

**HEMCHANDRACHARYA NORTH GUJARAT UNIVERSITY, PATAN  
COMMUNITY COLLEGE**

**Advanced diploma in Agriculture and Soil Sciences  
Semester I Internal Examination, November, 2015**

**Paper AS-102 Fundamentals of Soil Sciences, Fertility and Management**

**Date: 03/11/2015**

**Time: 10:00am to 12:00pm**

**Total Marks: 40**

**Q-1 Answer all questions. Each question carries 1 mark**

**(10\*1=10 Marks)**

1. Solum is made up of:  
a) A horizon    b) B horizon    c) C horizon    d) A+B horizon
2. The concept of pH is suggested by the scientist:  
a) Sorenson    b) Hilgord    c) Larsen    d) Dean
3. Define: soil
4. Neutral soil having pH of \_\_\_\_\_.  
a) 0 to 5.5    b) 6.5 to 7.5    c) 8 to 14    d) none of above
5. C horizon in soil profile is \_\_\_\_\_  
a) rock material    b) minerals    c) organic matter    d) none of above
6. Unit of bulk density is \_\_\_\_\_.  
a) m/v    b) v/m    c) kg    d) g
7. Soil formation is a slow process. True or false.
8. Major source of water used by the plants is:  
a) hygroscopic water    b) capillary water    c) inter space water    d) gravitational water
9. Soil are made up of minerals air, water and:  
a) plants    b) organic matter    c) sand    d) stones
10. What is podolization?

**Q.2 Answer any 4 questions. Each question carries 5 marks**

**(5\*4=20 Marks)**

1. Describe saline and alkaline soil.
2. Explain soil profile with labelled diagram.
3. Explain soil formation and its processes.
4. Describe soil water with diagram.
5. Explain effect of acid soil on plant growth with their reclamation.

**Q.3 Answer any 1 question. The question carries 10 marks.**

**(1\*10=10 Marks)**

1. Explain physical properties of soil (soil texture, soil density, soil porosity, soil colour, soil pH; each property contains 2 marks).
2. Discuss soil air with definition, its importance and factors affecting composition of soil air.