TOTAL PAGES : 2

22CHU102N / 18CHU02

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2025
(First Semester)

Branch – **CHEMISTRY**

ANALYTICAL CHEMISTRY

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (10 × 1 = 10)

Question No.	Question	K Level	CO
1	Which of the following chemicals is a known carcinogen? a)Benzene b) Toluene c) Ethanol d) Acetone	K1	CO1
2	What is the purpose of rinsing a burette with distilled water? a)To remove any residual chemicals b) To lubricate the stopcock c) To check the leaks d) To calibrate the burette	K1	CO1
3	What happens to the solubility of a salt, when a common ion is added? a)It increases b)it decreases c)it remains the same d)it becomes zero	K2	CO2
4	Which of the following method is commonly used to filter a precipitate? a)Gravity filtration b)Vacuum filtration c) Centrifugation d)Decantation	K2	CO2
5	What is the purpose of standardizing a solution in acid-base titration? a)to determine its concentration b) to determine its pH c) to determine its normality d) to determine its molarity.	K1	CO3
6	_____ is an example of a secondary standard. a)HCl b) NaOH c) Potassium hydrate phthalate d) Ammonium thiocyanate.	K1	CO3
7	Which of the following is an example of a precipitation indicator? a)$AgNO_3$ b) $KCrO_4$ c) Eosin d) Fluorescein.	K3	CO4
8	What is the effect of incomplete digestion on the accuracy of gravimetric analysis? a)it has no effect b) it increases the accuracy c) it decreases the accuracy d) it has a random effect.	K3	CO4
9	The factors that affect the regeneration rate of desiccants are a)Particle size b) Surface area c) Pore size d) All of the above.	K2	CO5
10	How is mobile phase applied to TLC plate? a)By capillary action b) by spraying c) by pouring d) by injecting	K2	CO5

Cont...

SECTION - B (35 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 × 7 = 35)

Question No.	Question	K Level	CO
11.a.	Write note on: Storage and handling of chemicals.	K2	CO1
	OR		
11.b.	Explain about the Calibration and grading of volumetric apparatus.		
12.a.	Describe the methods of precipitating Sulphides.	K3	CO2
	OR		
12.b.	How interfering ions are removed in semi micro analysis?		
13.a.	Explain about the different ways of expressing concentration.	K4	CO3
	OR		
13.b.	Discuss the EDTA titration involving Zn^{2+} ions.		
14.a.	Mention the types of organic precipitants.	K5	CO4
	OR		
14.b.	Explain the procedure to minimize the surface adsorption.		
15.a.	List out the types of desiccants.	K6	CO5
	OR		
15.b.	Explain the principle and application of ion-exchange chromatography.		

SECTION -C (30 Marks)

Answer **ANY THREE** questions

ALL questions carry **EQUAL** Marks (3 × 10 = 30)

Question No.	Question	K Level	CO
16	What are the general precautions to be carried out for avoiding accidents in the chemistry laboratory?	K4	CO1
17	Explain the spot test analysis for Ni^{2+}, Mg^{2+}, Al^{3+}, NH^{4+} and Cu^{2+}	K4	CO2
18	Discuss the principle and theory involved in redox and complexometric titration.	K5	CO3
19	How lead is estimated gravimetrically?	K5	CO4
20	Describe the techniques of distillation.	K6	CO5

Z-Z-Z END