

**Q1/ Fill the following blanks with appropriate word or phrase.**

- 1- There are two methods for determine DO such as..... &.....which are based on..... &.....respectively.
- 2- In acidity test, NaOH is used as .....for titration.
- 3- The units for measuring DO are ..... or.....
- 4- In total alkalinity test, when adding Phenolphthalein indicator to the water, produce colorless, pH of water is .....
- 5- Common calcium-containing minerals are .....and ....., while A common magnesium mineral is .....
- 6- EDTA is abbreviation for .....
- 7- The main sources of carbon dioxide in the water are ..... and.....
- 8- Phenolphthalein indicator produce pink color when it is added to water with pH .....
- 9- ..... It is a type of measured acidity in water by titration to a pH of less than 4.5 and by using ..... indicator to determined it.
- 10- The indicator that uses to determine total hardness is called ..... and to determine calcium hardness is called .....
- 11- Before each water sampling, the turbidimeter should be calibrated by using standard solution of ....., .....and ..... NTU.
- 12- Salts of calcium and magnesium in the hard water are as ....., ....., and .....
- 13- Despite of geological formation, other factor that affects the values of total hardness is .....
- 14- Main components of alkalinity are ....., .....and.....
- 15- ..... is hardness that cannot be removed by boiling.
- 16- In laboratory, turbidity is measured by ..... method using a turbidimeter.
- 17- The ability to resist changes in pH by neutralizing acids or bases is called .....

**Q2\ Write briefly about the following:**

- 1- Alkalinity is important to aquatic organisms.

- 2- Using PH 10 to determining  $\text{Ca}^{+2}$  hardness?
- 3- Moderate acidity in irrigation water is beneficial to alkali soils.
- 4- Turbidity can harm fish and other aquatic life.
- 5- Winkler is accurate method for determine DO.
- 6- What are the effects of acidity?
- 7- BOD is important water quality parameter.
- 8- Factors effect on formation of turbidity on surface water?
- 9- Count the methods of softening hard water and write about one of them
- 10- Count the sources of  $\text{H}^+$  in water.

**Q3/ A 50 mL water sample is tested for Alkalinity, if 1.2 mL (0.02 N  $\text{H}_2\text{SO}_4$ ) is used to pH 8.3- and 4 mL titrant is used to pH 4.5, calculate:**

- 1- phenolphthalein alkalinity
- 2- Total alkalinity
- 3- Acidity at start point
- 4- Name indicators and its colors that used in this test

**Q4/ Define the following:**

- 1- Softening hard water
- 2- Water acidity
- 3- Turbidity
- 4- Temporary hardness
- 5- BOD5
- 6- Mineral acidity
- 7- Total alkalinity
- 8- Turbidimeter
- 9- EBT
- 10- Total hardness