Code No: RT22356 **R13** SET - 1

**II B. Tech II Semester Supplementary Examinations, November-2018**
**PRINCIPLES OF SOIL SCIENCES AND AGRONOMY**
(Agricultural Engineering)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
2. Answer **ALL** the question in **Part-A**
3. Answer any **THREE** Questions from **Part-B**

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## PART –A

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| 1. | a) | Soil as a three phase system - Justify? | (4M) |
| | b) | Differentiate between saturated and unsaturated flow of water in soil. | (4M) |
| | c) | Enlist the essential plant nutrients? | (3M) |
| | d) | Classify field crops according to ontogeny. | (3M) |
| | e) | What are different techniques for breaking seed dormancy. | (3M) |
| | f) | Define weed and weedicide ? Enlist four advantages of weeds. | (5M) |

## PART -B

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| 2. | a) | What are the different steps involved in soil formation process? | (8M) |
| | b) | Define soil profile? Describe the soil profile and its development. | (8M) |
| 3. | a) | Define evaporation? Discuss the major factors influencing evaporation? | (8M) |
| | b) | Enumerable different soil forming factors? How these factors influence the soil formation | (8M) |
| 4. | a) | Differentiate between AEC and CEC and give two examples for each | (8M) |
| | b) | Significance of CN ratio in Agriculture | (8M) |
| 5. | a) | Classify the irrigation water based on EC, SAR and Boron content | (6M) |
| | b) | Classify the field crops with suitable examples according to Botanical, Commercial, Seasonal, Ontogeny and Agronomical criterion | (10M) |
| 6. | a) | Differentiate between Tillage and Puddling? Give one example for each? | (8M) |
| | b) | List the different methods of sowing | (4M) |
| | c) | How the depth of sowing influences the crop productivity? | (4M) |
| 7. | a) | Write different types of soil erosion? Explain Agronomic measures for soil and water conservation | (8M) |
| | b) | Describe the aims and objectives of watershed management in dry land agriculture? | (8M) |
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