

ROYAL COLLEGE OF ARTS, SCIENCE AND COMMERCE

SYBSc SEMESTER IV SAMPLE PAPER

CHEMISTRY PAPER III (USCH403)

01	For separation of high boiling liquids that are immiscible in water, method of ---- is used. a. Precipitation b. Crystallization c. Steam distillation d. Centrifugation	(1)
02	---- and ---- are the organic solvents that can be used for extraction of solute from aqueous solution. a. Chloroform, Diethyl ether b. Methanol, acetone c. Ethanol, ethyl acetate d. Acetic acid, carbon tetrachloride	(1)
03	100 cm ³ of an aqueous solution containing 120 mg of solute was extracted once with 25 cm ³ of organic solvent and 40 mg of solute remained behind. The percent extraction was ---- % after two extractions if 25 cm ³ of organic solvent was used for each extraction. a. 66.67 b. 77.75 c. 88.89 d. 95.48	(1)
04	In PC, the stationary phase is ---- and mobile phase is ----. a. Solid, liquid b. Liquid, gas c. Solid, gas d. Liquid, liquid,	(1)
05	In TLC, ---- is the indirect method used for quantitative estimation of components. a. Elution method b. Visual comparison of the spot c. Measurement of area of the spot d. Spot densitometry	(1)
06	---- is a primary reference electrode. a. Glass electrode b. Ag-AgCl electrode c. Standard hydrogen electrode d. Calomel electrode	(1)
07	Potential of quinhydrone electrode (E_{Quin} is calculated by the formula	(1)

	<p>----.</p> <p>a. $0.699 - 0.05916\text{pH}$</p> <p>b. $0.699 + 0.05916\text{pH}$</p> <p>c. $0.457 - 0.05916\text{pH}$</p> <p>d. $0.457 + 0.05916\text{pH}$</p>	
08	<p>The graph of pH of HCl solution versus volume of standard NaOH added is ----.</p> <p>a. A straight line passing through the origin</p> <p>b. Sigmoid</p> <p>c. A straight line with intercept on X axis</p> <p>d. A straight line with intercept on Y axis</p>	(1)
09	<p>When HCl solution is titrated with standard NaOH solution, conductance of the solution ---- before equivalence point and ---- after equivalence point.</p> <p>a. Increases, increases</p> <p>b. Decreases, decreases</p> <p>c. Increases, decreases</p> <p>d. Decreases, increases</p>	(1)
10	<p>The conductance of hydrogen ions is ---- than conductance of sodium ions and the conductance of acetate ions is ---- than conductance of chloride ions.</p> <p>a. More, less</p> <p>b. Less, less</p> <p>c. More, more</p> <p>d. Less, less</p>	(1)
11	<p>If the mean deviation is 0.06 and deviation of doubtful observation is 0.3, then the doubtful observation is _____ .</p> <p>a. Accepted on the basis of 2.5 d and 4.0 d rule</p> <p>b. Rejected on the basis of 2.5 d and 4.0 d rule</p> <p>c. Accepted on the basis of 2.5 d and rejected on the basis of 4.0 d rule</p> <p>d. Rejected on the basis of 2.5 d and accepted on the basis of 4.0 d rule</p>	(1)
12	<p>Find tcal value for a set having 8 observations and mean values of 5.2 and 5.4. ($s = 0.01$)</p> <p>a. 10</p> <p>b. 20</p> <p>c. 30</p> <p>d. 40</p>	(1)
13	<p>Equation of best fitting line not passing through origin is _____.</p> <p>($m = 2.5, c = 1.2$)</p> <p>a. $y = 1.2x + 2.5$</p> <p>b. $y = 3x$</p>	(1)

	c. $y = 2.1 x$ d. $y = 2.5 x + 1.2$	
14	Equation of best fitting line passing through origin obtained by least square method is _____. ($\Sigma xy = 250, \Sigma x^2 = 100$) a. $y = 2.5 x$ b. $y = 25 x$ c. $y = 125 x$ d. $y = 250 x$	(1)
15	Calculate median for the set having observations – 1.2, 1.9, 1.6, 1.4, 1.5 a. 1.50 b. 1.52 c. 1.65 d. 1.60	(1)
