

Center for Rural Development & Technology
RDL740: Technology for Utilization of Wastelands & Weeds
Minor I

Total marks: 20

4.9.2009

Duration: 4.00-5.00 pm (1 hour)

Venue: VI 301

Q. 1

(a) During the soil texture determination experiment using 15 ml soil, the particles in Tube A and B corresponded to 6 ml and 5 ml markings, respectively. Describe the texture of this soil (3)

(b) Why is Calgon (Sodium Hexametaphosphate) added during textural determination? If you skip its addition, how would the result be affected (2)

Q.2

(a) Which are the significant schemes related to wasteland reclamation in Indian scenario and what are their key features? (2)

(b) What is NREGA? Describe its key features, implementation, drawbacks and possible solutions? (3)

Q. 3

(a) What led Russian Scientist (Dokuchaev) to define soil in a particular manner? Describe his observation and definition. Further why is soil multidimensional and dynamic (3)

(b) Describe the characteristics and dual nature of the humus? (2)

(c) Describe the types of soil structure. (2)

Q.4

(I) Scheffer et al. (1989) described the pore size distribution in soils of different textural categories. Which of the following soil had uniform pore size distribution

(a) Organic soil (b) Clayey soil (c) Silty soil (d) Both a and c (e) Both b and c (1)

(II) 100 kg agricultural residue contains 45 Kg Carbon and 0.4 Kg Nitrogen. The N factor will be

(a) 1.715 (b) 1.175 (c) 0.175 (d) 1.015 (1)

(III) Symbiotic association with higher plants

(a) Bacteria (b) fungi (c) Nematodes (d) Both a and b (1)

(IV) Following function is not attributable to organic matter in soil

(a) Nutrient Source (b) Solvency action (c) structure development (d) color (e) None of the above

(1)

1
4
160
4
20

4
450
450 x 100 = 100
4