



# **CHEMISTRY**

## **BOOKS - BITSAT GUIDE**

### **QUESTION-PAPERS-2015**

#### **Chemistry**

1. Which of the following pollutants is main product of automobiles exhaust?

A. CO

B.  $CO_2$

C. NO

D. Hydrocarbons

**Answer: C**



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2. The disease caused the high concentration of hydrocarbon pollutants in atmosphere is/are

A. silicosis

B. TB

C. cancer

D. asthma

**Answer: C**



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**3. The element with atomic number 118, will be**

A. alkali

B. noble gas

C. lanthanide

D. transition element

**Answer: B**



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4. Which law of thermodynamics helps in calculating the absolute entropies of various substances at different temperatures?

A. First law

B. Second law

C. Third law

D. Zeroth law

**Answer: C**



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5. The colour of  $CoCl_3 \cdot 5NH_3 \cdot H_2O$  is

A. red

B. orange

C. orange - yellow

D. pink

**Answer: D**



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**6.** The metal present in vitamin  $B_{12}$  is

A. magnesium

B. cobalt

C. copper

D. zinc

**Answer: B**



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**7. Cobalt (60) isotope is used in the treatment of :**

A. Heart diseases

B. Skin diseases

C. Diabetes

D. Cancer

**Answer: D**



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**8. Polymer used in bullet proof glass is:**

A. Lexan

B. PMMA

C. Nomex



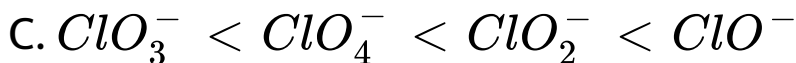
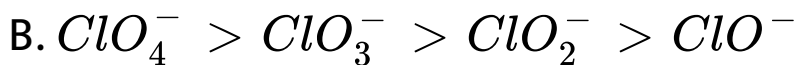
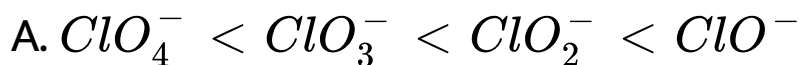
D. Kevlar

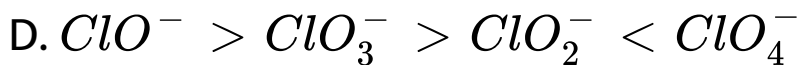
**Answer: B**



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9. What is the correct increasing order of Bronsted bases?





**Answer: A**



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**10.** The boiling point of alkyl halide are higher than those of corresponding alkanes because of

A. dipole-dipole interaction

B. dipole-induced dipole interaction

C. H-bonding

D. None of the above

**Answer: A**



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**11.** Some salts, although contain two different metal elements, give test for only one of them in solution, such salts are

A. double salts

B. normal salts

C. complex salts

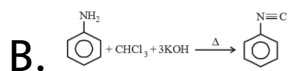
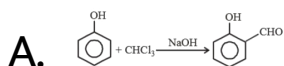
D. None of these

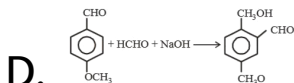
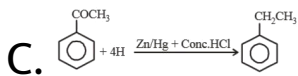
**Answer: C**



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**12.** The carbylamine reaction is





**Answer: B**



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**13. Laughing gas is**

A. nitrogen pentoxide

B. nitrous oxide

C. nitrogen trioxide

D. nitric oxide

**Answer: B**



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**14. Anthracene is purified by**

A. crystallisation

B. filtration

C. distillation

D. sublimation

**Answer: D**



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**15.** The common name of

$K[PtCl_3(\eta^2 - C_2H_4)]$  is .....

A. potassium salt

B. Zeise's salt

C. complex salt

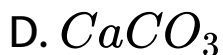
D. None of these

**Answer: B**



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**16.** The by product of Solvay-ammonia process is





**Answer: C**



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**17.** Semiconductor materials like Si and Ge are usually purified by

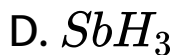
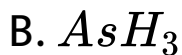
- A. distillation
- B. zone refining
- C. liquation
- D. electrolytic refining

**Answer: B**



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**18.** Which of the following is a strong base?



**Answer: C**



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**19. Ordinary glass is**

- A. Sodium silicate
- B. Calcium silicate
- C. Sodium and calcium silicate
- D. Mixed salt of Na and Ca

**Answer: C**



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20. The prefix  $10^{18}$  is

A. giga

B. kilo

C. exa

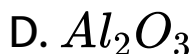
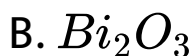
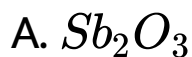
D. nano

**Answer: C**



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21. Which of the following is the most basic oxide?

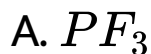


**Answer: B**



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22. Which one of the following does not follow octate rule?



**Answer: B**



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**23.** Which of the following according to LeChatelier's principle is correct?

A. Increase in temperature favours the endothermic reaction

B. Increase in temperature favours the exothermic reaction

C. Increase in pressure shifts the equilibrium in that side in which number of gaseous moles increases

D. All of the above are true

**Answer: A**



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**24.** The efficiency of a fuel cell is given by:

A.  $\eta = \frac{nFE_{\text{cell}}}{\Delta H} \times 100$

B.  $\eta = - \frac{nFE_{\text{cell}}}{\Delta S} \times 100$

C.  $\eta = - \frac{nFE_{\text{cell}}}{\Delta A} \times 100$

D. None of the above



**Answer: A**



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**25.** The mass of the substance deposited when one Faraday of charge is passed through its solution is equal to

A. relative equivalent weight

B. gram equivalent weight

C. specific equivalent weight

D. None of the above

**Answer: B**



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**26.** The unit of second order reaction rate constant is

A.  $\text{L mol}^{-1} \text{s}^{-1}$

B.  $\text{L}^{-1} \text{mol s}^{-1}$

C.  $\text{L mol s}^{-1}$

D.  $\text{s}^{-1}$

**Answer: A**



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**27.** In a first order reaction with time the concentration of the reactant decreases

A. linearly

B. exponentially

C. no change

D. None of these

**Answer: B**



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**28.** The P-P-P angle in  $P_4$  molecule is .....degree while S-S-S angle in  $S_8$  is .....degree.

A.  $60^\circ$ ,  $107^\circ$

B.  $107^\circ$ ,  $60^\circ$

C.  $40^\circ$ ,  $60^\circ$

D.  $60^\circ$ ,  $40^\circ$

**Answer: A**



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**29.** The number of elements present in the d-block of the periodic table is

A. 40

B. 41

C. 45

D. 46

**Answer: A**



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**30.** Which of the following represents hexadentate ligand ?

A. EDTA

B. DMG

C. Ethylenediamine

D. None of the above

**Answer: A**



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**31.** Which of the following elements shows maximum number of different oxidation states in its compounds ?

A. Am

B. Fm

C. La

D. Gd

**Answer: A**



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**32.**  $K_4[Fe(CN)_6]$  is used to detect

A.  $Fe^{3+}$  ion

B.  $Cu^+$  ion

C.  $Cu^{3+}$  ion

D.  $Fe^{2+}$  ion

**Answer: A**





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**33.** A spontaneous reaction is impossible if

- A. both  $\Delta H$  and  $\Delta S$  are negative
- B. both  $\Delta H$  and  $\Delta S$  are positive
- C.  $\Delta H$  is negative and  $\Delta S$  is positive
- D.  $\Delta H$  is positive and  $\Delta S$  is negative

**Answer: D**



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**34.** Which one of the following removes temporary hardness of water ?

A. Slaked lime

B. Plaster of Paris

C. Epsom

D. Hydrolith

**Answer: A**



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**35.** Graphite is a

A. molecular solid

B. covalent solid

C. ionic solid

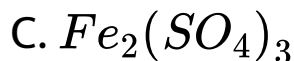
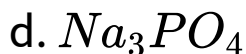
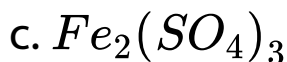
D. metallic solid

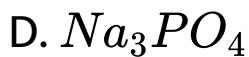
**Answer: B**



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**36.** Which of the following ionic substances will be most effective in precipitating the sulphur sol?





**Answer: C**



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**37.** Which of the possible following fluorides of xenon is impossible ?



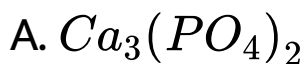


**Answer: B**



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**38. Thomas slag is**



C. Mixture of (a) and (b)



**Answer: C**



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**39.** A sequence of how many nucleotides in messenger RNA makes a condon for an amino acid

A. Three

B. Four

C. One

D. Two

**Answer: A**



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**40.** Which of the following molecule/ion has all the three types of bonds, electrovalent, covalent and co-ordinate :

A.  $\text{HCl}$

B.  $\text{NH}_4^+$

C.  $\text{Cl}^-$

D.  $\text{H}_2\text{O}_2$



**Answer: B**



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