IBPS SO AGRICULTURE FIELD OFFICER QUIZ – 3

Directions: Study the following questions carefully and answers the questions given below:

1. Which of the following is the smallest particle of soil?

A. Stone B. Gravel C. Coarse sand

D. Silt E. Clay

2. Which of the following soil is the most suitable in terms of retention of water and nutrients?

A. Sandy B. Silt C. Clay

D. Both B and C E. Both A and C

3. Which of the following is NOT true about Red soil?

A. It is derived from crystalline and metamorphic rocks.

B. It is deficient in Nitrogen, humus and lime.

C. These soils are spread on almost the whole of Tamil Nadu.

D. The red colour is due to the presence of magnesium oxide.

E. All are correct.

4. This type of soil is very clayey and has high potassium content while being low in organic matter. It forms deep cracks during dry seasons while becomes soft on wetting. It is excellent for growing of cotton. Which soil is being talked about here?

A. Black Soil B. Laterite Soil C. Alluvial Soil

D. Yellow Soil E. Peaty Soil

5. All world soils can be placed into 10 orders or types. Which of the following is NOT true about the Histosols order?

A. These are organic soils consisting of accumulated plant remains in bogs, marshes and swamps.

B. They are highly rich in organic matter.

C. They are rich in clay content.

D. The productivity is limited due to poor drainage.

E. All are correct.

6. Which of the soil types mentioned below is also known as desert soil?

A. Alfisols B. Aridisols C. Oxisols

D. Ultisols E. Vertisols

7. Which of the following is NOT a function of Soil?

A. It provides anchorage to root enabling plants to stand erect.

B. It store water and nutrients for plant growth.

C. It provides suitable nutrients for uptake by plant roots.

D. It provides air etc for the biological activity of soil organisms.

E. All are correct

8. The erosion where the entire top sheet of soil is washed away by water or by wind, leaving behind barren rock is called

A. Rill erosion B. Glacial erosion C. Sheet erosion

D. Aeolian erosion E. None of the above

9. The Soil Health Card scheme introduced in 2015 provides information on which of the following aspects of soil?

A. Nutrient content B. Fertilizer required C. Soil type

D. Both A and B E. All of the above

10. Why are alkaline soils not preferred for crop production?

A. Their infiltration capacity of water is low.

B. They have a high amount of gypsum.

C. This type encourages growth of bacteria.

D. There is high amount of leaching.

E. None of the above

Correct answers:

1	2	3	4	5	6	7	8	9	10
E	B	D	A	D	B	E	C	E	A

Explanations:

1.

Soil Texture refers to the relative proportions of soils separates i.e. sand, silt and clay in particular soil. It is permanent or static property of soil. Natural soils are comprised of soil particles of varying sizes. The soil particle size groups are called as soil separates as stone (more than 20mm dia). Gravel (2 – 20 mm dia), Fine earth (less than 2mm dia) coarse sand (0.2 to 2 mm dia), fine sand (0.2 to 0.02 mm), silt (0.02 to 0.002 mm) and clay (less than 0.002 mm dia).

Hence, option E is correct.

2.

Suitability of a soil to a particular crop depends on texture in addition to soil depth, depth of water table, salinity and alkalinity. However, usually loamy soils (Silty) exhibit intermediate properties and are best for agricultural production because they retain more water and nutrients than sandy and have better drainage, aeration and tillage properties than clay soils.

Hence, option B is correct.

3.

Characteristics of Red Soils

The texture of these soils can vary from sand to clay, the majority being loams.

On the uplands, the red soils are poor, gravelly, and porous. But in the lower areas they are rich, deep dark and fertile.

Chemical Composition of Red Soils

They are acidic mainly due to the nature of the parent rocks. The alkali content is fair.

They are poor in lime, magnesia, phosphates, nitrogen and humus.

They are fairly rich in potash and potassium.

Color of Red Soils

The red colour is due to the presence of iron oxide.

When limestone, granites, gneisses and quartzites are eroded the clay enclosed within the rocks remains intact with other forms of non-soluble materials.

In oxidizing conditions, rust or iron oxide develops in the clay, when the soil is present above the water table giving the soil a characteristic red colour.

The colour is more due to the wide diffusion rather than high percentage of iron oxide content.

Distribution of Red Soils

These soils mostly occur in the regions of low rainfall.

They occupy about 3.5 lakh sq km (10.6 per cent) of the total area of the country.

These soils are spread on almost the whole of Tamil Nadu.

The red colour is due to the presence of iron oxide.

Hence, option D is correct.

4.

Black soil is also known as regure or black cotton soil. The black colour is not due to organic matter but due to presence of titaniferrous magnetite compounds and/or clay complexes. Major areas of black soils are in MS, MP and parts of AP, Gujarat and TN.

Hence, option A is correct.

5.

Histosols are organic soils (pleats and mucks) consisting of variable depths of accumulated plant remains in bogs, marshes and swamps that have developed under water saturated environment. They are rich in organic matter with organic content ranging from 12 to 18% and having about 50% clay content.

They are very productive and hence point D is incorrect.

Hence, option D is correct.

6.

The Aridisols soil is found in arid or dry areas with light in colour, poor inorganic matter and can be used for cultivation with irrigation. It has $CaCO_3$ (lime), Calcium sulphate (Gypsum) among other salts. These are desert soils.

Hence, option B is correct.

7.

All of the points stated above are correct and are functions of soil.

Hence, option E is correct.

8.

When the entire top sheet of soil is washed away by water or by wind, leaving behind barren rock, it is called sheet erosion. Sheet erosion attacks a large area of top soil and renders the land almost unfit for cultivation.

Hence, option C is correct.

9.

Soil Health card is a report card that provides vital information about the quality of soil by giving comprehensive information about type of soil, nutrient content, fertilizer required, crop suitability to ambient temperature and rainfall condition. The 'Soil Health Card' would carry crop-wise recommendations of nutrients / fertilizers required for farms in a particular village, so that the farmers can improve productivity by using inputs judiciously.

Hence, option E is correct.

10.

Alkali or alkaline soils are the soils with high pH (> 9). The fist visible impact of Alkaline soil is that it has a poor soil structure and a low infiltration capacity. The Alkali soil is generally having a hard calcareous layer at 0.5 to 1 metre depth. Alkali soils have dominated presence of minerals such as Sodium Carbonate which causes the soil to swell. Gypsum (calcium sulphate, $CaSO4.\ 2H2O$) can be applied as a source of Ca++ ions to replace the sodium at the exchange complex in the soil. However, there must be enough natural drainage to the underground, or else an artificial subsurface drainage system must be present, to permit leaching of the excess sodium by percolation of rain and/or irrigation water through the soil profile, while using Gypsum.

The main reason is that they lack infiltration of water (low leaching ability).

Hence, option A is correct.