



SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR
Siddharth Nagar, Narayanavanam Road – 517583

QUESTION BANK (DESCRIPTIVE)

Subject with Code : PRINCIPLES OF AGRONOMY AND SOIL SCIENCE (16AG702)

Course & Branch: B.Tech – AG

Year & Sem: II-B.Tech & II-Sem

Regulation: R16

UNIT-I

AGRONOMY

1. Define Climate? List out the effect of climate on crop production and explain about any two climate effects? 12M
2. Define Tillage? Explain in detail about different types of tillage? 12M
3. (a) Write short notes of the objectives of tillage? 6M
(b) Define Agronomy? Classify field crops according to seasons? 6M
4. What are the Agro climatic zones in A.P and write briefly any four zones? 12M
5. (a) Define Sowing and write characteristics of seeds and seed materials? 6M
(b) Write different methods of soil applications? 6M
6. Write about the different methods of sowing in detail with advantages and dis advantages? 10M
7. (a) Differentiate the green manure and green leaf manure? 6M
(b) Differentiate the Soil fertility and Soil productivity? 6M
8. Write about the classification of fertilizers, according to the nutrients content present in them? 10M
9. (a) Write about the advantages and dis advantages of Organic Farming? 6M
(b) Principles of Organic Farming? 6M
10. (a) Explain about Sustainable Agriculture? 6M
(b) Differentiate between sustainable and modern agriculture? 6M

UNIT-II**SOIL WATER PLANT RELATIONSHIP**

1. (a) Write about soil water plant relationship? 6M
(b) Write about Crop coefficient, Stress coefficient and Basal co efficient? 6M
2. Write about principles of weed management? 12M
3. (a) Define Weed? Write about characteristics of weed? 6M
(b) Write about objectives and benefits of cropping system? 6M
4. Write about different cropping systems with examples? 12M
5. (a) Differentiate Between Intercropping and Mixed Cropping? 6M
(b) Write about principles of crop rotation? 6M
6. (a) Write about crop water requirement include all loses? 6M
(b) List out the different factors are influence the crop water requirement? 6M
7. Write about benefits and losses due to weeds? And also explain about critical period of weed control? 12M
8. Write about different types of irrigation methods? 12M
9. Write about irrigation frequency, irrigation period and critical stages for irrigation? 12M
10. (a) Write about advantages and dis advantages of inter cropping? 6M
(b) Write about different types of sequential cropping? 6M

UNIT – III
SOIL SCIENCE

1. Describe a typical soil profile with the help of a neat diagram? 12M
2. Give the detailed classification of rocks with suitable examples under each category? 12M
3. List out different factors of soil formation? Discuss the role of active factors on soil formation? 12M
4. (a) Differentiate between the surface soil and sub-surface soil? 6M
(b) Differentiate between physical weathering and chemical weathering? 6M
5. (a) Define soil science? Factors influencing soil structure: on soil physical properties? 6M
(b) Define soil texture? Explain about textural classes and methods of determination of soil texture? 6M
6. Give the detailed classification of minerals with suitable examples under each category? 12M
7. Briefly explain about different types of soil orders? 12M
8. Describe soil taxonomy and explain different categories? 12M
9. Define Weathering? Explain about different weathering rocks? 12M
10. Describe sieve analysis? And explain Altenburg limit, liquid limit and plastic limit? 12M

UNIT – IV
SOIL INORGANIC COLLOIDS

1. Explain the general properties of soil colloids? 12M
2. Explain about types of soil colloids? 12M
3. (a) Differentiate between the organic and inorganic colloids? 6M
(b) Explain about base saturation of the different ways? 6M
4. Define CEC of soils? Explain the factors influencing CEC of soils? 12M
5. Explain soil organic matter? Describe the factors affecting the soil organic matter? 12M
6. Explain about Anion exchange? Discuss the importance of Anion exchange and significance of ion exchange? 12M
7. Explain the decomposition of soil organic matter? 12M
8. Describe the role of organic matter? List out factors affecting decomposition? 12M
9. Explain about different types of soil reactions? 12M
10. Explain about absorption of ions, ion-exchange reactions and mechanism of cation exchange? 12M

UNIT – V
QUALITY OF IRRIGATION WATER

1. (a) Determine the quality of irrigation water and importance? 6M
(b) Explain about essential plant nutrients? 6M
2. (a) Determine the types of essential elements? 6M
(b) Differentiate between elements according to mobile and immobile? 6M
3. Explain about function of essential plant nutrients? 12M
4. Explain the deficiency symptoms of nutrients with flow chart of essential plant nutrients? 12M
5. (a) Determine the inorganic fertilizers and importance? 6M
(b) Difference between the Saline and Sodic soils? 6M
6. Explain the commercial sources of inorganic fertilizers? Explain advantages and disadvantages of inorganic fertilizers? 12M
7. Determine the irrigation water quality criteria? 12M
8. Explain about Gypsum requirement for reclamation of Sodic and saline Sodic soil? 12M
9. Explain the liquid fertilizers and water soluble fertilizers? 12M
10. (a) Explain about fertilizers compatibility and storage? 6M
(b) Explain about reclaiming salty soils? 6M

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