Enrollment No. _____

Shree Manibhai Virani and Smt. Navalben Virani Science College (Autonomous), Rajkot

Affiliated to Saurashtra University, Rajkot

SEMESTER END EXAMINATION NOVEMBER – 2017

B.Voc. Chemical Technology

BVCT-304 – WATER ANALYSIS

Duration of Exam – 2:30 hrs ***Semester – III*** ***Max. Marks – 70***

Que. 1 (A) – Answer the following Questions **[10]**

1. The acceptable value of P^H of potable water is _____.
2. _____ Reagent is used for the estimation of fluoride in drinking water.
3. The amount of residual chlorine in water should be _____.
4. Which type of container used for sampling of water in estimation of fluoride?
5. Residual chlorine in water is determined by _____ reagent.
6. Minimum sample volume for the estimation of C.O.D. should be _____ mL.
7. How will you prepare 100ml, 100ppm solution of oxalic acid from the 236ppm solution of oxalic acids?
8. Give preservation technique for the measurement of turbidity of water.
9. As per Indian standard amount of TDS in drinking water is _____ .
10. As per Indian standard amount of arsenic in drinking water should be _____.

Que. 1 (B) – Answer the following Questions **[20]**

1. Enlist advantage of U.V. water purification techniques.
2. Give difference between permanent and temporary hardness of water.
3. Enlist samplings method for water.
4. Enlist step for prepared 10 ppm solution of nitrogen using potassium nitrate as nitrogen source.(molecular weight K = 39.0983 g/mol, O = 15.9994 g/mole, N = 14.0067 g/mol)
5. _____ indicator used in estimation of chloride and _____ indicator is used in estimation of B.O.D.
6. Give process for the calibration of P^H meter.
7. Illustrate difference between R.O. and ion exchange water purification technique.
8. Enlist water purification techniques.
9. How will you prepare 250 ml 0.5 N sulfuric acid solution? (density 1.84, % purity 98, M.W. 98 gram/mole)
10. Mache the following pairs

I.	Nitrate nitrogen	a. 880nm
II.	Nitrite nitrogen	b. 543 nm
III.	Cyanide	c. 220 nm
IV.	Phosphate	d. 578 nm

Que. 2 – Answer the following Questions (Any Four) **[20]**

1. What is P^H? How will you measure the P^H of drinking water as per Indian standard?
2. Give preservation techniques of the following ions
   i) Ca^{+2}
   ii) Zn^{+2}
   iii) Cl^-
   iv) PO_4^{-2}
3. Illustrate process for the determination of sulfate in west water.
4. How will you estimate amount of chloride in drinking water.
5. Explain process for determination of C.O.D. in drinking water.
6. How will you measure amount of arsenic in drinking water as per Indian standard.

Que. 3 – Answer the following Questions (Any Four) **[20]**

1. Explain process for the determination of nitrite nitrogen in given water sample.
2. Give process for determination of iron in water.
3. Illustrate process for the determination of phosphate in given water sample.
4. What is turbidity? And how will you measure the turbidity of water.
5. What is dissolve oxygen and how will you measure the amount of dissolve oxygen in drinking water.
6. How will you measure amount of calcium in drinking water.