



Sanjay Ghodawat University, Kolhapur

EXM/P/09/00

2018-19

Established as State Private University under Govt. of Maharashtra. Act No XL, 2017

Year and Program:

School of Science

Department of Chemistry

2018-19/ B. Sc.

Course Code: CHS203

Basic Analytical Chemistry

Semester – Odd (III)

Day and Date: *Thurs 6 Dec 18*

End Semester Examination

Time: 3 hrs, Max Marks: 100

PRN:

Seat No:

Section A Marks out of 20:

Jr. Supervisor Sign

Students Sign

Section A

Instructions: 1) All Questions are compulsory.

2) For MCQs mark tic (✓) for correct answer. No marks for multiple tics (✓).

3) Section A should be submitted to Jr. Supervisor immediately after first 30 min.

Q.1	Multiple choice questions (2 marks each).	Marks	level	CO
		20		
1	-----describes precision of results. i) Absolute error ii) Random error iii) Relative error iv) Standard deviation	2	L2	1
2	----- describes accuracy of results. i) Variance ii) Absolute error or Relative error iii) Standard deviations iv) Coefficient of Variance	2	L2	1
3	Hexadentate ligand is present in ----- i) Ammonia ii) Water, iii) EDTA iv) None of these	2	L2	1
4	Error (E) =-----+----- i) $E_r + E_a$ ii) $E_d + E_s$ iii) $E_a + E_b$ iv) $E_r + E_s$	2	L3	1
5	The mean of 0.752, 0.756, 0.752, 0.751, 0.760 samples is ---- --- ppm i) 0.788 ii) 0.754 iii) 0.870 iv) 0.589	2	L3	1
6	In reverse phase partition chromatography, the stationary	2	L2	2

- phase is -----.
- i) Non-polar ii) Polar
iii) Adsorbent iv) None of these
- 7 -----, -----are water purification methods. 2 L2 2
- i) Filtration, Boiling ii) Grinding, Filtration
iii) Distillation, Grinding iv) None of these
- 8 In paper chromatography, -----acts as support to the stationary phase. 2 L2 2
- i) Glass ii) Paper
iii) Gas iv) None of these
- 9 The paper chromatography is also known as ----- chromatography. 2 L2 2
- i) Solid-liquid ii) Liquid-Liquid
iii) Gas- liquid iv) None of these
- 10 ----- are substance or products used to enhance or alters the appearance of face or fragrance and texture of body. 2 L1 2
- i) Cosmetics ii) food
iii) Acids iv) None of these

Section B

Q.2	Answer the following questions (Solve any Two)	12		
a)	Define accuracy and precision, Explain the terms i) absolute error, ii) relative error iii) standard deviations, iv) coefficient of variance, v) variance.	6	L1	1
b)	Explain in brief interdisciplinary nature of analytical chemistry.	6	L2	1
c)	Explain the terms sample mean, population mean, relative standard deviations and types of error.	6	L2	1
Q.3	Answer the following questions (Solve any Two)	12		
a)	What is chelometric titration? Explain the types of chelates with suitable examples.	6	L2	1
b)	Explain the complexometric titrations with suitable examples.	6	L2	1
c)	Write note on significant figures. Explain acidic buffers, basic buffers and single salt buffer.	6	L4	1
Q.4	Answer the following questions (Solve any Two)	12		
a)				
i)	Explain the major and minor constituent of cosmetics and their functions.	6	L2	2
ii)	What is cosmetics, explain the types of cosmetics with applications.	6	L3	2
iii)	Write note on food preservatives and adulterations.	6	L2	2
b)	Answer the following questions (Solve any Four)	16		
i)	Define pure water; Explain the water sampling methods.	4	L1	2
ii)	Explain in briefly the nutritional values of food and food preservatives.	4	L2	2
iii)	Describe briefly the paper chromatography.	4	L2	2
iv)	Explain the major constituent of cosmetics and their functions.	4	L3	2
v)	Explain the types of chromatographic methods.	4	L2	2
Q.5	Answer the following questions (Solve any Two)	16		
a)				
i)	What is chromatography? Explain principles of chromatography and give classification of chromatography.	8	L2	2
ii)	Explain Liquid-Liquid chromatography briefly.	8	L2	2
iii)	Explain the sources responsible for contamination of water.	8	L2	2

b) Answer the following questions (Solve any Three)	12		
i) Explain the detectors used in TLC.	4	L2	2
ii) Write note on analysis of food products.	4	L2	2
iii) Write note on preparation of TLC chromatography.	4	L1	2
iv) Write note on preventive majors for water contamination.	4	L2	2
