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Total No. of Pages : 02

Total No. of Questions : 09

**B.Sc. Agriculture (2014 to 2018) (Sem.-7)**  
**ANALYTICAL TECHNIQUES IN SOILS, PLANT,**  
**FERTILIZERS AND WATER**  
Subject Code : BSAG-CS 702  
M.Code : 74829

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTIONS TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

**SECTION-A****Q1. Write briefly :**

- (a) Radioactive materials
- (b) Mass spectrometry
- (c) Anion exchange
- (d) Radio isotopes
- (e) Sodium absorption ratio
- (f) Cation exchange capacity
- (g) Adsorption of nutrient in soil
- (h) Terms and conditions for storage of radioactive material
- (i) Iso-morphous substitution
- (j) Half life of carbon

### SECTION-B

- Q2. Elaborate the benefits of dilution radio isotopes technique.
- Q3. Elaborate uses of X-ray defraction instrument.
- Q4. Relation between half life and decay constant for carbon atom.
- Q5. Describe principles of spectrometry in visible region.
- Q6. Uses of spectrometry in infra red (IR) region.

### SECTION-C

- Q7. Explain in detail the uses of chromatography in agriculture and allied fields.
- Q8. Explain establishment of soil, water and plant testing laboratory.
- Q9. Explain principle, working and uses of inductively coupled plasma (ICP) spectrometer in estimation of elemental content.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**