

**Sample Paper – 2014  
Class – XII  
Subject – Chemistry**

**P- BLOCK, D AND F BLOCK AND COORDINATION CHEMISTRY, POLYMER  
AND BIOMOLECULES**

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Q1 Classify each of the following as being either a p-type or an n-type Semiconductor.

(a) Ge doped with In----p-type.

B doped with Si----n-type

Q2 What is ferromagnetism different from paramagnetism?

Q3 Define F-center?

Q4 Draw the structure of Chromate ion?

Q5 Why  $\text{La}(\text{OH})_3$  is more basic than  $\text{Lu}(\text{OH})_3$ ?

Q6 What prompted Bartlett to prepare first noble gas compound?

**SEC B**

Q7 What is difference between Frenkel and Schottky defect? (any two)

Q8. Complete the following reactions :-

i)  $\text{XeF}_6 + \text{H}_2\text{O} \rightarrow \text{---} + \text{----}$  ( partial hydrolysis)

ii)  $\text{XeF}_6 + \text{H}_2\text{O} \rightarrow \text{---} + \text{----}$  ( Complete hydrolysis)

**Q9 Why is orange solution of  $\text{K}_2\text{Cr}_2\text{O}_7$  turns yellow on adding Na OH ?**

**Q. 10 Write the formula of the following compound.**

(a) Tetraammineaquachlorido Cobalt (III) chloride .

(b) Potassium tetrahydroxozincate (II)

Q11. Why is orange solution of  $\text{K}_2\text{Cr}_2\text{O}_7$  turns yellow on adding Na OH ?

Q12 Write the IUPAC name of the following Co-Ordination compound.

(a)  $[\text{Pt}(\text{NH}_3)_2\text{Cl}(\text{NO}_2)\text{Cl}(\text{NO}_2)]$  (b)  $\text{K}_3[\text{Cr}(\text{C}_2\text{O}_4)_3]$

Q13 Why  $\text{Cr}^{2+}$  reducing and  $\text{Mn}^{3+}$  oxidizing, when both have  $d^4$  configuration?

**SEC -C**

**Q. 14.** Analysis shows that nickel oxide has the formula  $\text{NiO}_{.98}\text{O}_{1.00}$ . What fractions of nickel exist as  $\text{Ni}^{2+}$  and  $\text{Ni}^{3+}$  ions ?

**Q. 15.** Give reasons :

- Window glass of old building look milky.
- Window glass of old building is thick at bottom.
- $\text{CaCl}_2$  will introduce Schottky defect if added to AgCl crystal.

Q16. Find hybridization and shape i)  $\text{XeF}_2$  ii)  $\text{XeO}_3$  iii)  $\text{XeF}_4$

Q17. Give reasons

- $\text{H}_2\text{O}$  is a liquid but  $\text{H}_2\text{S}$  a gas.
- Ammonia has higher boiling point than phosphine
- Krypton & xenon make compounds.

Q18 Write down the chemical reactions that take place in the manufacture of sulphuric acid by contact's process.

SEC-D

Q.19 (1). How is the presence of  $\text{SO}_2$  detected ?

- Why is helium used in diving apparatus ?
- Which forms of Sulphur show paramagnetic behaviour ?
- Are all the five bonds in  $\text{PCl}_5$  molecule equivalent ?
- Draw all the isomers of (geometrical and optical ) of  
A)  $\{\text{CoCl}_2(\text{en})_2\}^+$  b)  $\{\text{CoCl}(\text{en})_2(\text{NH}_3)\}^{2+}$

**Q20** What is an lanthanoid contraction ? What is its cause ? Give its consequences . 2

2. Why do Zr and Hf show similar properties ? 1

3 What is meant by disproportionation ? Give two examples of above reaction in aqn. Solution . 2

### NAVODAYA VIDYALAYA

DANTIWADA BANASKANTHA GUJARAT

UNIT TEST :3

CLASS:12TH

MAX MARKS:40

TIME:1.5 HRS

SUB: CHEMISTRY

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**INSTRUCTIONS: ALL QUESTIONS ARE COMPALSORY**

**MARKS OF EACH QUESTION ARE GIVEN BELOW**

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SEC:A (6 MARKS)

Q1 What is PHBV? Give its one use.

Q2 What is the difference between two notataion N-6 and N-66?

- Q3 How Buna-S synthesis Give its chemical equation?  
Q4 What are the monomer of polythene and teflon write its structure?  
Q5 Why can't vitamin C be stored in our body?  
Q6 Amino acids are amphoteric in nature/behavior. Explain (1X6=6)  
SEC:B (12 MARKS)  
Q7 Why are maltose and lactose reducing sugars?  
Q. 8. Which vitamin is helpful in healing wound and cuts ? What is the chemical name of this vitamin ?  
Q9 Differentiate between thermo plastic and thermo setting Plastic.  
Q10 What do you understand by Vulcanised Rubbers?  
Q11 Explain the following:  
(a) Mutarotation (b) denaturation of protein  
Q12 Show the difference bet nucleotides and nucleoside ? (6X2=12)  
SEC :C 12 MARKS  
Q13 How you can prepare the following:  
(1) PAN (2) PMMA (3) Bakelite  
Q14 Draw the secondary structure of protein? What are the forces responsible for this?  
Q15 What are complementary base .Draw structure to show the hydrogen bonding between adenine and thymine and bet guanine and cytosine?  
Q16 What are enzyme .discuss there function. Write is mechanism?  
(3x4=12)  
SEC :D 10 MARKS  
Q17 Give the answer of following:  
(1) Why vit A nad Vit C are essential for us .Give there main sources?(1)  
(2) What are essential amino acid Give the two name of essential amino acid?(1)  
(3) Give two function of carbohydrate in living body? (1)  
(4) What are the hydrolysis product of sucrose and lactose (2)  
Q18 (1) Write free radical mechanism for the polymerisation of ethane?  
(2)  
(2) What happened when D glucose is treated with  
(a) bromine water (b) HI (3) Nitric acid  
(3)

ALL THE BEST

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