SHREE H. N. SHUKLA GROUP OF COLLEGES

(AFFILIATED TO SAURASHTRA UNIVERSITY & GTU)

		Behind marketing yard,
2-Vaishali nagar,	3-Vaishali nagar, Near	Near Lalpari lake, Between
Near amrapali railway crossing,	amrapali railway crossing,	Amargadh-Bhichri,
Raiya road, Rajkot- 360 001.	Raiya road, Rajkot- 360 001.	Rajkot- 360 002.
Ph.No.-(0281) 2440478, 2472590	Ph.No.-(0281) 2224362	Ph.No. 90990 63150

M.Sc. Chemistry Semester II (CBSE)

C-204 Analytical chemistry

Question bank

Prepared by,

Rahul Talaviya

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1. **Give answer of the given questions (2 marks of each)**

   Q 1. Give the classification of pollutant of water and described any one of them in detailed.

   Q 2. Define: Accuracy, Precision, Deviation and median.

   Q 3. Explain difference between Variance and standard deviation Absolute and relative error.

   Q 4. Explain Microwave assisted organic synthesis.

   Q 5. Explain hardness of water. Write the chemical reactions involve in its determination water.

   Q 6. Calculate the mean and median of the following sets:

   0.124, 0.130, 0.126, 0.122, 0.128

   Q 7. What is turbidity of water explain advert effect of it.

2. **Give the answer of following questions (each question have 5 marks)**

   Q 1. Define COD. Give the chemical reaction involved in its measurements techniques. Why Ag_2SO_4 added in its measurement process.

   Q 2. What is alkalinity and acidity of water sample?

   Q 3. Briefly explain its determination techniques and differentiate hydroxide, carbonate and bicarbonate alkalinity.

   Q 4. How will you analyse chloride, fluoride and sulphate in water sample.

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Q 5. Give the name of reagents in their analysis and write the chemical reactions involves in its measurements.

Q 6. How will you analyse ammonia, nitrate and nitrite in water sample.

Q 7. Give the principal and write the chemical reactions involves in its measurements.

Q 8. Give the detailed practical process for Dissolve oxygen and Biological oxygen demand (Principle and process only)

3. Give the answer of following questions (each question has 7 marsk)

Q 1. Analysis of sample of iron gave the following % values for the iron Content:

7.08, 7.21, 7.12, 7.09, 7.16, 7.14, 7.07, 7.14, 7.18 and 7.11

So calculate the mean, median, standard deviation, variance and co-efficient of variance of above data

Q 2. Give the importance of ozone layer. How its form. Give the mechanisms of its depletion

Q 3. The soda ash sample is analysed in analytical laboratory by titration with standard HCL. The analyses performed in many replicate measurements and are given as below:

93.50%, 93.53%, 93.43%, 93.46%, 93.49%, 93.51%

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Find outs Confidence limits for confidence level 95 and 99% (for 95% level $t = 2.78$ and for 99% $t = 4.03$)

Q. 4 Do the following data for the spectroscopic analysis of Ti in the paints carried out from two different sources suggest a difference in composition between two materials. For that standard deviation for the analysis is known to be

0.35% Ti

Sampl-1: 4.0, 4.6 % Ti

Sample-2 : 4.5, 5.3, 5.5, 5.0, 4.9 % Ti

So compare the analysis for 80, 95 and 99% confidence levels (for 80% $z = 1.29$, 95% $z = 1.96$ and 99% $z = 2.58$)