

**B.Tech. Civil (Water Resources
Engineering)**

Term-End Examination

December, 2011

ET-531(B) : SOIL SCIENCE

Time : 3 hours

Maximum Marks : 70

*Note : Attempt **any five** questions. All questions carry **equal** marks. The answers shall be in your own language.*

1. Define the following terms :

7x2=14

- (a) Schist
- (b) Humification
- (c) Carbon Nitrogen Ratio
- (d) Soil Buffering Capacity
- (e) Desert soil
- (f) Root interception
- (g) Soil macroflora

2. (a) Write a note on "Soil Microfauna". Discuss their role in improving the soil health. **7**

(b) What is Nitrogen fixation ? Explain the mechanism of symbiotic nitrogen fixation. Give the necessary equation. **7**

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| 3. | (a) | Discuss the effects of cultural practices on the soil fertility and soil aggregation. | 7 |
| | (b) | Describe the mode of disease spread in the plants. Substantiate your answer with relevant examples. | 7 |
| 4. | (a) | Explain the mode of nutrient absorption by plants with the help of suitable examples. | 7 |
| | (b) | What is soil acidity ? Explain the reasons for soil acidity and its impact on the plants. | 7 |
| 5. | (a) | Discuss the factors affecting water availability in the soil. What are different methods to determine soil moisture ? Explain any one of them in brief. | 7 |
| | (b) | Explain the mechanism of water uptake by the plants with the help of suitable example. | 7 |
| 6. | (a) | Explain the common methods of soil fertility evaluation. Give suitable examples. | 7 |
| | (b) | Explain the concept of Integrated Nutrient Management (INM). How is it advantageous in comparison to traditional methods ? | 7 |
| 7. | (a) | Give a detailed classification of soil organisms. | 7 |
| | (b) | What is soil enzyme ? How is it helpful in providing nutrition to plants ? | 7 |
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