**Question Bank**

**Q1.** Correct the following EC meter reading the EC meter EC =4.1 dSm-1 at temperature = 95Fo.

 If you know that Fo = 1.8 Co +32

**Q2**. What is CEC and what are the Principles of soil CEC determination?

**Q3.**

1. Methods for determination of soil pH are…
2. Essential nutrients are available for most plants at soil pH between ….
3. The objectives of EC measurement are:

**Q4.** Calculate total lime if you are given the following information:

**5 g** soil sample from Girdarasha placed in 250 ml flask**, 50 ml of 1N HCl** added, shaked then filtered, **10 ml** of the filtrate was taken**, 3drops** of **phenolphthalein** indicator added, then titrated **with 9 ml of 1N NaOH** to give pink color.

**Q5. Fill in the blanks**

1. The CEC increases when pH ...............
2. the principles of measuring CEC are
	1. ……………
	2. ………………………
	3. …………………..
3. methods for determination of soil organic matter include
	1. …………..
	2. …………………………
	3. …………………………
4. points to be considered when taking soil sample include
	1. …………
	2. ……………………..
	3. ……………………
	4. ……………………..
	5. …………………..

**Q6.** what is the EC of a soil with the following ion concentrations?

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Ion | Ca2+ | Mg2+ | K+ | Na+ | HCO3- | CO3= | Cl- | SO4= |
| Conc, meq/L | 1 | 2 | 1 | 0.5 | 2 | 1 | 1 | 0.5 |

**Q7**. What is the EC of a soil at 25c, if its EC at room temperature (21c) was 3.1 dS/m

**Q8. Fill in the blanks**

40%

1. Soil electrical conductivity is ……..……..……..

2. Essential nutrients are most available to most plants at a pH between ……..to ……..

3. The CEC increases when pH ……...

4. At saturation, soil paste ……..……..light and ……..……..when the spatula with saturated soil is tapped.

5. Saturation percent of soil = ……..……..……..

30%

**Q9.** what is the EC of a soil with the following ion concentrations?

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Ion | Ca2+ | Mg2+ | K+ | Na+ | HCO3- | CO3= | Cl- | SO4= |
| Conc, meq/L | 1 | 3 | 1 | 0.5 | 2 | 1 | 1 | 1.5 |

**Q10**. What is the EC of a soil at 25c, if its EC at room temperature (21c) was 3.1 dS/m

**Q11**. Fill the blanks:

1. Composite soil sample is …….
2. Undisturbed soil sample is ………….
3. CEC is ……………..
4. Essential nutrients are available for most plants at soil pH between ……. And ….
5. EC is …………..

**Q12**. What is the principle of CEC measurement?

**Q13**. What are the points to be considered when taking a soil sample?

**Q14**. **A**- If EC = 3dSm-1 the amount of Total soluble salt(T.S.S) = ----------------ppm and------------ g/l

 **B**- Correct the following EC meter reading, EC =3.7 dSm-1 at temperature = 95Fo and EC=2.4dSm-1 at temperature = 59F, If you know that Fo = 1.8 Co +32

**Q15**. In determining soil organic matter by loss in ignition method we got the following:

 Crucible weight = 11g

 Crucible + oven dried soil = 18 g

 Crucible + ignited soil = 17.86 g

What is the soil organic matter percentage?

Q16. Fill the blanks with suitable terms or statements:

The principle for titration method for determination of total CaCO3 are: a.------- -B ----

1. The objectives of determination of active lime are: a.--------- b.---------
2. Methods for determination soil organic matter are: a.--------- b.----- c.--------
3. Points to be considered when taking a soil sample….,…….,……,…,…….?
4. Factors that affecting soil pH are ………,………..,…………..
5. The most available form of phosphorous in the soil is ….. Followed by …..
6. The Kjeldahl method consists of three steps are ………,………..,…………..

***Q17*** What is the principle of CEC measurement?

18. Calculate the soluble Mg in a soil from the following data:

* 5ml soil saturation extract
* 2ml EDTA 0.01N using NaOH 4N
* 3ml EDTA 0.01N using buffer solution pH 10.

Q19. Correct the following EC meter reading, EC =3.6 dSm-1 at temperature = 104Fo and EC=3.1dSm-1 at temperature = 50F, If you know that Fo = 1.8 Co +32

Q20. Fill the blanks with suitable terms or statements:

1. CEC means ……. And its determination comprise of three steps …….... , … ………,…………….
2. Points to be considered when taking a soil sample ……,…..,……,…….,…..
3. The principles of determination of active lime are: ………., ……….
4. Methods for determination soil organic matter are: a.--------- b.----- c.--------
5. The most available form of phosphorous in the soil is ….. Followed by …..
6. The methods for determination of total CaCO3 are: a. …. b. … 1…. 2……

Q21. **/** What are Digestion and distillation steps for determination of nitrogen by *Kjeldahl,* Explain by Equation only?

Q22. What is PH, and explain the factors that affect it.

Q23. Correct the following EC meter reading, EC =3.6 dSm-1 at temperature = 104Fo and EC=3.1dSm-1 at temperature = 50F, If you know that Fo = 1.8 Co +32

Q24. calculate the amount of Mg in Girdarash Soil from the following data:-

* 10 ml saturation soil extracted
* 4ml EDTA-2Na 0.01N with using murexid indicator.
* 5 ml EDTA-2Na 0.01N with using EBT indicator.
* 5 drop of NaOH.

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With our best wishes

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