HEMCHANDRACHARYA NORTH GUJARAT UNIVERSITY, PATAN
COMMUNITY COLLEGE
Advanced diploma in Agriculture and Soil Sciences
Semester I End Examination
Paper AS-102 Fundamentals of Soil Sciences, Fertility and Management

Time: 2 hours **Total Marks: 40**

Q.1 Answer all questions. Each question carries 1 mark. **[10*1=10 Marks]**

1. What is the formula of density?
2. _____ shows the pH of 8.5 to 14.
   a) acid soil b) alkali soil c) normal soil d) none of above
3. A horizon in soil profile is _____
   a) rock material b) minerals c) organic matter d) none of above
4. What is full form of CSHT?
5. Match the following:

a. Solum	A. Combination of A and B horizon
b. Elluvial (A) horizon	B. Organic matter and minerals
c. Illuvial (B) horizon	C. Minerals
d. C horizon	D. Rock material

6. Loam soil is combination of _____.
   a) sand b) clay c) loam D) both a and b
7. Among the following _____ is a source of organic amendments/ modifiers.
   a) cover crops b) tillage c) crop rotation d) post consumer food wastes
8. Define: 1) Soil and 2) Soil air.
9. Silt soil having diameter of _____.
   a) less than 0.002 b) above 2.0 c) between 0.02 and 0.20 d) none of above
10. The basic nutrients are:
    a) Fe, Zn, Mn b) N, P, K c) C, H, O d) none of these

Q.2 Answer any 4 questions. Each question carries 05 marks. **[4*5=20Marks]**

1. Explain process of soil formation.
2. Explain any 4 physical property of soil that you have studied in detail.
3. Explain soil profile with labeled diagram.
4. Describe soil structure with diagram.
5. Explain modern concept of soil classification.

Q.3 Answer any 1 questions. Each question carries 10 marks. **[1*10=10 Marks]**

1. a) Difference between saline and alkaline soil. (5 marks)
   b) Explain different soil and their color available in Gujarat. (5 marks)
2. a) Explain composition and decomposition of organic matter. (5 marks)
   b) Explain essential plant nutrients with their functions and deficiency symptoms. (5 marks)