


EXM/P/09/00

 Sanjay Ghodawat University, Kolhapur Established as State Private University under Govt. of Maharashtra. Act No XL, 2017		2018-19
		Department of Chemistry
Year and Program:	School of Science	Semester – Odd (III)
Course Code: CHS 201	Course Title: Chemistry-III	Time: 3 hrs, Max Marks: 100
Day and Date: Thursday 29/11/2018	End Semester Examination	2:30 to 3:10 PM
PRN:	Examination No.	Out of 20
Jr. Supervisor Sign.		Student 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.

	Marks	Level	CO
Q.1 Multiple choice questions.	20		
1 The concentration of a solution is defined as	1	L2	1
(a) the amount of solvent present in a given amount of solution (b) the amount of solute present in a given amount of solution (c) the amount of solute present in a given amount of solvent (d) the amount of solvent present in a given amount of solute			
2 The temperature at which two conjugate solutions (or layers) merge into one another to form one layer is called the	1	L1	1
(a) critical temperature (b) critical solution temperature (c) distillation temperature (d) Dalton's temperature			
3 The solubility generally rises with	1	L2	1
(a) increase in temperature (b) decrease in temperature (c) increases in volume of the solvent (d) none of these			
4 The conductivity of an electrolyte is due to the	1	L1	2
(a) presence of ions in the electrolyte (b) free movement of ions in the solution (c) reunion of ions in the solution (d) release of heat energy due to ionisation			
5 The statement of Kohlrausch's law is	1	L2	2
(a) the equivalent conductance of an electrolyte at infinite dilution is equal to the product of equivalent conductances of the			


component ions

(b) the equivalent conductance of an electrolyte at infinite dilution is equal to the difference of equivalent conductances of the component ions

(c) the equivalent conductance of an electrolyte at infinite dilution is equal to the sum of equivalent conductances of the component ions

(d) none of the above

- | | | | | |
|----|---|---|----|---|
| 6 | When a strong acid is titrated against a strong base the end point is the point of | 1 | L2 | 2 |
| | (a) zero conductance (b) maximum conductance | | | |
| | (c) minimum conductance (d) none of these | | | |
| 7 | Which of the following is not a carboxylic acid derivative? | 1 | L1 | 3 |
| | a) Ester b) Acid amide | | | |
| | c) Ethers d) Acid chloride | | | |
| 8 | Which of the following compounds on treatment with NaHCO_3 will liberate CO_2 ? | 1 | L3 | 3 |
| | a) Acetic acid b) Ethylamine | | | |
| | c) Acetone d) Ethyl alcohol | | | |
| 9 | Acetic acid undergoes reduction with LiAlH_4 to give- | 1 | L2 | 3 |
| | a) Ethanol b) Ethane | | | |
| | c) Ethanal d) Ethyne | | | |
| 10 | Gabriel synthesis is carried out for the preparation of - | 1 | L2 | 3 |
| | a) Aldehydes and ketones b) Alcohols | | | |
| | c) Primary amines d) Carboxylic acids | | | |
| 11 | Diazonium salt on reaction with benzene gives- | 1 | L1 | 3 |
| | a) Phenol b) Diphenyl | | | |
| | c) Chlorobenzene d) Aniline | | | |
| 12 | Baeyer-Villiger oxidation reaction used for synthesis of - | 1 | L2 | 3 |
| | a) Esters b) Amides | | | |
| | c) Ketones d) Aldehydes | | | |
| 13 | Ammonium acetate on strong heating gives- | 1 | L2 | 3 |

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29/11/2018		3:00pm to 5:30	
PRN:	Examination No.	Out of 80	

Section -B

		Marks	Level	CO
Q.2	Attempt the following (Solve any Two)	12		
a)	What is phase rule? Draw and explain the phase diagram of Water system.	06	L1	1
b)	Derive an expression for Clausius- Clapeyron equations.	06	L3	1
c)	What is Azeotropic mixture? Discuss in detail azeotropic curves at maximum and minimum Boiling point curves.	06	L2	1
Q.3	Attempt the following (Solve any Two)	12		
a)	Discuss in detail Conductometric titrations with titrations curves.	06	L2	2
b)	State and Explain Kohlrausch's law of independent migration of ions.	06	L1	2
c)	Define or explain the following terms : i) Conductance, ii) Equivalent conductivity, iii) Molar conductivity	06	L1	2
Q.4	a) Attempt the following (Any Two)	12		
i)	Explain electrophilic substitution reactions of anilines.	06	L2	3
ii)	Discuss Perkin condensation reaction with its mechanism.	06	L2	3
iii)	Describe chemical reactions of diazonium salts.	06	L2	3
b)	Attempt the following (Any Four)	16		
i)	Explain methods of preparation of carboxylic acids.	04	L2	3
ii)	Give the mechanism of Reformastky reaction.	04	L1	3
iii)	Write a note on Hell-Vohlard-Zelinsky reaction.	04	L3	3

- iv) Using Hinsberg's reagent, how will you distinguish between primary, secondary and tertiary amines?
- v) What are benzene diazonium salts? How would you prepare diazonium salts from aniline?

04 L2 3

04 L3 3

Q.5 a) Attempt the following (Solve any Two)

16

- i) Explain the primary structure determination of proteins via following points:

08 L1 4

Edman Method

Hydrzinoysis method

- ii) Explain the structure of any **two** from following:

08 L1 4

Lactose

Maltose

Sucrose

- iii) Write a note on following:

08 L1 4

Fructose

Cellulose

b) Solve any Three

12

- i) What is amino acid? And explain electrophoresis phenomenon.

04 L1 4

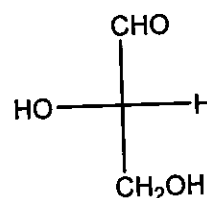
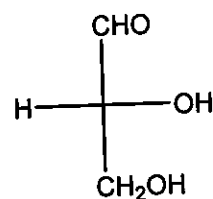
- ii) What is carbohydrate? And give its classification.

04 L1 4

- iii) i. Explain the mutarotation in carbohydrate.
ii. State the configuration whether (*d* or *l*) or (+ or -) of following

02 L2 4

02



- iv) Explain the structure of glucose.

04 L1 4
