.

2. Write short notes on the following (*any five*):

2×5=10

a) Residual Sodium Carbonate

b) Physical classification of soil water

c) Plant ideotype of wheat

d) Permanent wilting point

e) Crop water use efficiency

f) Effective rain fall

g) Indicator plants

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Part - II
(Descriptive Type)

Time : 90 Minutes

Full marks : 30

Questions are of value as indicated in the margin

Answer *any three* questions from the following.

3. Write short notes on the following (*any four*): 2.5×4=10
- a) Crop distribution
 - b) Crop adaptation to drought
 - c) Ground water resources
 - d) Available soil moisture
 - e) Sodium Adsorption Ratio
 - f) Drip irrigation
4. Differentiate between the following (*any four*): 2.5×4=10
- a) Growth and development
 - b) Determinate and indeterminate growth
 - c) Infiltration and percolation
 - d) Irrigation and drainage
 - e) Check basin and ring basin irrigation
 - f) Matric potential and osmotic potential of soil water
5. What are problematic areas for crop production? Briefly discuss associated problems and important crop management technologies for any one type of problematic areas. 2+8=10
6. Explain crop water requirement on demand and supply basis. Briefly narrate different factors affecting crop water requirement. 4+6=10
7. What do you mean by scheduling of irrigation? Briefly explain soil based and plant-based approaches for irrigation scheduling. 2+(4+4)=10
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