



## **BRAINWARE UNIVERSITY**

## **Term End Examination 2022**

## Programme – Dip.CSE-2018/Dip.ECE-2018/Dip.EE-2018/Dip.CSE-2019/Dip.ME-2019/Dip.CE-2019/Dip.CSE-2020/Dip.CSE-2021/Dip.EE-2021/Dip.ME-2021 Course Name – Chemistry Course Code - DCHE010101/DCSE103/DME103/DCE103/DEE103

(Semester I)

Full Marks : 60 Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

	Group	)-A	1		
1.	(Multiple Choice To Choose the correct alternative from the following :	ype	· Question)	1 x 15=15	
(i)	A solution of sodium sulphate in water is electroly products at cathode and anode are the :	/se	d using platinum electrodes. The		
	a) $H_2$ , $O_2$	b)	$O_2, H_2$		
	c) O <sub>2</sub> , Na	d)	$O_2$ , $SO_2$		
(ii)	Which of the following is the best reducing agent?				
	a) F-	b)	Cl <sup>-</sup>		
	c) $_{\mathrm{Br}^{-}}$	d)	I-		
(iii)	ii) Which one is not correct for a reversible reaction?				
	a) The reaction is never completed		The reactants are present in the initial but after that the reactants and product always present in the reaction mixture	icts are	
	c) at equilibrium only products are present	d)	when the reaction is carried out in clo space ,it attains equilibrium state after suitable time		
(iv)	v) Formaldehyde reacts with Zn/Hg and conc. HCl to produce				
	a) Ethane	•	Methane		
(v)	c) Ethylene Alkaline hardness is due to the presence of	d)	Acetylene		
	a) bicarbonate, carbonate and hydroxides of calcium and magnesium .	b)	Calcium Chloride and magnesium chloride	oride.	
(vi)	c) Sodium chloride The number of bonding pair of electron in $\rm H_2O$	•	Aluminium fluoride.		
	a) 1 c) 2	b) d)			
(vii)	The nucleons are				
(viii)	<ul><li>a) Protons and electrons</li><li>c) Protons and neutrons</li><li>All noble gas molecules are</li></ul>	•	Neutrons and electrons None of these		

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What type of chemical bonds is present in CO <sub>2</sub> ?				
What are the differences between electrolytic cell and galvanic cell?				
How can you determine the hardness of water by EDTA method?				
Which is more reactive metal Cu or Ag and why (According to electrochemical series)?				
Explain basicity of acids and acidity of bases with suitable example.				
<b>Group-B</b> (Short Answer Type Questions)				
<ul><li>a) Benzene</li><li>c) Both Benzene and Napthalene</li></ul>	<ul><li>b) Napthalene</li><li>d) None of these</li></ul>			
<ul><li>a) Isomerism</li><li>c) Catenation</li><li>(xv) An example of aromatic compound is</li></ul>	<ul><li>b) Acetylene</li><li>d) Homologous series</li></ul>			
<ul><li>a) 9650 coulomb</li><li>c) 19640 coulomb</li><li>(xiv) Carbon atom combines with other C atoms to for</li></ul>		3		
(xiii) One Faraday is equal to:				
c) is acidic in nature	d) when dissolved in water ,dissociates i	into		
a) conducts electricity in solid state	b) decomposes on heating			
c) 2 (xii) An electrolyte is a substance which	d) 14			
a) 6	b) 10			
c) 10 (xi) The maximum number of. electrons that can be a	d) 14 accommodated by p orbital is			
a) 5	b) 6			
(x) Maximum number of electrons in a subshell d is	atoms			
oxygen c) $6.022 \times 10^{23}$ atoms of C = 24g of carbon	sodium d) $6.022 \times 10^{23}$ atoms of H = 1g of hydronic distribution in the sodium of	drogen		
a) $6.022 \times 10^{23}$ molecules of oxygen = 32g of	b) $6.022 \times 10^{23}$ ions of sodium = 23g of	of		
<ul><li>a) Monoatomic</li><li>c) Trioatomic</li><li>(ix) Which of the following is a wrong combination?</li></ul>	<ul><li>b) Diatomic</li><li>d) Both Monoatomic and Diatomic</li></ul>			

2.

3.

4.

5.

6.

Identify the sequence of reactions.

CH<sub>3</sub>MgI 
$$\xrightarrow{\text{H}_2\text{O}}$$
 A  $\xrightarrow{\text{MoO},750^{\circ}\text{C}}$  B

$$KOH(alcohol)$$
  $HBr$   $CH_3-CH_2-Br$   $\longrightarrow$   $C$ 

$$\begin{array}{ccc} & KOH(alcohol) & HCN \\ \hline CH_2\text{-}CH_2 & & & E & \\ \hline & Ba(CN)_2 & \\ \hline & Br & Br & \\ \end{array}$$

5 x 6=30

7. Write differences between calcination and roasting. Explain amalgum?[3+2]

- (5)
- 8. How is ethylene prepared in the laboratory? What are the functional groups present in CH<sub>3</sub>-CHO,CH<sub>3</sub>-OH and (5) CH<sub>3</sub>-O-CH<sub>3</sub> respectively?[2+3]
- 9. Define Avogadro number. What do you mean by Basicity of acids and Acidity of bases? Explain with examples. (5) [1+2+2]
- 10. What is Blister Cu? What is anode mud? [3 2]

(5)

(5)

<sup>11</sup>. Write the IUPAC name of the following molecules.

CH<sub>3</sub>-C=C-CH=CH<sub>2</sub>

CH2=CH-C=CH

[1+2+2]

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What do you mean by electroplating? What is the purpose of electroplating?[2+3]	(5
12. Define Isomerism. Classify isomerism.[2 3]	(5
OR Balance the equation by ion electron method $MnO_4^- + Fe^{+2} \rightarrow Mn^{+2} + Fe^{+3} + H_2O \text{ (acid medium )}$	(5)

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