

**GIET UNIVERSITY, GUNUPUR – 765022**

B. Sc (AG) (First Semester) Examinations, June – 2021
AC 111 – FUNDAMENTALS OF SOIL SCIENCE (2+1)

Time: 2 hrs

Maximum : 50 Marks

The figures in the right hand margin indicate marks.

PART – A**Q.1. Fill in the blanks with suitable word / figure.****(0.5 x 10 = 5 Marks)**

- The aerial photographs ranging in scale fromto are used in different types of soil surveys.
- In soil survey, we mostly use photos taken with a black and white film.
- Process of mixing of soil is known as
- Total pore space is highest in soil.
- Most of the exchange of gasses in soil occurs due to.....
- Colour of potash mica is
- Natural aggregates are called.....
- Father of soil science
- Solodization is the removal of ions from the exchange sites.
- Hydromorphic soils are formed by the process of

Q. 2. Define (or) Explain the following in one or two sentences.**(1 x 5 = 5 Marks)**

- Edaphology
- Pedology
- Metamorphic Rock
- Soil texture
- Thermal conductivity

Q3. Match COLUMN-A with COLUMN-B**(0.5 x 10 = 5 Marks)**

Column – A			Column – B	
(a)	Soil density		(i)	Quartzite
(b)	Active factor of soil formation		(ii)	Olivine
(c)	Sedimentary rock		(iii)	Basalt
(d)	Smallest volume of soil		(iv)	Apatite
(e)	Magnesium		(v)	Tourmaline
(f)	Igneous rock		(vi)	Climate
(g)	Boron		(vii)	Pedon
(h)	Metamorphic rock		(viii)	Topography
(i)	Phosphorus		(ix)	Pycnometer
(j)	Passive factor of soil formation		(x)	Dolomite

Q4. Write True or False against each statement

(0.5 x 10 = 5 Marks)

- a. Sedimentary rocks predominate in the petrological composition of the surface of the earth.....
- b. *Spodosols* are the soils containing >30% of organic matter to a depth of 40cm.....
- c. C is the mineral horizon.....
- d. Fe and Mg are the important constituents of olivine.....
- e. Rocks are the naturally occurring hard and unconsolidated inorganic materials of the earth.
- f. The bulk densities of sandy soils vary between 1.2-1.8 Mgm^{-3}
- g. The process of removal of constituents in suspension or solution by the percolating water from the lower layers is called illuviation.....
- h. The Quartzite is formed from sandstone
- i. Sedimentary rocks make up 18% of the whole mass of the crust.....
- j. Most minerals are made from living substances.....

PART – B

Attempt ANY FIVE questions. All question carry equal marks.

(5 x 6 = 30 Marks)

- 5. Describe briefly about specific soil forming processes.
- 6. Describe about different types of rock, with examples.
- 7. What is soil profile? Discuss about different types of horizons.
- 8. What is soil structure? Discuss about various types of soil structure.
- 9. Define soil pollution. Write different causes of soil pollution.
- 10. What is soil erosion? Write different factors of soil erosion.

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