



Registration No:
Total Number of Pages : 2

AR-2018

B.Sc (Ag)

FIRST YEAR EXAMINATION-JULY 2019

AG-111

FUNDAMENTAL OF AGRONOMY

Time : 2 Hours

Maximum : 50 Marks

(Answer **all** questions of Section – A)

SECTION – A

1. Fill in the blanks (10 x 0.5 = 5.0)
 - i. The word 'Agronomy' has been derived from _____ language.
 - ii. Frequent ploughing destroys the soil _____.
 - iii. _____ proposed about functional elements.
 - iv. Nitrogenous fertilizers which is highly hygroscopic and explosive nature is _____.
 - v. One bar is equal to _____ cm of water column.
 - vi. Weevils *Neochetina bruchi* control _____ weed.
 - vii. Operational range of tensiometer in soil moisture measurement is _____ bar.
 - viii. Plant population for a crop sown at a spacing of 50cm x 20 cm is _____ per acre.
 - ix. _____ herbicide tends to move within plant from its treated parts and kill the plant.
 - x. First agricultural field experiment station was started in 1843 at _____.
2. Choose the correct answer from the following: (10 x 0.5 = 5.0)
 - a. Which of the following micronutrients is required in large amount for plants?
 - i. Chlorine ii. Iron iii. Manganese iv. Zinc
 - b. Nitrogen in urea is present in the form of
 - i. Nitrate ii. Ammonium iii. Amine iv. Amide
 - c. *Avena fatua* is a associated weed of which crop
 - i. Rice ii. Wheat iii. Maize iv. Jowar
 - d. Which weed is propagated through bulbils
 - i. *Allium Sp* ii. *Amaranthus Sp* iii. *Xanthium Sp* iv. *Commelina Sp*
 - e. Which one is bioherbicide
 - i. Diuron ii. Dicamba iii. Collego iv. Amitrole
 - f. Most problematic weed of the world
 - i. *Cynodon dactylon* ii. *Cyperus rotundus* iii. *Elusine indica* iv. *Sorghum halepense*
 - g. Dormancy mechanism exist in wild oat is
 - i. Innate ii. Induced iii. Enforced iv. All of these
 - h. One hectre-centimeter is equal to how much litres of water
 - i. 100 ii. 1000 iii. 10000 iv. 100000
 - i. Most widely used method of soil moisture determination in India is
 - i. Gravimetric method ii. Tensiometer iii. Neutron probe iv. Gypsum blocks
 - j. Number of essential mineral elements required for plant growth
 - i. 17 ii. 16 iii. 14 iv. 11



3. Match the following (2.5 x 2 = 5.0)
- | | |
|-----------------------------------|--------------------------------|
| A. i. Witch weed | a. <i>Echinochloa colonum</i> |
| ii. Crab grass | b. <i>Orobancha Sp</i> |
| iii. Jungle rice | c. <i>Phalaris minor</i> |
| iv. Canary grass | d. <i>Striga Sp</i> |
| v. Broom rape | e. <i>Digitaria adscendens</i> |
| B. i. Land equivalent ratio | a. Verma & Modgal |
| ii. Cropping intensity index | b. Dalrymple |
| iii. Crop equivalent yield | c. Willey |
| iv. Relative Crowding Coefficient | d. Donald |
| v. Multiple cropping index | e. de Wit |
4. Write 'True' or 'False' for following statements in the specified place (10 x 0.5 = 5.0)
- Potassic fertilizer is cent per cent imported fertilizer. ()
 - Size of soil particles is directly proportional to the surface area. ()
 - Bulk density of Clayey soil is lower than Sandy soil. ()
 - Herbicides are the pre-requisites for modern concept of tillage. ()
 - Weed density and crop yield relationship is linear. ()
 - Most of the crops require weed free condition during $1/3^{\text{rd}}$ to $1/4^{\text{th}}$ of their crop growth cycle. ()
 - Field capacity is the lower limit of available water to the plant. ()
 - Relationship between plant dry matter and evapo-transpiration is linear. ()
 - Smaller the IW/CPE ratio, longer will be irrigation intervals. ()
 - In interaction of two species, one is affected due to the production of toxic substance of other is called allelopathy. ()

SECTION – B

(Attempt any **five** questions. Each question carries equal marks) 5x6=30

- What are criteria of essentiality of elements for plants? List out the essential nutrient elements and also give reasons why they are considered essential.
- What do you mean by scheduling irrigation? Discuss the climatological approach for irrigating the crops.
- Define crop rotation. Write down the principles followed and advantages of crop rotation with suitable examples.
- What do you mean by water requirement of a crop? Discuss the factors influencing crop water requirements.
- Write down the various methods of weed control and discuss the biological methods with suitable examples.
- Define tillage. Write down the objectives of tillage and types of tillage followed in crop production.