

11TH CHEMISTRY PUBLIC QUESTIONS

11th CHEMISTRY



Government Public questions

Unitwise

March-2019

June-2019

September-2020

September-2021

May-2022

july-2022

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11TH CHEMISTRY PUBLIC QUESTIONS

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11TH CHEMISTRY PUBLIC QUESTIONS

PREFACE

“Praise the lord”

“Education is not the learning of facts,
But the training of the mind to think”

-Albert Einstein

“Education is the movement from darkness to light “

Respected Teachers/ Dear students

This guide is based on the six government public 11TH chemistry questions. This guide contains more than 200 questions .and 90 one marks. (question and answer)

The questions asked in government public examination are very important so Students should keep reading this well.

The purpose of creating this guide is for students to get higher marks.This guide is also created for slow learning students to pass.

You have any doubt of question and answer in this material contact your chemistry teacher or me

I hope this guide will be very useful for Students and Teachers. My heartfelt **thanks** to all the **educational webpage**. Teachers or students can let me know their valuable feedback regarding this guide.

God bless all

All the best

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NOTE:

Government public question paper march 2019	- mar19
Government public question paper june 2019	- jun19
Government public question paper September 2020	- sep20
Government public question paper September 2021	- sep21
Government public question paper may2022	-may22
Government public question paper july2021	-jul22
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11TH CHEMISTRY PUBLIC QUESTIONS

11. which of the following molecule does not contain π bond ?
 a) CO_2 b) H_2O c) SO_2 d) NO_2
12. which of the following compound has same percentage of carbon as that of ethylene (C_2H_4) ?
 a) benzene b) ethane
 c) propene d) ethyne
13. The SI unit of molar heat capacity is : _____
 a) $\text{JK}^{-1} \text{mol}^{-1}$ b) KJ mol^{+1} c) KJ mol^{-1} d) cm
14. What percentage of solution of H_2O_2 is called as "100-volume" H_2O_2 ?
 a) 15% b) 50% c) 20% d) 30%
15. osmotic pressure (π) of a solution is given by the relation :
 a) $\pi RT = n$ b) $V = \pi nRT$
 c) $\pi = n RT$ d) $\pi V = nRT$

PART-II

Answer any six of the following questions. Question no.24 is compulsory. 6 X 2 = 12

16. State and explain Pauli's exclusion principle.
17. Define valency
18. What are ideal gas ?
19. State the third law of thermodynamics ?
20. What is called bond length ? Name the techniques through which the length of a bond can be determined .
21. Describe the reaction involved in the detection of nitrogen in an organic compound by Lassaigne method.
22. How is alkane prepared from Grignard reagent ?
23. Define - acid rain
24. Which is the suitable method for detection of nitrogen present in food and fertilizers?

PART-III

Answer any six of the following questions. Question no.33 is compulsory 6 X 3 = 18

25. Calculate the equivalent mass of H_2SO_4
26. Explain diagonal relationship .
27. How is Tritium prepared ?
28. Define - Le-Chatelier principle.
29. State the term "isotonic solution"
30. Both C_2H_2 and CO_2 have the same structure. Explain why.
31. Write note on Williamson's synthesis.
32. Explain why $\text{Ca}(\text{OH})_2$ is used in white washing .
33. Give the structural formula for the following compounds.
 a) m-dinitrobenzene b) p-dichlorobenzene c) 1,3,5-Tri-methyl Benzene

11TH CHEMISTRY PUBLIC QUESTIONS

ii) Write any two different components you get during fractional distillation of coal tar at any two different temperatures.

38.a) i) A compound having the empirical formula C_6H_6O has the vapour density 47. Find its molecular formula.

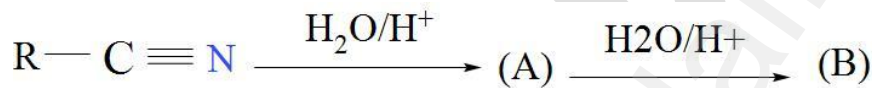
ii) The simple aromatic hydrocarbon compound (A) reacts with bromine to give (B). compound (A) reacts with Raney Ni and gives (C). Identify (A), (B) and (C).

(OR)

b) i) $C_{(s)} + O_{2(g)} \rightarrow CO_{2(g)}$

Calculate the standard entropy change for the above reaction, given the standard entropies of $CO_{2(g)}$, $C_{(s)}$, $O_{2(g)}$ are 213.6, 5.740 and 205 JK^{-1} respectively.

ii) Identify the compound (A) and (B)



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Time allowed : 2.30hours

Maximum marks : 70

JUNE-2019

PART-I

Note : i) Answer all the questions.

ii) choose the most appropriate answer from the given four alternatives and write the option code and the corresponding answer . **15 X 1 = 15**

1. The oxidation number of carbon in CH_2F_2 is _____
 a) +4 b) -4 c) 0 d) +2
2. The energy of an electron in the third orbit of hydrogen atom is $-E$. The energy of an electron in the first orbit will be _____
 a) $-3E$ b) $-\frac{E}{3}$ c) $-\frac{E}{9}$ d) $-9E$
3. The effective nuclear charge experienced by the d^1 electron in the given electronic configuration, $(1s)^2 (2s,2p)^8 (3s,3p)^8 (3d)^1 (4s)^2$ is :
 a) 4 b) 3 c) 2.1 d) 6.9
4. The type of H-bonding present in orthonitro phenol and p-nitro phenol are _____ respectively.
 a) Inter molecular H-bonding and intra molecular H-bonding
 b) Intra molecular H-bonding and inter molecular H-bonding
 c) Intra molecular H-bonding and no H-bonding
 d) Intra molecular H-bonding and intra molecular H-bonding
5. When CaC_2 is heated in atmospheric nitrogen in an electric furnace, the compound formed is _____
 a) $\text{Ca}(\text{CN})_2$ b) CaNCN c) CaC_2N_2 d) CaNC_2
6. When an ideal gas undergoes unrestrained expansion, no cooling occurs because the molecules _____
 a) are above the inversion temperature b) exert no attraction force on each other
 c) do work equal to the loss in kinetic energy d) collide without loss of energy
7. Among the following statements, which one is /are correct ?
 i) During cyclic process the amount of heat absorbed by the surrounding is equal to work done on the surrounding
 ii) Refractive index is an example for intensive property
 iii) If the enthalpy change of a process is positive then the process is spontaneous
 iv) The entropy of an isolated system increases during spontaneous process
 a) (i), (ii), (iii) b) (i), (iv) c) (ii), (iv) d) (ii) only
8. If k_b and k_f for a reversible reaction are 0.8×10^{-5} and 1.6×10^{-4} respectively, the value of equilibrium constant is _____
 a) 20 b) 0.2×10^{-1} c) 0.05 d) 0.2

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9. Assertion : Mixture of carbon tetrachloride and chloroform show positive deviation from Raoult's law

Reason : In the mixture the inter molecular force of attraction between chloroform and carbon tetrachloride is weaker than those between molecules of carbon tetrachloride and chloroform molecules.

- a) Both assertion and reason are correct and reason is the correct explanation of assertion
- b) Both assertion and reason are correct and reason is not the correct explanation for assertion
- c) Both assertion and reason are false
- d) Assertion is true, but reason is false

10. Shape and hybridization of IF_5 are :

- | | |
|-----------------------------------|---------------------------------|
| a) Trigonal bipyramidal sp^3d^2 | b) Trigonal bipyramidal sp^3d |
| c) Square pyramidal sp^3d^2 | d) Octahedral, sp^3d^2 |

11. Which of the following is optically active ?

- | | |
|-----------------------|--------------------|
| a) 3-chloropentane | b) 2-chloropropane |
| c) meso-tartaric acid | d) glucose |

12. Which of the following species is not electrophile in nature ?

- | | | | |
|------------------|------------------|---------------------------|--------------------|
| a) Cl^+ | b) BH_3 | c) H_3O^+ | d) $^+\text{NO}_2$ |
|------------------|------------------|---------------------------|--------------------|

13. _____ group is ortho para directing and deactivating group

- | | | | |
|----------|-----------|------------|-------------|
| a) amino | b) methyl | c) halogen | d) aldehyde |
|----------|-----------|------------|-------------|

14. The raw material for Raschig process is _____

- | | | | |
|------------------|-----------|------------|------------|
| a) chlorobenzene | b) phenol | c) benzene | d) anisole |
|------------------|-----------|------------|------------|

15. _____ cause kidney damage

- | | |
|---------------------|--------------------|
| a) Cadmium, mercury | b) Lead, Cadmium |
| c) Freon, Fluoride | d) copper, Cadmium |

PART-II

Answer any six from the following questions. Q.no.24 is compulsory

6 X 2 = 12

16. What is syn gas? How is it prepared?

17. Write any two similarities between beryllium and aluminium.

18. What is inversion temperature?

19. What is the effect of added inert gas on the reaction at equilibrium?

20. Linear form carbon dioxide molecules has two polar bonds, yet the molecule has zero dipole moment. Why?

21. How do you detect the presence of nitrogen and sulphur together in an inorganic compound?

22. What happens when acetylene undergoes ozonolysis?

23. What is green chemistry?

24. Calculate the orbital angular momentum for d and f orbitals.

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PART-III

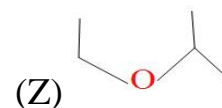
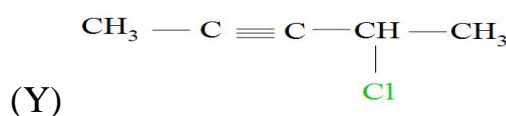
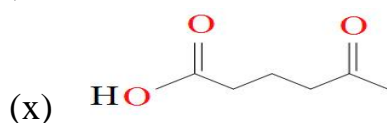
Answer any six from the following questions. Q.No.33 is compulsory **6 X 3 = 18**

25. What do you understand by the term mole ?
26. Ionisation potential of nitrogen is greater than that of oxygen . explain by giving appropriate reason.
27. Among the alkali metal halides, which is covalent ? explain with reason.
28. Derive ideal gas equation.
29. Define molar heat capacity. Give its unit.
30. What is vapour pressure of a liquid ? what is relative lowering of vapour pressure ?
31. explain a suitable method for purifying and separating liquids present in a mixture having very close boiling point.
32. What is polymerisation ? explain the two types of polymerisation reaction of acetylene .
33. The bond length between all the four carbon atoms is same in 1,3-butadiene. Explain

PART-IV

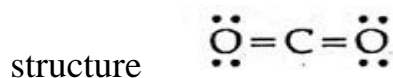
Answer all the following questions. **4 X 5 = 20**

- 34.a) i) What are auto redox reactions ? give an example .
 ii) Define orbital. What are the n and l values for $3p_x$ and $4d_{x^2-y^2}$ electron ?
 (OR)
 b) i) Why hydrogen peroxide is stored in plastic containers, not in glass container ?
 ii) Give the general electronic configuration of lanthanides and actinides.
- 35.a) i) why blue colour appears during the dissolution of alkali metals in liquid ammonia ?
 ii) what is boyle's temperature ? what happens to real gases above and below the boyle's temperature ?
 (OR)
 b) i) Derive the relation between k_p and k_c for a general homogeneous gaseous reaction.
 ii) How do you measure heat changes at constant pressure ?
- 36.a) i) Draw the M.O diagram for oxygen molecule . calculate its bond order and magnetic character.
 ii) Draw and explain the graph obtained by plotting solubility versus temperature for calcium chloride .
 (OR)
 b) i) Write the IUPAC names for the following compounds :



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ii) Calculate the formal charge on carbon and oxygen for the following



37.a) i) explain about inductive effect .

ii) What do you mean by conformation ? Explain about staggered conformation in ethane .

(OR)

b) i) Among the following compounds ,o-dichloro benzene and p-dichloro benzene , which has higher melting point ? explain with reason .

ii) Write notes on the adverse effect caused by ozone depletion.

38.a) i) calculate the uncertainty in the position of an electron, if the uncertainty in it velocity is $5.7 \times 10^5 \text{ ms}^{-1}$

ii) What is the mass of glucose ($\text{C}_6\text{H}_{12}\text{O}_6$) in it one litre solution which is isotonic with 6g l⁻¹ of urea (NH_2CONH_2) ?

(OR)

b) i) An organic compound (A) of molecular formula $\text{C}_2\text{H}_6\text{O}$, on heating with conc. H_2SO_4 gives compound (B) . (B) on treating with cold dilute alkaline KMnO_4 gives compound (C) . Identify (A), (B) and (C) and explain the reactions.

ii) A simple aromatic hydrocarbon (A) reacts with chlorine to give compound (B) . compound (B) reacts with ammonia to give compound (C) which undergoes carbylamines reaction. Identify (A), (B) and (C) and explain the reactions.

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Time allowed : 3.00hours

Maximum marks : 70

Sep-2020

PART-I

Note : i) Answer all the questions.

ii) choose the most appropriate answer from the given four alternatives and write the option code and the corresponding answer .

15 X 1 = 15

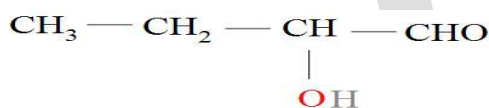
1. The maximum number of electrons that can be accommodated in L orbit is
 a) 8 b) 2 c) 4 d) 6
2. The relative molecular mass of ethanol is ____
 a) 0.46g b) 4.6 g c) 460g d) 46g
3. Intra molecular hydrogen bonding is present in____
 a) Ortho-nitro phenol b) Ice c) Water d) Hydrogen fluoride
4. Ozone depletion will cause
 a) Global warning b) Forest fire c) Eutrophication d) Bio-magnification
5. Among the following which is the path function ?
 a) G b) U c) H d) q
6. match the following
 1) Iodoform i) Fire extinguisher
 2) Carbon tetrachloride ii) Insecticide
 3) CFC iii) Antiseptic
 4) DDT iv) Refrigerants
 a) (1)- (iii), (2)-(i) , (3)-(iv), (4)-(ii) b) (1)- (ii), (2)-(iv) , (3)-(i), (4)-(iii)
 c) (1)- (iii), (2)-(ii) , (3)-(iv), (4)-(i) d) (1)- (i), (2)-(ii) , (3)-(iii), (4)-(iv)
7. Cold dilute alkaline KMnO_4 is known as
 a) Schiff's reagent b) Fenton's reagent
 c) Tollen's reagent d) Baeyer's reagent
8. osmotic pressure (π) of a solution is given by the relation
 a) $\pi RT=n$ b) $\pi= n RT$
 c) $\pi V=nRT$ d) None of these
9. n-propyl bromide on reaction with alcoholic KOH gives
 a) Butyl alcohol b) Propene
 c) Butene d) Propyl alcohol
10. Which of the following is incorrect statement ?
 a) Equilibrium constant varies with temperature
 b) For a system at equilibrium , Q is always less than the equilibrium constant
 c) Equilibrium can be attained from either side of the reaction
 d) Presence of catalyst affects both the forward reaction and reverse reaction to the same extent.

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11. Assertion : Helium has the highest value of ionisation energy among all the elements known.

Reason : Helium has the highest value of electron affinity among all the elements known.

- Both assertion and reason are false
- Both assertion and reason are true and the reason is correct explanation for the assertion
- Both assertion and reason are true but the reason is not the correct explanation for the assertion
- Assertion is true and reason is false .



12. Write the IUPAC name of

- 1-formyl propanol
- 1-hydroxy butanal
- 2-hydroxy butanal
- 3- hydroxy butanal

13. Formula of Gypsum is

- CaSO_4
- $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
- $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$
- $\text{CaSO}_4 \cdot \text{H}_2\text{O}$

14. Gases tend to behave ideally only at

- Low temperature and low pressure
- High temperature and High pressure
- High temperature and low pressure
- Low temperature and High pressure

15. Which of the following is electron deficient ?

- NH_3
- PH_3
- $(\text{CH}_3)_2$
- BH_3

PART-II

Answer any six from the following questions. Q.no.24 is compulsory. 6 X2 = 12

16. Define basicity. Find the basicity of ortho-phosphoric Acid.

17. Write the exchange reactions of Deuterium.

18. State zeroth Law of Thermodynamics.

19. Explain homogeneous and heterogeneous equilibria.

20. Write the shape and molecular geometry for BF_3

21. Which element exhibits maximum catenation and why ?

22. Write the no bond resonance structure shown by propene ?

23. Give the structure and uses of DDT .

24. In degenerate orbitals, why do the completely filled and half filled configurations are more stable than the partially filled configurations ?

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Part-III

Note : Answer any six questions. Question NO.33 is compulsory. 6 X 3 =18

- 25.State Heisenber's Uncertainty Principle .
- 26.Derive ionic radius using pauling's method .
- 27.How do you convert para hydrogen into ortho hydrogen.
- 28.Distinguish between extensive and intensive property.
- 29.Calculate the mole fraction of methanol and water when
0.5 mole of methanol is mixed with 1.5 moles of water.
- 30.What is hybridisation ? mention the type of hybridization found in CH_4
- 31.Explain the different types of polymerisation in ethyne.
- 32.What is green house effect ? Name the gases that cause green house effect .
- 33.Explain geometrical isomerism in 2-butene.

PART-IV

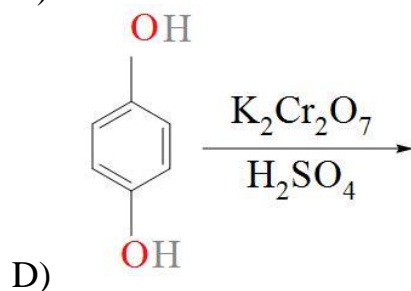
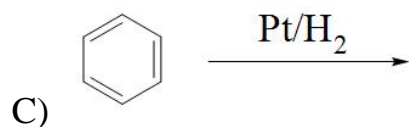
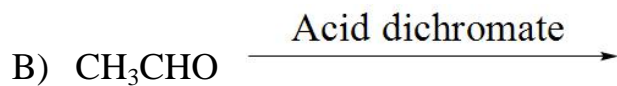
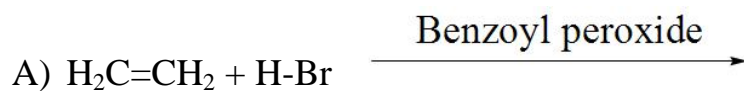
Note : Answer all the questions . 5 X 5 = 25

34. a) Calculate the empirical formula and molecular of a compound containing
76.6% carbon,6.38% of hydrogen and rest oxygen. Its vapour density is 47.
(OR)
- b) i) Calculate the total number of angular nodes and radial nodes present in
3d and 4f orbitals.
ii) Explain why the electron affinity of Be and N is almost zero
- 35.a) i) Write the laboratory method of preparation of hydrogen .
ii) Name the different methods of liquefaction of gases.
(OR)
- b) i) How is bleaching powder prepared ?
ii)Write the uses of magnesium.
iii)Write the mathematical formula for compressibility factor 'Z'
- 36.a) i)Derive the relation between enthalpy ΔH and internal energy ΔU for an ideal gas.
ii) Define reaction quotient.
(OR)
- b) i) Calculate the entropy change during the melting of one mole of ice into water at 0°C
and 1 atm pressure. Enthalpy of fusion of ice is 6008J mol^{-1}
ii) Write any four postulates of molecular orbital theory.

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37.a) i) What is van't Hoff factor 'i' ?

ii) complete



(OR)

b) Explain the purification of a solid organic compound by crystallization method

38.a) i) write Birch reduction .

ii) Write any three strategies to control environment pollution.

(OR)

b) explain the mechanism involved in the elimination reaction of tertiary butyl chloride with alcoholic KOH.

11TH CHEMISTRY PUBLIC QUESTIONS

Time allowed : 3.00hours

Maximum marks : 70

Sep-2021
PART-I

Note : i) Answer all the questions.

ii) choose the most appropriate answer from the given four alternatives and write the option code and the corresponding answer . 15 X 1 = 15

1. Which one of the following presents 180g of water ?

- a) $\frac{6.022 \times 10^{24}}{180}$ moles of water b) 5 moles of water
c) 6.022×10^{24} moles of water d) 90 moles of water

2. Which of the following compound(s) has/have percentage of carbon same as that in ethylene (C₂H₄) ?

- a) benzene b) propene c) ethane d) ethyne

3. Assertion ; permanent hardness of water is removed by treatment with washing soda

Reasons : Washing soda reacts with soluble calcium and magnesium chloride and sulphate in hard water to form insoluble carbonates.

- a) Assertion is true but reason is false
b) Both assertion and reason are true and reason is the correct explanation of assertion
c) Both assertion and reason are false
d) Both assertion and reason are true but reason is the correct explanation of assertion.

4. Flame colour of potassium salts in bunsens burner

- a) Lilac (violet) b) crimson red c) Apple green d) yellow

5. Formula of plaster of paris

- a) 3CaSO₄.H₂O b) CaSO₄.2H₂O c) 2CaSO₄.2H₂O d) CaSO₄. $\frac{1}{2}$ H₂O

6. Rate of diffusion of a gas is :

- a) directly proportional to the square root of its molecular weight
b) directly proportional to its density
c) inversely proportional to the square root of its molecular weight
d) directly proportional to its molecular weight

7. Heat of combustion is always :

- a) zero b) positive
c) either positive or negative d) negative

8. For the following reversible reactions at equilibrium $A + B \rightleftharpoons C$. If the concentration of the reactants A and B are doubled, then the equilibrium constant will :

- a) be halved b) be doubled
c) remain the same d) become one fourth

9. The molality of a solution containing 1.8g of glucose dissolved in 250g of water is

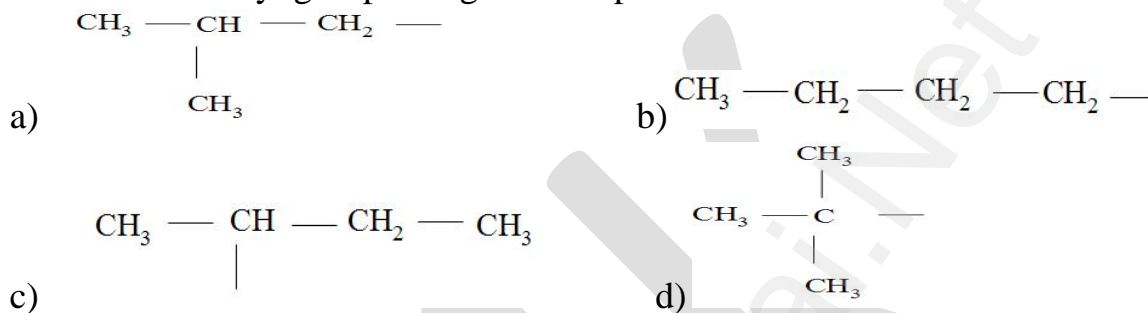
- a) 0.02M b) 0.2M c) 0.04M d) 0.01M

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10. Match the following

- | | |
|-----------------------------|----------------------------------|
| 1) N ₂ molecule | i) chemical bond |
| 2) BF ₃ molecule | ii) Triple covalent bond |
| 3) HF molecule | iii) Electron deficient molecule |
| 4) NaCl | iv) polar covalent bond |
- a) 1)- iii) , 2)- i) , 3)-iv) , 4)- ii) b) 1)-ii) , 2)- iv) , 3)-i) , 4)- iii)
 c) 1)- i) , 2)- iv) , 3)- ii) , 4)- iii) d) 1)- ii) , 2)-iii) , 3)- iv) , 4)- i)

11. The structure of isobutyl group in organic compound



12. Which of the following is optically active ?

- | | |
|-----------------------|--------------------|
| a) meso-tartaric acid | b) 3-chloropentane |
| c) glucose | d) 2-chloropropane |

13. The geometrical shape of carbocation is

- | | | | |
|-----------|-----------|--------------|----------------|
| a) planar | b) linear | c) pyramidal | d) tetrahedral |
|-----------|-----------|--------------|----------------|

14. An alkene is obtained by decarboxylation of sodium propionate. same alkene can be prepared by :

- | | |
|----------------------------------|--|
| a) reduction of 1-chloro propane | b) catalytic hydrogenation of propene |
| c) reduction of bromo methane | d) action of sodium metal on iodomethane |

15. Of the following compounds, which has the highest boiling point?

- | | |
|----------------------|----------------------|
| a) t-butyl chloride | b) n-butyl chloride |
| c) n-propyl chloride | d) Isobutyl chloride |

PART-II

Answer any six from the following questions. Q.no.24 is compulsory. 6 X 2 = 12

16. What is the empirical formula of the following ?

- | | |
|--|---|
| a) Fructose (C ₆ H ₁₂ O ₆) | ii) Caffeine (C ₈ H ₁₀ N ₄ O ₂) |
|--|---|

17. State Aufbau principle

18. How do you convert para hydrogen into ortho hydrogen ?

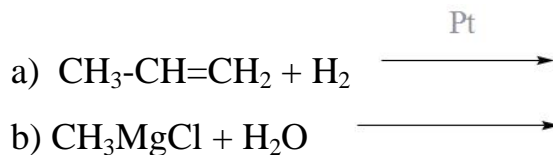
19. Give any two characteristics of gibbs free energy ?

20. Define Hess's law of constant heat summation.

21. What is the relation between K_P and K_C ? Give one example for which K_P is equal to K_C.

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22. What is molal depression constant ?
23. Write short notes on Swarts reaction ?
24. Complete the following :



Part-III

Note : Answer any six questions. Question NO.33 is compulsory. 6 X 3 = 18

25. Distinguish between oxidation and reduction .
26. Define electronegativity. State the trends in the variation of electronegativity in group and period
27. What are homogeneous and heterogeneous equilibria? Give example
28. What are ideal solutions ? Give example
29. Give the shapes of molecules predicted by VSEPR theory
- a) BeCl_2 b) NH_3 c) H_2O
30. Give the general formula for the following class of organic compounds
- a) Alkanes b) Alkenes c) Alkynes
31. What is resonance ?
32. Suggest a simple chemical test to distinguish propane and propene
33. Inside a certain automobile engine , the volume of air in a cylinder is 0.375 dm^3 , when the pressure is 1.05 atm . When the gas is compressed to a volume of 0.125 dm^3 at the same temperature , What is the pressure of the compressed air ?

PART-IV

Note : Answer all the questions . 5 X 5 = 25

34. a) i) What is exchange energy ?
- ii) Write a note on principal quantum number
- (OR)
- b) i) Define atomic radius.
- ii) Explain diagonal relationship

11TH CHEMISTRY PUBLIC QUESTIONS

35. a) Discuss the similarities between beryllium and aluminium

(OR)

b) i) State the first law of thermodynamics

ii) What are the conditions for the spontaneity of a process?

36. a) How will you determine the molar mass of a solute from osmotic pressure ?

(OR)

b) i) Define Bond Order.

ii) What are the salient features of VB theory ?

37. a) i) What is meant by homologous series ?

ii) Give the structure for the following compounds .

- 1) 3-methylpentane
- 2) 2-methylpropan-2-ol
- 3) Propanone

(OR)

b) Explain the formation of H₂ molecule using MO-theory

38. a) i) How does Huckel rule help to decide the aromatic character of a compound ?

ii) Write the reaction for conversion of acetylene to benzene.

(OR)

b) Simplest alkene (A) reacts with HBr to form compound (B). Compound (B) reacts with ammonia to form compound (C) of molecular formula C₂H₇N. Compound (C) undergoes carbylamines test. Identify (A), (B) and (C).

11TH CHEMISTRY PUBLIC QUESTIONS

Time allowed : 3.00hours

Maximum marks : 70

MAY-2022

Part-I

Note : i) Answer all the questions.

15 X 1 = 15

ii) choose the most appropriate answer from the given four alternatives and write the option code and the corresponding answer

1. Which of the following is aliphatic saturated hydrocarbon ?

- a) C_9H_{18} b) C_8H_{14} c) C_8H_{18} d) All of the above

2. Equimolar aqueous solutions of NaCl and KCl are prepared . If the freezing point of NaCl is $-2^{\circ}C$, the freezing point of KCl solution is expected to be

- a) $-1^{\circ}C$ b) $-2^{\circ}C$ c) $0^{\circ}C$ d) -4°

3. The correct relative order of +I effect of alkyl groups is :

- a) $-C(CH_3)_3 > -CH(CH_3)_2 > -CH_2CH_3 > -CH_3$
 b) $-CH_3 > -CH_2CH_3 > -CH(CH_3)_2 > -C(CH_3)_3$
 c) $-CH_2CH_3 > -CH_3 > -C(CH_3)_3 > -CH(CH_3)_2$
 d) $-CH(CH_3)_2 > -C(CH_3)_3 > -CH_2CH_3 > -CH_3$

4. 7.5 g of a gas occupies a volume of 5.6 L at $0^{\circ}C$ and 1 atm pressure. The gas is

- a) CO b) NO c) CO_2 d) N_2

5. Assertion : In monohaloarenes, electrophilic substitution occurs at ortho and para positions

Reason : Halogen atom is a ring deactivator

- a) Assertion is true but reason is false
 b) Both assertion and reason are true and reason is the correct explanation of assertion
 c) Both assertion and reason are false
 d) Both assertion and reason are true but reason is not the correct explanation of assertion

6. The intensive property among the quantities below is :

- a) Enthalpy b) mass c) $\frac{mass}{volume}$ d) volume

7. Which one of the following is incorrect statement ?

- a) Presence of catalyst affects both the forward reaction and reverse reaction to the same extent.
 b) for a system at equilibrium Q is always less than the equilibrium constant
 c) equilibrium constant varies with temperature
 d) equilibrium can be attained from either side of the reaction

11TH CHEMISTRY PUBLIC QUESTIONS

8. Match of following

- | | |
|---|--------------|
| 1) $-\text{NO}_2$ | i) propyl |
| 2) $-\text{OCH}_3$ | ii) Amino |
| 3) $-\text{CH}_2-\text{CH}_2-\text{CH}_3$ | iii) Methoxy |
| 4) $-\text{NH}_2$ | iv) Nitro |

- | | |
|---|---|
| a) (1)- (iii), (2)-(ii) , (3)-(iv), (4)-(i) | b) (1)- (iii), (2)-(iv) , (3)-(i), (4)-(ii) |
| c) (1)- (iv), (2)-(iii) , (3)-(i), (4)-(ii) | d) (1)- (ii), (2)-(i) , (3)-(iv), (4)-(iii) |

9. Spodumene is the mineral source for which of the following alkali metal ?

- | | | | |
|------------|-----------|-------------|--------------|
| a) Lithium | b) Sodium | c) Rubidium | d) Potassium |
|------------|-----------|-------------|--------------|

10. Which of the following has highest hydration energy ?

- | | | | |
|--------------------|--------------------|--------------------|--------------------|
| a) BaCl_2 | b) MgCl_2 | c) SrCl_2 | d) CaCl_2 |
|--------------------|--------------------|--------------------|--------------------|

11. Tritium nucleus contains :

- | | | | |
|------------|-----------|------------|------------|
| a) $1p+2n$ | b) $1p+n$ | c) $1p+1n$ | d) $2p+1n$ |
|------------|-----------|------------|------------|

12. Which one of the following is diamagnetic ?

- | | | | |
|----------------------|-------------------|-----------------|------------------|
| a) O_2^{2-} | b) O_2^+ | c) O_2 | d) None of these |
|----------------------|-------------------|-----------------|------------------|

13. Splitting of spectral lines in an electric field is called :

- | | |
|-------------------|---------------------|
| a) Compton effect | b) Zeeman effect |
| c) Stark effect | d) Shielding effect |

14. A bottle of ammonia and a bottle of HCl connected through a long tube are opened simultaneously at both ends. The white ammonium chloride ring will be first formed :

- | | |
|--------------------------------------|--------------------------------------|
| a) near the ammonia bottle | b) at the centre of the tube |
| c) throughout the length of the tube | d) near the hydrogen chloride bottle |



- | | | | |
|--------------------|--------------------------|---------------|--------------|
| a) optical isomers | b) resonating structures | c) conformers | d) tautomers |
|--------------------|--------------------------|---------------|--------------|

Part-II

Note : answer any six questions. Question No.24 is compulsory

6 X 2 = 12

16. Define Gram equivalent mass

17. Calculate the maximum number of electrons that can be accommodated in L shell

18. Mention the three types of covalent hydrides .

19. What are the condition for the spontaneity of a process

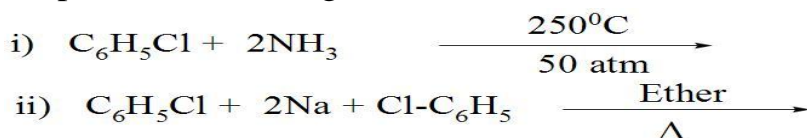
20. Explain sign convention of heat

21. Give a balanced chemical equation for the equilibrium reaction for which the

equilibrium constant is given by expression $K_c = \frac{[\text{NH}_3]^4[\text{O}_2]^5}{[\text{NO}]^4[\text{H}_2\text{O}]^6}$

11TH CHEMISTRY PUBLIC QUESTIONS

22. Define the term "isotonic" solution
 23. How will you convert ethyl chloride to ethane ?
 24. Complete the following reactions



PART-III

Note : Answer any six questions. Question No.33 is compulsory **6 X 3 = 18**

25. Calculate the oxidation number of underlined elements .
 i) $\underline{\text{C}}$ O₂ ii) H₂ $\underline{\text{S}}$ O₄
 26. Define electron affinity
 27. State Dalton Law of partial pressures.
 28. Write the formula to calculate the molar mass of a solute from relative lowering of vapour pressure values.
 29. Describe the formation of HF molecule by orbital overlap
 30. What is meant by optical isomerism ?
 31. Give any three differences between nucleophiles and electrophiles
 32. What happens when ethylene is passed through cold dilute alkaline potassium permanganate ?
 33. The equilibrium concentrations of NH₃ and N₂ and H₂ are $1.8 \times 10^{-2}\text{M}$, $1.2 \times 10^{-2}\text{M}$ and $3 \times 10^{-2}\text{M}$ respectively. Calculate the equilibrium constant for the formation of NH₃ from N₂ and H₂

PART-IV

Note : Answer all the questions. **5 X 5 = 25**

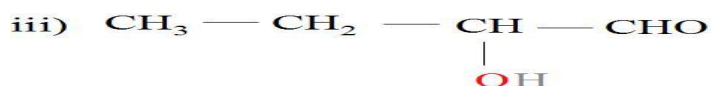
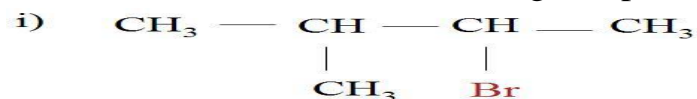
34. a) i) How many orbitals are possible for n=4 ?
 ii) Write the electronic configuration and orbital diagram for nitrogen ?
 (OR)
 b) Describe the Pauling method for the determination of ionic radius .
 35. a) i) What are the reasons for the anomalous properties of Beryllium ?
 ii) Give any three properties of beryllium that are different from other elements of the group
 (OR)
 b) Explain the characteristics of internal energy .
 36. a) How will you determine the molar mass of solute from elevation of boiling point ?
 (OR)
 b) Define i) Bond length ii) Bond angle iii) Bond enthalpy

11TH CHEMISTRY PUBLIC QUESTIONS

37.a) How will you determine the ionic character in covalent bond using electronegativity values ?

(OR)

b) Give the IUPAC names of the following compounds .



38.a) How will you prepare the following compounds from benzene ?

i) nitrobenzene ii) benzene sulphonic acid iii) BHC

(OR)

b) Simplest alkene (A) reacts with HCl to form compounds (B). compounds (B) reacts with ammonia to form compound (C) of molecular formula $\text{C}_2\text{H}_7\text{N}$. compounds (C) undergoes carbylamines test. Identify (A), (B) and (C)

11TH CHEMISTRY PUBLIC QUESTIONS

Time allowed : 3.00hours

Maximum marks : 70

July-2022

Part-I

Note : i) Answer all the questions.

ii) choose the most appropriate answer from the given four alternatives and write the option code and the corresponding answer

CHOOSE THE BEST ANSWER

15 X 1 = 15

1. Total number of electrons present in 1.7 g of ammonia is :

- a) 6.022×10^{23} b) $\frac{6.022 \times 10^{22}}{1.7}$ c) $\frac{6.022 \times 10^{24}}{1.7}$ d) $\frac{6.022 \times 10^{23}}{1.7}$

2. The total number of orbitals associated with the principle quantum number $n=3$

- a) 9 b) 8 c) 5 d) 7

3. Tritium is a _____ emitter

- a) α b) β c) γ d) none of these

4. _____ is used in devising photoelectric cells.

- a) Lithium b) Sodium c) Potassium d) Caesium

5. Among the following the least thermally stable is :

- a) K_2CO_3 b) Na_2CO_3 c) $BaCO_3$ d) Li_2CO_3

6. If temperature and volume of an ideal gas is increased to twice its values, the initial pressure P becomes :

- a) 4P b) 2P c) P d) 3P

7. The amount of heat exchanged with the surrounding at constant pressure is given by the quantity :

- a) ΔE b) ΔH c) ΔS d) ΔG

8. If X is the fraction of PCl_5 dissociated at equilibrium in the reaction



Then starting with 0.5 mole of PCl_5 , the total number of moles of reactants and products at equilibrium is ;

- a) $0.5-X$ b) $X+0.5$ c) $2X+0.5$ d) $X+1$

9. Which one of the following binary liquid mixtures exhibit positive deviation from Raoult's law ?

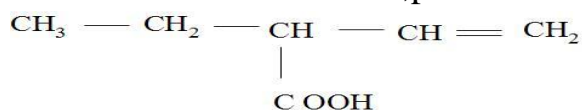
- a) Acetone + Chloroform b) Water + Nitric acid
c) HCl + Water d) Ethanol + Water

10. The ratio of number of sigma (σ) and pi (π) bonds in 2-butyne is :

- a) $\frac{8}{3}$ b) $\frac{5}{3}$ c) $\frac{8}{2}$ d) $\frac{9}{2}$

11TH CHEMISTRY PUBLIC QUESTIONS

11. The IUPAC name of the compound



Is

- | | |
|----------------------------|----------------------------|
| a) 2-ethylbut-2-enoic acid | b) 3-ethylbut-3-enoic acid |
| c) 3-ethylbut-2-enoic acid | d) 2-ethylbut-3-enoic acid |

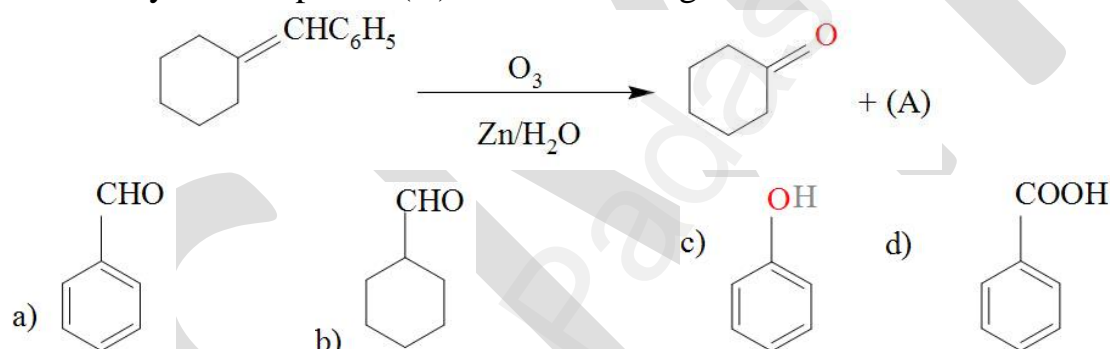
12. Match the following

- | | |
|-----------------------|--------------|
| 1) -NH ₂ | i) Sulpho- |
| 2) -CN | ii) Formyl - |
| 3) -SO ₃ H | iii) Amino - |
| 4) -CHO | iv) Cyano - |
- a) 1)- i) , 2)- ii) , 3)- iii) , 4)- iv) b) 1)- iv) , 2)- iii) , 3)- ii) , 4)- i)
- c) 1)- iii) , 2)- iv) , 3)- i) , 4)- ii) d) 1)- iii) , 2)- i) , 3)- iv) , 4)- ii)

13. -I effect is not shown by

- a) -CH₂CH₃ b) -F c) -Cl d) -NO₂

14. Identify the compound (A) in the following reaction :



15. Assertion : Increasing order of boiling points of halo alkanes are



Reason : The boiling points of halo alkanes increase with increase in the number of halogen atoms

- a) Assertion is true but reason is false
- b) both assertion and reason are true and reason is the correct explanation of assertion
- c) Both Assertion and reason are false
- d) both assertion and reason are true and reason is not the correct explanation of assertion

11TH CHEMISTRY PUBLIC QUESTIONS

PART-II

Answer the following any six questions

6 X 2 = 12

16. What is meant by limiting reagents ?
17. State Heisenberg's uncertainty principle
18. Give an example for ionic hydride and covalent hydride.
19. What is path function ? Give two examples .
20. Define reaction quotient
21. 50g of tap water contains 20 mg of dissolved solids. What is the TDS value in ppm?
22. How will you prepare ethane by Kolbe's electrolytic method ?
23. Mention any two methods of preparation of haloalkanes from alcohols.
24. If an automobile engine burns petrol at a temperature of 1089 K and if the surrounding temperature is 294 K , calculate its maximum possible efficiency .

PART-III

Answer the following any six questions

6 X 3 = 18

25. Calculate the empirical formula of a compound containing 76.6% carbon, 6.38%, hydrogen and rest of oxygen.
26. Compare the ionisation energy of beryllium and boron
27. Distinguish between diffusion and effusion.
28. At particular temperature $K_c = 4 \times 10^{-2}$ for the reaction



Calculate K_c for each of the following reactions.



29. What are the conditions when a solution tends to behave like an ideal solution?
30. Describe Fajan's Rule
31. Write short notes on hyper conjugation
32. Explain Birch reduction
33. Give an example for each of the following type of organic compounds
 - i) Non-benzenoid aromatic compound
 - ii) Aromatic heterocyclic compound
 - iii) carbocyclic compound

11TH CHEMISTRY PUBLIC QUESTIONS**PART-IV****ANSWER ALL THE QUESTIONS****5 X 5 = 25**

34. a) i) Describe about magnetic quantum number ?
ii) Give the electronic configuration of Mn^{2+} and Cr^{3+}
(OR)
- b) i) What are f-block elements ?
ii) State the trends in the variation of electronegativity in group and periods
35. a) Discuss the similarities between lithium and magnesium
(OR)
- b) i) Define entropy .Give its unit.
ii) List any three characteristics of gibbs free energy.
36. a) Derive K_C and K_P for synthesis of ammonia
(OR)
- b) Discuss the formation of C_2 molecule using MO theory
37. a) mention the shape of the following molecules based on VSPER theory
i) BF_3 ii) BrF_3 iii) PCl_5 iv) SF_6 v) IF_7
(OR)
- b) Describe any two types of constitutional isomers.
38. a) An organic compound (A) C_2H_4 decolourises bromine water. (A) on reaction with chloride gives (B) . (A) reacts with HBr to give (C) . identify (A), (B) and (C) explain the reactions.
(OR)
- b) Starting from CH_3MgI , how will you prepare the following ?
i) Acetaldehyde ii) Acetone iii) Methane

11TH CHEMISTRY PUBLIC QUESTIONS

UNITWISE PUBLIC QUESTIONS

11TH CHEMISTRY PUBLIC QUESTIONS

1. Basic Concepts Of Chemistry And Chemical Calculations

ONE MARKS :-

1. which of the following compound has same percentage of carbon as that of ethylene (C_2H_4) ? (mar 19)

a) benzene	b) ethane
c) propene	d) ethyne
2. The oxidation number of carbon in CH_2F_2 is _____ (jun19)

a) +4	b) -4
c) 0	d) +2
3. The relative molecular mass of ethanol is ____ (sep20)

a) 0.46g	b) 4.6 g
c) 460g	d) 46g
4. Which one of the following presents 180g of water ? (sep21)

a) $\frac{6.022 \times 10^{24}}{180}$ moles of water	b) 5 moles of water
c) 6.022×10^{24} moles of water	d) 90 moles of water
5. Which of the following compound(s) has/have percentage of carbon same as that in ethylene (C_2H_4) ? (sep21)

a) benzene	b) propene	c) ethane	d) ethyne
------------	-------------------	-----------	-----------
6. Total number of electrons present in 1.7 g of ammonia is : (jul22)

a) 6.022×10^{23}	b) $\frac{6.022 \times 10^{22}}{1.7}$	c) $\frac{6.022 \times 10^{24}}{1.7}$	d) $\frac{6.022 \times 10^{23}}{1.7}$
---	---------------------------------------	---------------------------------------	---------------------------------------

2&3&5 MARKS :-

1. Calculate the equivalent mass of H_2SO_4 (mar 19). (ipn : 9)
2. calculate oxidation number of oxygen in H_2O_2 (mar 19). (ipn : 21)
3. A compound having the empirical formula C_6H_6O has the vapour density 47. Find its molecular formula. (mar 19). (b/b-42) (ipn : 247)
4. What do you understand by the term mole ? (jun19)(b/b-27) (ipn : 6)
5. What are auto redox reactions ? give an example .(jun19) (ipn : 23)
6. Define basicity. Find the basicity of ortho-phosphoric Acid. (sep20)

Basicity is no. of moles of ionisable H^+ ions present in 1 mole of the acid
 ortho-phosphoric Acid H_3PO_4 H_3PO_4 basicity = 3 eq mol^{-1}

11TH CHEMISTRY PUBLIC QUESTIONS

7. Calculate the empirical formula and molecular of a compound containing 76.6% carbon, 6.38% of hydrogen and rest oxygen. Its vapour density is 47. (sep20) (b/b-42)

(ipn : 247)

8. What is the empirical formula of the following ? (sep21)(b/b-38)

a) Fructose ($C_6H_{12}O_6$) ii) Caffeine ($C_8H_{10}N_4O_2$)

9. Distinguish between oxidation and reduction . (sep21) (b/b-30)

10. Define Gram equivalent mass (May22) (b/b-28) (ipn :8)

11. Calculate the oxidation number of underlined elements . (May22)

i) $\underline{C}O_2$ ii) $H_2\underline{S}O_4$

i) $\underline{C}O_2$

$$x + 2(o) = 0$$

$$x + 2(-2) = 0$$

$$x - 4 = 0$$

$$x = +4$$

oxidation number of carbon is +4

ii) $H_2\underline{S}O_4$

$$2(H) + x + 4(o) = 0$$

$$2(+1) + x + 4(-2) = 0$$

$$2 + x - 8 = 0$$

$$x - 6 = 0$$

$$x = +6$$

oxidation number of sulfur is +6

12. What is meant by limiting reagents ? (jul22) (ipn : 17)

13. Calculate the empirical formula of a compound containing 76.6% carbon, 6.38%, hydrogen and rest of oxygen. (jul22) (b/b-42) (ipn : 247)

11TH CHEMISTRY PUBLIC QUESTIONS

6. In degenerate orbitals, why do the completely filled and half filled configurations are more stable than the partially filled configurations ? (sep20) (compulsory 2 mark)

The stability of exactly half-filled orbitals in degenerate orbitals is stronger than that of other partially filled configurations. This can be explained using symmetry and the concept of exchange energy. Half and completely-filled subshells become more stable because of the symmetrical distribution of electron.

Reason :-

- i) Symmetrical distribution of electron in orbital
- ii) Exchange energy

7. State Heisenber's Uncertainty Principle. (sep20) (ipn : 42)

8. Calculate the total number of angular nodes and radial nodes present in 3d and 4f orbitals. (sep20) (b/b-28) (ipn : 257)

9. What is exchange energy ? (sep21) (ipn :56)

10. State Aufbau principle (sep21) (ipn : 52)

11. Write a note on principal quantum number (sep21) (ipn : 44)

12. Calculate the maximum number of electrons that can be accommodated in L shell (May22)

The maximum number of electrons that can be accommodated in a given shell is $2n^2$.

$$\begin{aligned} \text{L shell is } n &= 2 \\ &= 2(2)^2 \\ &= 8 \end{aligned}$$

maximum number of electrons that can be accommodated in L shell = 8

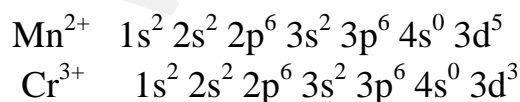
13. How many orbitals are possible for $n=4$? (May22) (b/b-27)(ipn : 256)

14. Write the electronic configuration and orbital diagram for nitrogen ? (May22) (ipn :54)

15. State Heisenberg's uncertainty principle (jul22) (ipn : 42)

16. Describe about magnetic quantum number ? (jul22) (ipn : 45)

17. Give the electronic configuration of Mn^{2+} and Cr^{3+} (jul22) (b/b : 39)



11TH CHEMISTRY PUBLIC QUESTIONS

11. Describe the Pauling method for determination of ionic radius. (May22) (ipn : 83)
12. What are f-block elements? (Jul22) (ipn : 78)
13. State the trends in the variation of electronegativity in group and periods (Jul22) (b/b-47) (ipn : 87,88)
14. Define valency (Mar 19) (ipn : 88)
15. How will you determine the ionic character in covalent bond using electronegativity values? (May22)

Pauling estimated the percentage of ionic character in various $A^{\delta-} - B^{\delta+}$ polar covalent bonds from known $(X_A - X_B)$ values and has derived the following conclusions :

- (i) When $(X_A - X_B) = 1.7$, the amount of ionic character in $A^{\delta-} - B^{\delta+}$ bond is 50% and that of covalent character is also 50%. Thus A-B bond is 50% ionic and 50% covalent.
- (ii) When $(X_A - X_B) < 1.7$, the amount of ionic character in $A^{\delta-} - B^{\delta+}$ bond is less than 50% and that of covalent character is more than 50%. Thus $A^{\delta-} - B^{\delta+}$ bond is predominantly covalent and hence is represented as A-B.
- (iii) When $(X_A - X_B) > 1.7$, the amount of ionic character in $A^{\delta-} - B^{\delta+}$ bond is more than 50% and that of covalent character is less than 50%. Hence $A^{\delta-} - B^{\delta+}$ bond is predominantly ionic and hence is represented as $A^- B^+$

16. Compare the ionisation energy of beryllium and boron (Jul22) (ipn : 85)

11TH CHEMISTRY PUBLIC QUESTIONS

4. Hydrogen

ONE MARKS :-

1. What percentage of solution of H_2O_2 is called as "100-volume" H_2O_2 ? (mar 19)
 - a) 15%
 - b) 50%
 - c) 20%
 - d) **30%**
2. The type of H-bonding present in orthonitro phenol and p-nitro phenol are _____
Respectively. (jun19)
 - a) Inter molecular H-bonding and intra molecular H-bonding
 - b) Intra molecular H-bonding and inter molecular H-bonding**
 - c) Intra molecular H-bonding and no H-bonding
 - d) Intra molecular H-bonding and intra molecular H-bonding
3. Intra molecular hydrogen bonding is present in _____ (sep20)
 - a) Ortho-nitro phenol**
 - b) Ice
 - c) Water
 - d) Hydrogen fluoride
4. Assertion ; permanent hardness of water is removed by treatment with washing soda
Reasons : Washing soda reacts with soluble calcium and magnesium chloride and sulphate
in hard water to form insoluble carbonates. (sep21)
 - a) Assertion is true but reason is false
 - b) Both assertion and reason are true and reason is the correct explanation of assertion**
 - c) Both assertion and reason are false
 - d) Both assertion and reason are true but reason is the correct explanation of assertion
5. Tritium nucleus contains : (May22)
 - a) 1p+2n**
 - b) 1p+on
 - c) 1p+1n
 - d) 2p+1n
6. Tritium is a _____ emitter (jul22)
 - a) α
 - b) β**
 - c) γ
 - d) none of these

2&3&5 MARKS :-

1. How is Tritium prepared ? (mar 19) (ipn : 104)
2. Complete the following equation (ipn : 111)
 $\text{Na}_2\text{O}_2 + \underline{\hspace{1cm}} \rightarrow \text{Na}_2\text{SO}_4 + \text{H}_2\text{O}_2$ (mar 19)
3. What is syn gas ? How it is prepared ? (jun19) (ipn : 103)
4. Why hydrogen peroxide is stored in plastic bottle containers not in glass container ?
(jun 19) (ipn : 112)
5. Write the exchange reactions of Deuterium. (sep20) (ipn : 105)
6. How do you convert para hydrogen into ortho hydrogen. (sep20) (ipn : 102)
7. Write the laboratory method of preparation of hydrogen . (sep20) (ipn : 103)
8. How do you convert para hydrogen into ortho hydrogen ? (sep21) (ipn : 102)
9. Mention the three types of covalent hydrides . (May22) (ipn : 113)
10. Give an example for ionic hydride and covalent hydride. (jul22) (ipn : 113)

11TH CHEMISTRY PUBLIC QUESTIONS

5. Alkali And Alkaline Earth Metals

ONE MARKS :-

- Find A in the following reaction $\text{CaO} + 3\text{C} \xrightarrow{3273\text{K}} \text{A} + \text{CO}$ (mar 19)
 - CaC_2
 - CO_2
 - Ca
 - Ca_2O
- which compound is named as "blue john" among the following compounds ? (mar 19)
 - $\text{Ca}_3(\text{PO}_4)_2$
 - CaO
 - CaH_2
 - CaF_2
- When CaC_2 is heated in atmospheric nitrogen in an electric furnace, the compound formed is _____ (jun19)
 - $\text{Ca}(\text{CN})_2$
 - CaNCN
 - CaC_2N_2
 - CaNC_2
- Formula of Gypsum is _____ (sep20)
 - CaSO_4
 - $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
 - $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$
 - $\text{CaSO}_4 \cdot \text{H}_2\text{O}$
- Flame colour of potassium salts in bunsens burner (sep21)
 - Lilac (violet)
 - crimson red
 - Apple green
 - yellow
- Formula of plaster of paris (sep21)
 - $3\text{CaSO}_4 \cdot \text{H}_2\text{O}$
 - $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
 - $2\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
 - $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$
- Spodumene is the mineral source for which of the following alkali metal ? (May22)
 - Lithium
 - Sodium
 - Rubidium
 - Potassium
- Which of the following has highest hydration energy ? (May22)
 - BaCl_2
 - MgCl_2
 - SrCl_2
 - CaCl_2
- _____ is used in devising photoelectric cells. (jul22)
 - Lithium
 - Sodium
 - Potassium
 - Caesium
- Among the following the least thermally stable is : (jul22)
 - K_2CO_3
 - Na_2CO_3
 - BaCO_3
 - Li_2CO_3

2&3&5 MARKS :-

- Explain why $\text{Ca}(\text{OH})_2$ is used in white washing . (mar 19) (ipn : 145)
- Among the alkaline earth metals BeO is insoluble in water but other oxides are soluble .why ? (mar 19) (ipn : 142)
- Write any two similarities between beryllium and aluminium (jun19). (ipn : 140)
- Among the alkali metal halides, which is covalent ? explain with reason. (jun19)(ipn:130)
- why blue colour appears during the dissolution of alkali metals in liquid ammonia (jun19) (ipn : 130)
- How is bleaching powder prepared ? (sep20) (ipn :145)
- Write the uses of magnesium. (sep20) (ipn : 141)
- Discuss the similarities between beryllium and aluminium (sep21) (ipn : 140)
- What are the reasons for the anomalous properties of Beryllium ? (May22) (ipn : 139)
- Give any three properties of beryllium that are different from other elements of the group (May22) (ipn : 139)
- Discuss the similarities between lithium and magnesium (jul22) (ipn :129)

11TH CHEMISTRY PUBLIC QUESTIONS

7. Thermodynamics

ONE MARKS :-

1. The SI unit of molar heat capacity is : _____ (mar 19)
 a) $\text{JK}^{-1} \text{mol}^{-1}$ b) KJ mol^{-1} c) Kj mol^{-1} d) cm
2. Among the following statements, which one is /are correct ? (jun19)
 i) During cyclic process the amount of heat absorbed by the surrounding is equal to work done on the surrounding
 ii) **Refractive index is an example for intensive property**
 iii) If the enthalpy change of a process is positive then the process is spontaneous
 iv) **The entropy of an isolated system increases during spontaneous process**
 a) (i), (ii), (iii) b) (i), (iv) c) **(ii), (iv)** d) (ii) only
3. Among the following which is the path function ? (sep20)
 a) G b) U c) H **d) q**
4. Heat of combustion is always : (sep21)
 a) zero b) positive
 c) either positive or negative **d) negative**
5. The intensive property among the quantities below is : (May22)
 a) Enthalpy b) mass c) $\frac{\text{mass}}{\text{volume}}$ d) volume
6. The amount of heat exchanged with the surrounding at constant pressure is given by the quantity : (jul22)
 a) ΔE **b) ΔH** c) ΔS d) ΔG

2&3&5 MARKS :-

1. state the third law of thermodynamics (mar 19) b/b-42 (ipn : 218)
2. calculate the entropy change during the melting of one mole of ice into water at 0°C .
 enthalpy of fusion of ice is 6008 J mol^{-1} . (mar 19) (ipn : 213)
3. $\text{C}_{(s)} + \text{O}_{2(g)} \rightarrow \text{CO}_{2(g)}$ Calculate the standard entropy change for the above reaction, given the standard entropies of $\text{CO}_{2(g)}$, $\text{C}_{(s)}$, $\text{O}_{2(g)}$ are 213.6, 5.740 and 205 J K^{-1} respectively.
 (mar19) (ipn : 212)
4. Define molar heat capacity. Give its unit. (jun19) b/b-34(ipn : 201)
5. How do you measure heat changes at constant pressure ? (jun19) (ipn : 204)
6. state zeroth Law of Thermodynamics. (sep20) (ipn :195)
7. Distinguish between extensive and intensive property. (sep20) (ipn : 189)

11TH CHEMISTRY PUBLIC QUESTIONS

8. Derive the relation between enthalpy ΔH and internal energy ΔU for an ideal gas. (sep20) (ipn : 197)
9. Calculate the entropy change during the melting of one mole of ice into water at 0°C and 1 atm pressure. Enthalpy of fusion of ice is 6008J mol^{-1} (sep20) (ipn : 213)
10. Define Hess's law of constant heat summation. (sep21) (ipn : 207)
11. Give any two characteristics of Gibbs free energy ? (sep21) (b/b-52)
12. State the first law of thermodynamics (sep21) (ipn : 195)
13. What are the conditions for the spontaneity of a process? (sep21) (ipn : 215)
14. What are the conditions for the spontaneity of a process (May22) (ipn : 215)
15. Explain sign convention of heat (May22) (ipn : 192)
16. Explain the characteristics of internal energy . (May22) (ipn : 191)
17. What is path function ? Give two examples . (jul22) (ipn : 191)
18. If an automobile engine burns petrol at a temperature of 1089 K and if the surrounding temperature is 294 K , calculate its maximum possible efficiency . (jul22) (ipn : 211) (compulsory 2 mark)
19. Define entropy . Give its unit. (jul22) (ipn : 210,211)
20. List any three characteristics of Gibbs free energy. (jul22) (b/b-52)

11TH CHEMISTRY PUBLIC QUESTIONS

8.Physical And Chemical Equilibrium

ONE MARKS :-

1. When ΔG is negative in chemical equilibrium reaction then (mar 19)
 a) $K_p < K_c$ b) $K_p = 1/K_c$ c) $K_p = K_c(RT)^{-ve}$ d) $K_p > K_c$
2. If k_b and k_f for a reversible reaction are 0.8×10^{-5} and 1.6×10^{-4} respectively, the value of equilibrium constant is _____ (jun19)
 a) 20 b) 0.2×10^{-1} c) 0.05 d) 0.2
3. Which of the following is incorrect statement? (sep20)
 a) Equilibrium constant varies with temperature
 b) **For a system at equilibrium, Q is always less than the equilibrium constant**
 c) Equilibrium can be attained from either side of the reaction
 d) Presence of catalyst affects both the forward reaction and reverse reaction to the same extent.
4. For the following reversible reactions at equilibrium $A + B \rightleftharpoons C$. If the concentration of the reactants A and B are doubled, then the equilibrium constant will : (sep21)
 a) be halved b) be doubled
 c) **remain the same** d) become one fourth
5. Which one of the following is incorrect statement? (may22)
 a) Presence of catalyst affects both the forward reaction and reverse reaction to the same extent.
 b) **for a system at equilibrium Q is always less than the equilibrium constant**
 c) equilibrium constant varies with temperature
 d) equilibrium can be attained from either side of the reaction
6. If X is the fraction of PCl_5 dissociated at equilibrium in the reaction

$$PCl_5 \rightleftharpoons PCl_3 + Cl_2$$
 Then Starting with 0.5 mole of PCl_5 , the total number of moles of reactants and products at equilibrium is ; (jul22)
 a) $0.5 - X$ b) **$X + 0.5$** c) $2X + 0.5$ d) $X + 1$

2&3&5 MARKS :-

1. Define –Le-Chatelier principle. (mar 19) b/b-32(ipn : 16)
2. Write the balanced chemical equation for the $K_c = \frac{[CaO(s)][CO_2(g)]}{[CaCO_3(s)]}$ (mar 19) (ipn : 8)

$$CaCO_3 \rightleftharpoons CaO + CO_2$$
3. What is the effect of added inert gas on the reaction at equilibrium? (jun19) b/b-38(ipn : 19)
4. Derive the relation between k_p and k_c for a general homogeneous gaseous reaction.
 (jun19) b/b-39 (ipn : 6)

11TH CHEMISTRY PUBLIC QUESTIONS

5. Explain homogeneous and heterogeneous equilibria. (sep20) (ipn : 5)
6. Define reaction quotient. (sep20) (ipn : 11)
7. What is the relation between K_P and K_C ? Give one example for which K_P is equal to K_C . (sep21) b/b- 28(ipn : 7)
8. What are homogeneous and heterogeneous equilibria? Give example (sep21) (ipn :5)
9. Give a balanced chemical equation for the equilibrium reaction for which the equilibrium constant is given by expression $K_c = \frac{[NH_3]^4 [O_2]^5}{[NO]^4 [H_2O]^6}$ (May22) b/b-37 (ipn : 295)



10. The equilibrium concentrations of NH_3 and N_2 and H_2 are $1.8 \times 10^{-2} M$, $1.2 \times 10^{-2} M$ and $3 \times 10^{-2} M$ respectively. Calculate the equilibrium constant for the formation of NH_3 from N_2 and H_2 (May22) (ipn :15) (compulsory 3 mark)

11. Define reaction quotient (jul22) (ipn : 11)

12. At particular temperature $K_c = 4 \times 10^{-2}$ for the reaction (jul22) (b/b-44) (ipn : 295)



Calculate K_c for each of the following reactions.



13. Derive K_C and K_P for synthesis of ammonia (jul22) (ipn : 14)

11TH CHEMISTRY PUBLIC QUESTIONS

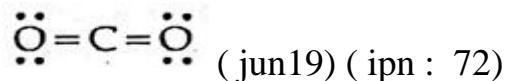
5. Draw and explain the graph obtained by plotting solubility versus temperature for calcium chloride . (jun19) (ipn : 37)
6. Calculate the mole fraction of methanol and water when 0.5 mole of methanol is mixed with 1.5 moles of water. (ipn : 33) (SEP20)
7. What is van't hoff factor 'i' ? (sep20) (ipn : 58)
8. What is molal depression constant ? (sep21) (ipn : 54)
9. What are ideal solutions ? Give example (sep21) (ipn :46)
10. How will you determine the molar mass of a solute from osmotic pressure ?
(sep21)(ipn:56)
11. Define the term "isotonic" solution . (May22) b/b-37(ipn :56)
12. Write the formula to calculate the molar mass of a solute from relative lowering of vapour pressure values. (May22) (ipn : 50)
13. How will you determine the molar mass of solute from elevation of boiling point ?
(May22) (ipn :53)
14. 50g of tap water contains 20 mg of dissolved solids. What is the TDS value in ppm?
(jul22) (ipn :34)
15. What are the conditions when a solution tends to be have like an ideal solution?
(jul22) (ipn : 46)

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4. Linear form carbon dioxide molecules has two polar bonds .yet the molecule has zero dipole moment. Why ? (jun19) b/b-40 (ipn ; 80)

5. Draw the M.O diagram for oxygen molecule . calculate its bond order and magnetic character. (jun19) (ipn ; 100)

6. Calculate the formal charge on carbon and oxygen for the following structure



7. Write the shape and molecular geometry for BF_3 (sep20) (ipn : 91)

8. What is hybridisation ? mention the type of hybridization found in CH_4 (sep20) (ipn : 92)

9. Write any four postulates of molecular orbital theory. (sep20) (ipn : 97)

10. Give the shapes of molecules predicted by VSEPR theory (sep21) (ipn : 82,83,83)

a) BeCl_2 b) NH_3 c) H_2O

11. Define Bond Order. (sep21) (ipn : 76)

12. What are the salient features of VB theory ? (sep21) (ipn : 86)

13. Explain the formation of H_2 molecule using MO-theory (sep21) (ipn : 99)

14. What is resonance ? (sep21) (ipn : 78)

15. Describe the formation of HF molecule by orbital overlap. (May22) (ipn : 88)

16. Define i) Bond length ii) Bond angle iii) Bond enthalpy . (May22) (ipn : 76,77)

17. Describe Fajan's Rule (jul22) (ipn : 81)

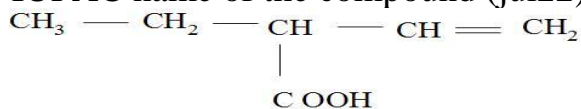
18. Discuss the formation of C_2 molecule using MO theory (jul22) (ipn : 100)

19. mention the shape of the following molecules based on VSEPR theory (jul22)

i) BF_3 ii) BrF_3 iii) PCl_5 iv) SF_6 v) IF_7 (ipn : 82,83,83,84,84)

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9. The IUPAC name of the compound (jul22)



Is

- | | |
|----------------------------|-----------------------------------|
| a) 2-ethylbut-2-enoic acid | b) 3-ethylbut-3-enoic acid |
| c) 3-ethylbut-2-enoic acid | d) 2-ethylbut-3-enoic acid |

10. Match the following (jul22)

- | | |
|--|--|
| 1) -NH ₂ | i) Sulpho- |
| 2) -CN | ii) Formyl - |
| 3) -SO ₃ H | iii) Amino - |
| 4) -CHO | iv) Cyano - |
| a) 1)- i) , 2)- ii) , 3)- iii) , 4)- iv) | b) 1)- iv) , 2)- iii) , 3)- ii) , 4)- i) |
| c) 1)- iii) , 2)- iv) , 3)- i) , 4)- ii) | d) 1)- iii) , 2)- i) , 3)- iv) , 4)- ii) |

2&3&5 MARKS :-

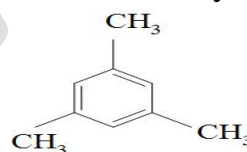
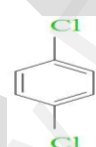
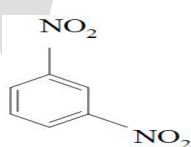
1. Describe the reaction involved in the detection of nitrogen in an organic compound by Lassaigne method. (mar 19) (ipn : 138)

2. Which is the suitable method for detection of nitrogen present in food and fertilizers?
(compulsory 2 mark) (mar 19) (ipn : 147)

This method is carried much more easily than the Dumas method. It is used largely in the analysis of foods and fertilizers. Kjeldahl's method is based on the fact that when an organic compound containing nitrogen is heated with Conc. H₂SO₄, the nitrogen in it is quantitatively converted to ammonium sulphate.

3. Give the structural formula for the following compounds. (mar 19) (compulsory 3 mark)

- a) m-dinitrobenzene b) p-dichlorobenzene c) 1,3,5-Tri-methyl Benzene



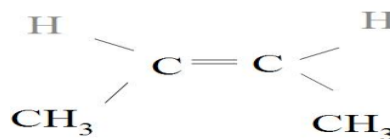
4. Identify the cis and trans isomers for the following compounds (mar 19)

a)



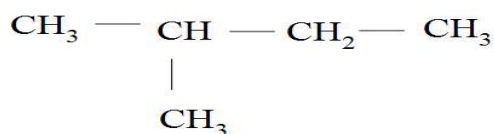
TRANS

b)



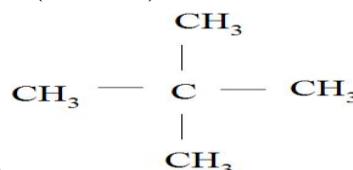
CIS

5. Write the IUPAC names for the following compounds. (mar 19)



(A)

2-methyl butane



(B)

2,2-dimethyl propane

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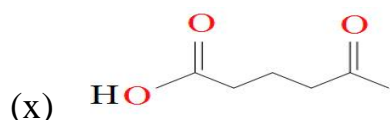
6. Write any two different components you get during fractional distillation of coal tar at any two different temperatures. (mar 19)

S.NO	Name of the fraction	Temperature range	Name of the components
1	Crude tight oil	350-443k	Benzene, toluene, xylene
2	Middle oil	443-503k	Phenol, naphthalene
3	Heavy oil	503-543k	Naphthalene, cresol
4	Green oil	543-633k	Anthracene
5	Pitch	Alone 633k	residue

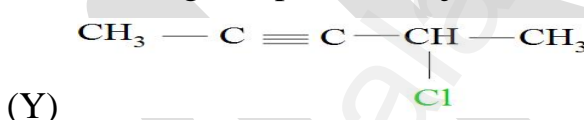
7. How do you detect the presence of nitrogen and sulphur together in an organic compound? (jun 19) (ipn : 139)

8. Explain a suitable method for purifying and separating liquids present in a mixture having very close boiling point. (jun 19) (ipn : 150) (**fractional distillation**)

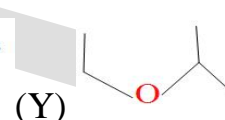
9. Write the IUPAC names for the following compounds : (jun 19)



5-oxohexanoic acid



4-chloro pent-2-yne



2-ethoxy propane

10. Explain geometrical isomerism in 2-butene. (sep 20) (ipn : 135) (compulsory 3 mark)

11. Explain the purification of a solid organic compound by crystallization method (sep 20) (ipn : 149)

12. Give the general formula for the following class of organic compounds (sep 21)

a) Alkanes b) Alkenes c) Alkynes



13. What is meant by homologous series? (sep 21) (ipn : 112)

14. Give the structure for the following compounds. (sep 21)

1) 3-methylpentane

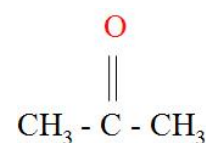
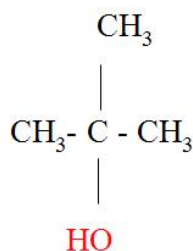
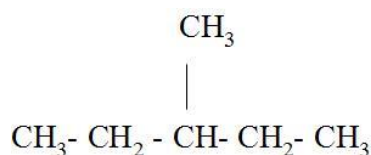
2) 2-methylpropan-2-ol

3) Propanone

3-methylpentane

2-methylpropan-2-ol

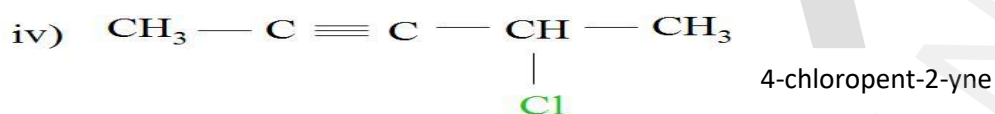
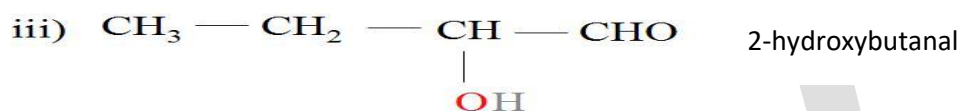
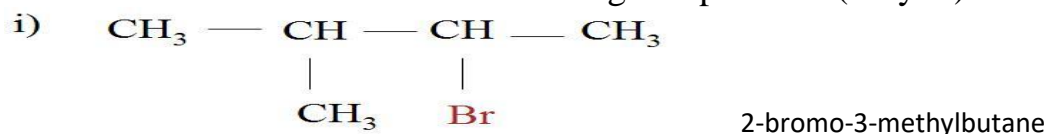
Propanone



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15. What is meant by optical isomerism ? (May22) (ipn : 137)

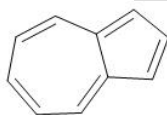
16. Give the IUPAC names of the following compounds . (May22)



17. Which element exhibits maximum catenation and why ? (ipn : 110)

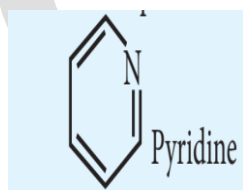
18. Give an example for each of the following type of organic compounds (jul22)
(compulsory 3 mark)

i) Non-benzonoid aromatic compound



azulene

ii) Aromatic heterocyclic compound



Pyridine

iii) carbocyclic compound



cyclopropane

19. Describe any two types of constitutional isomers. (jul22) (ipn : 132)

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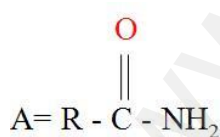
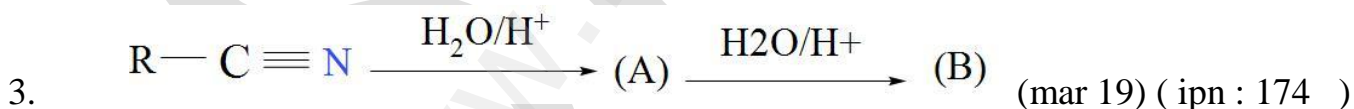
12. Basic Concepts Of Organic Reactions

ONE MARKS :-

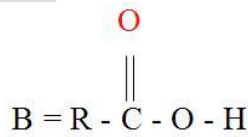
- Which of the following species does not exert a resonance effect ? (mar 19)
 - $C_6H_5NH_2$
 - $C_6H_5NH_3^+$
 - C_6H_5OH
 - C_6H_5Cl
- Which of the following species is not electrophile in nature ? (jun19)
 - Cl^+
 - BH_3
 - H_3O^+
 - $^+NO_2$
- Which of the following is electron deficient ? (sep20)
 - NH_3
 - PH_3
 - $(CH_3)_2$
 - BH_3
- The geometrical shape of carbocation is (sep21)
 - planar
 - linear
 - pyramidal
 - tetrahedral
- The correct relative order of +I effect of alkyl groups is : (May22)
 - $-C(CH_3)_3 > -CH(CH_3)_2 > -CH_2CH_3 > -CH_3$
 - $-CH_3 > -CH_2CH_3 > -CH(CH_3)_2 > -C(CH_3)_3$
 - $-CH_2CH_3 > -CH_3 > -C(CH_3)_3 > -CH(CH_3)_2$
 - $-CH(CH_3)_2 > -C(CH_3)_3 > -CH_2CH_3 > -CH_3$
- I effect is not shown by (jul22)
 - $-CH_2CH_3$
 - $-F$
 - $-Cl$
 - $-NO_2$

2&3&5 MARKS :-

- Explain with example the positive mesometric effect. (mar 19) (ipn : 169)
- What are nucleophiles and electrophiles ? give one example each (mar 19) (ipn : 164)



Amide



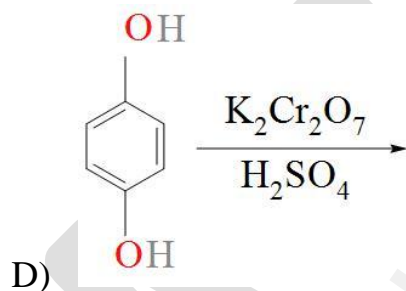
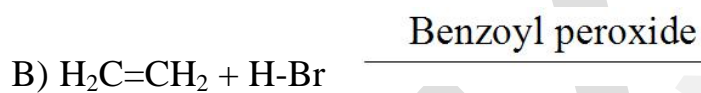
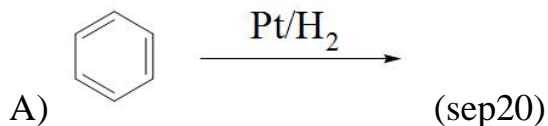
carboxylic acid

- The bond length between all the four carbon atoms is same in 1,3-butadiene. Explain (compulsory 3 mark) (jun19) (ipn : 168)

1,3-butadiene is a conjugated molecule with four overlapping p-orbital on adjacent atoms, and a electrons are delocalised over four atoms. This shortens the bond length of central c bond thus, the bond length between all the four-c- atoms are same in 1,3-butadiene

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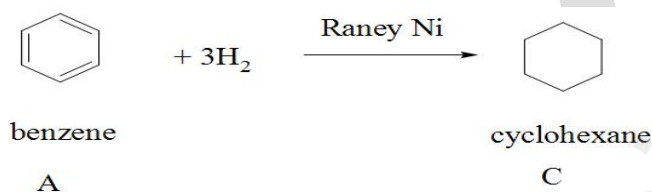
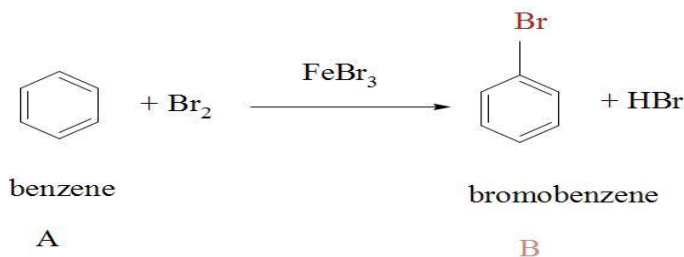
5. explain about inductive effect . (jun19) (ipn : 166)
6. Write the no bond resonance structure shown by propene (sep20) (ipn : 170)
7. Give any three differences between nucleophiles and electrophiles. (May22) (ipn : 164)
8. complete (ipn : 173,173,173,173)



9. Write short notes on hyper conjugation (jul22) (ipn : 170)

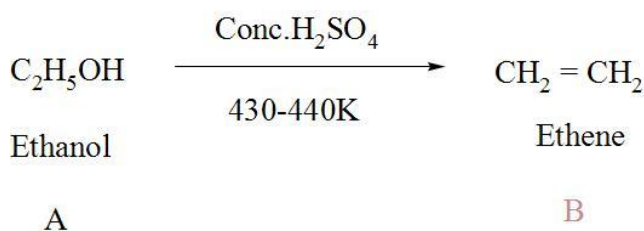
11TH CHEMISTRY PUBLIC QUESTIONS

2. The simple aromatic hydrocarbon compound (A) reacts with bromine to give (B). compound (A) reacts with Raney Ni and gives (C). Identify (A), (B) and (C). (MAR19)

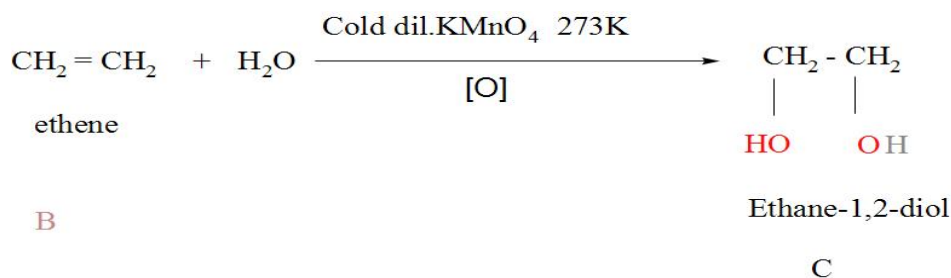


S.NO	COMPOUNDS	FORMULA	NAME
1	A	C_6H_6	Benzene
2	B	$\text{C}_6\text{H}_5\text{-Br}$	bromobenzene
3	C	C_6H_{12}	cyclohexane

3. What happens when acetylene undergoes ozonolysis? (jun19) (ipn : 203)
4. What is polymerisation? explain the two types of polymerisation reaction of acetylene. (jun19) (ipn : 204)
5. What do you mean by conformation? Explain about staggered conformation in ethane. (jun19) (ipn : 187)
6. An organic compound (A) of molecular formula $\text{C}_2\text{H}_6\text{O}$, on heating with conc. H_2SO_4 gives compound (B). (B) on treating with cold dilute alkaline KMnO_4 gives compound (C). Identify (A), (B) and (C) and explain the reactions. (JUN19)



11TH CHEMISTRY PUBLIC QUESTIONS

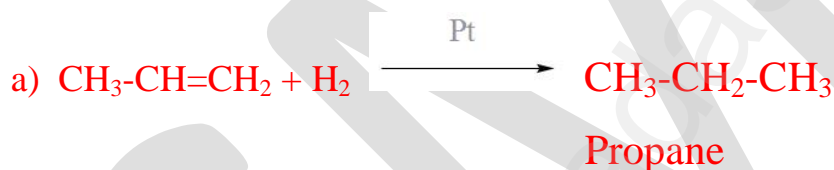


S.NO	COMPOUNDS	FORMULA	NAME
1	A	C ₂ H ₅ OH	Ethanol
2	B	CH ₂ = CH ₂	Ethene
3	C	HO-CH ₂ -CH ₂ -OH	Ethane-1,2-diol

7. Explain the different types of polymerisation in ethyne. (sep20) (ipn : 204)

8. write Birch reduction . (sep20) (ipn : 215)

9. Complete the following : (sep21) (compulsory 2 mark)



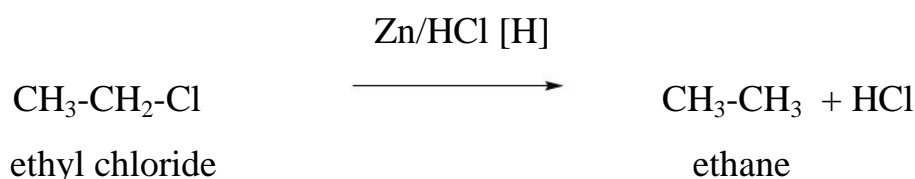
10. Suggest a simple chemical test to distinguish propane and propene (sep21) (b/b-39)

11. How does Huckel rule help to decide the aromatic character of a compound?

(sep21)(ipn : 205)

12. Write the reaction for conversion of acetylene to benzene. (sep21) (ipn : 210)

13. How will you convert ethyl chloride to ethane ? (May22)



11TH CHEMISTRY PUBLIC QUESTIONS

14. what happens when ethylene is passed through cold dilute alkaline potassium permanganate ? (May22) (ipn : 198)

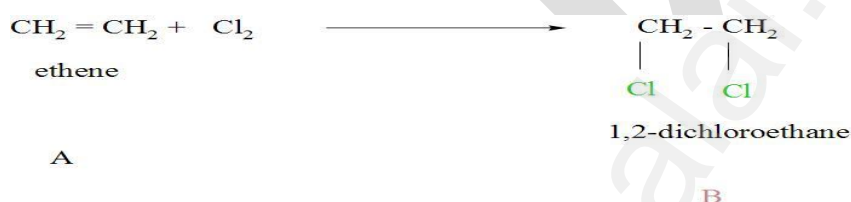
15. How will you prepare the following compounds from benzene ? (May22)
(ipn : 211,212,215)

i) nitrobenzene ii) benzene sulphuric acid iii) BHC

16. How will you prepare ethane by Kolbe's electrolytic method ? (jul22) (ipn : 201)

17. Explain Birch reduction (jul22) (ipn : 215)

18. An organic compound (A) C_2H_4 decolourises bromine water. (A) on reaction with chloride gives (B) . (A) reacts with HBr to give (C) . identify (A), (B) and (C) explain the reactions. (jul22)



S.NO	COMPOUNDS	FORMULA	NAME
1	A	$CH_2 = CH_2$	Ethene
2	B	$Cl-CH_2-CH_2-Cl$	1,2-dichloroethane
3	C	CH_3-CH_2-Br	bromoethane

11TH CHEMISTRY PUBLIC QUESTIONS

14.Haloalkanes And Haloarenes

ONE MARKS :-

1. match the following (mar 19)

Compound	uses
----------	------

1)Chloro picrin i) detection of primary amine

2)Methyl isocyanide ii) DDT

3)Chloro benzene iii) paint remover

4)Methyl chloride iv) soil sterilizer

a) (1)- (iv), (2)-(iii) , (3)-(ii), (4)-(i)

b) (1)- (iii), (2)-(iv) , (3)-(ii), (4)-(i)

c) (1)- (i), (2)-(ii) , (3)-(iv), (4)-(iii)

d) **(1)- (iv), (2)-(i) , (3)-(ii), (4)-(iii)**

2.The raw material for rasching process is _____ (jun19)

a) chloro benzene

b) phenol

c) **benzene**

d) anisole

3. match the following (sep20)

1)Iodoform

i) Fire extinguisher

2)Carbon tetrachloride

ii)Insecticide

3)CFC

iii) Antiseptic

4)DDT

iv)Refrigerants

a) **(1)- (iii), (2)-(i) , (3)-(iv), (4)-(ii)**

b) (1)- (ii), (2)-(iv) , (3)-(i), (4)-(iii)

c) (1)- (iii), (2)-(ii) , (3)-(iv), (4)-(i)

d) (1)- (i), (2)-(ii) , (3)-(iii), (4)-(iv)

4.Of the following compounds , which has the highest boiling point? (sep21)

a) t-butyl chloride

b) **n-butyl chloride**

c) n-propyl chloride

d) Isobutyl chloride

5.Assertion : In monohaloarenes, electrophilic substitution occurs at ortho and para positions

Reason : Halogen atom is a ring deactivator (May22)

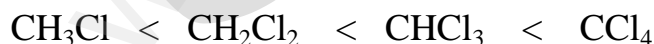
a) Assertion is true but reason is false

b) Both assertion and reason are true and reason is the correct explanation of assertion

c) Both assertion and reason are false

d) **Both assertion and reason are true but reason is not the correct explanation of assertion**

6. Assertion : Increasing order of boiling points of halo alkanes are



Reason : The boiling points of halo alkanes increase with increase in the number of halogen atoms (jul22)

a) Assertion is true but reason is false

b) **both assertion and reason are true and reason is the correct explanation of assertion**

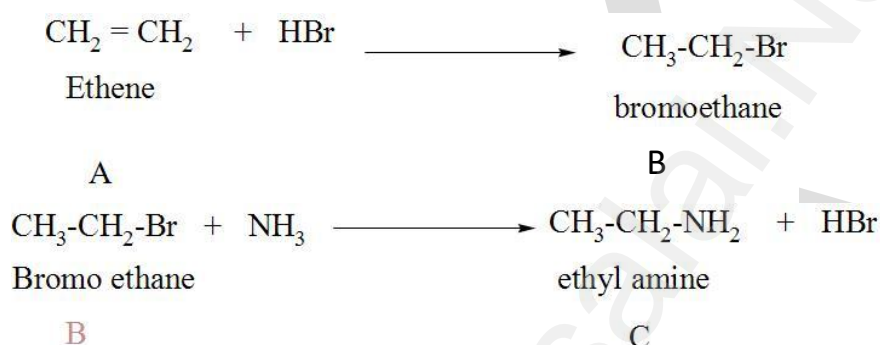
c) Both Assertion and reason are false

d) both assertion and reason are true and reason is not the correct explanation of assertion

11TH CHEMISTRY PUBLIC QUESTIONS

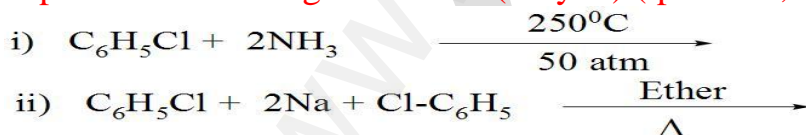
2&3&5 MARKS :-

1. how is alkane prepared from Grignard reagent ? (mar 19)(ipn : 241)
2. Write note on Williamson's synthesis. (mar 19) (ipn : 234)
3. Among the following compounds ,o-dichloro benzene and p-dichloro benzene , which has higher melting point ? explain with reason . (jun19) (b/b-41(ii)
4. Give the structure and uses of DDT . (sep20) (ipn : 250)
5. explain the mechanism involved in the elimination reaction of tertiary butyl chloride with alcoholic KOH. (sep20) (ipn : 237)
6. Simplest alkene (A) reacts with HBr to form compound (B). Compound (B) reacts with ammonia to form compound (C) of molecular formula C₂H₇N. Compound (C) undergoes carbylamines test. Identify (A), (B) and (C). (sep21) (lesson 13& 14)

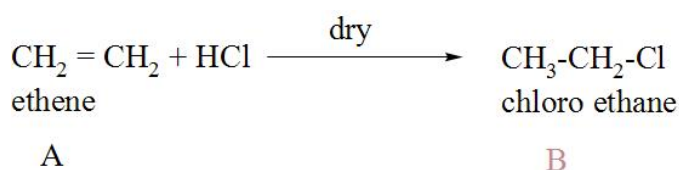


S.NO	COMPOUNDS	FORMULA	NAME
1	A	CH ₂ = CH ₂	Ethene
2	B	CH ₃ -CH ₂ -Br	Bromoethane
3	C	CH ₃ -CH ₂ -NH ₂	Ethylamine

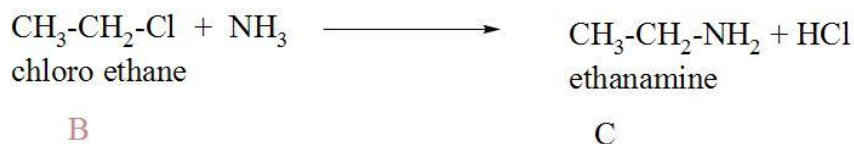
7. Write short notes on Swarts reaction ? (sep21) (ipn : 231)
8. Complete the following reactions . (May22) (ipn : 243,244) (compulsory 2 mark)



9. Simplest alkene (A) reacts with HCl to form compounds (B). compounds (B) reacts with ammonia to form compound (C) of molecular formula C₂H₇N compounds (C) undergoes carbylamines test. Identify (A),(B) and (C). (May22)

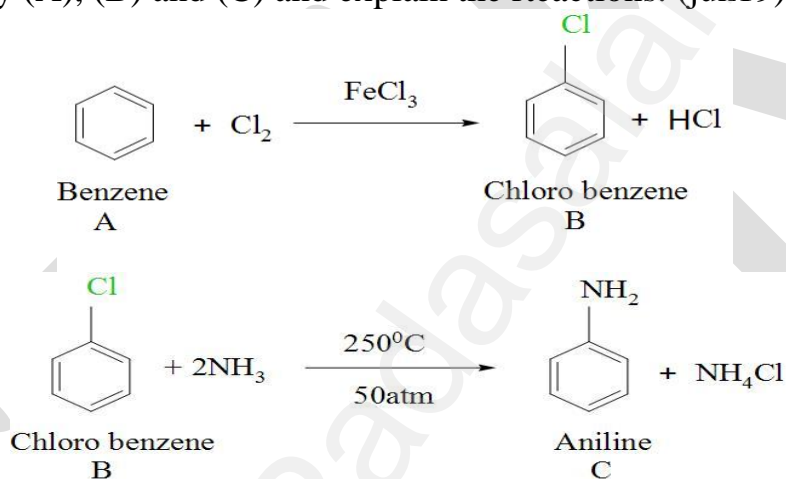


11TH CHEMISTRY PUBLIC QUESTIONS



S.NO	COMPOUNDS	FORMULA	NAME
1	A	$\text{CH}_2 = \text{CH}_2$	Ethene
2	B	$\text{CH}_3\text{-CH}_2\text{-Cl}$	chloroethane
3	C	$\text{CH}_3\text{-CH}_2\text{-NH}_2$	Ethan amine

10. A simple aromatic hydrocarbon (A) reacts with chlorine to give compound (B). compound (B) reacts with ammonia to give compound (C) which undergoes carbylamines reaction. Identify (A), (B) and (C) and explain the reactions. (jun19)



S.NO	COMPOUNDS	FORMULA	NAME
1	A	C_6H_6	Benzene
2	B	$\text{C}_6\text{H}_5\text{-Cl}$	chlorobenzene
3	C	$\text{C}_6\text{H}_5\text{-NH}_2$	aniline

11. Mention any two methods of preparation of haloalkanes from alcohols. (jul22)
(ipn : 230,231)
12. Starting from CH_3MgI , how will you prepare the following ? (jul22)
i) Acetaldehyde ii) Acetone iii) Methane (ipn : 240,240,241)

11TH CHEMISTRY PUBLIC QUESTIONS

15.Environmental Chemistry

ONE MARKS :-

1.what is the pH of rain water_____ (mar 19)

a) **5.6**

b) 4.6

c) 6.5

d) 7.5

2._____ cause kidney damage (jun19)

a) Cadmium , mercury

b) Lead, Cadmium

c) Freon, Fluoride

d) copper, Cadmium

3.Ozone depletion will cause (sep20)

a) Global warning

b) Forest fire

c) Eutrophication

d) Bio-magnification

2&3&5 MARKS :-

1.define- acid rain (mar 19) (ipn :264)

2.What is green chemistry ? (jun19) (ipn : 275)

3.Write notes on the adverse effect caused by ozone depletion. (jun19) (ipn : 269)

4.What is green house effect ? Name the gases that cause green house effect

(sep20) (ipn:263)

5.Write any three strategies to control environment pollution. (sep20) (ipn : 274)

“Life is nothing without chemistry

All are made up of atoms and molecules”

May
be any
comments

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