



### TEST SERIES – JEE /NEET 2026 PATTERN

PART TEST -02

TEST BOOKLET CODE: CS15 - PT-02

Student Name: \_\_\_\_\_

Roll No. : \_\_\_\_\_

Time: 1 Hour

Maximum Marks: 92

Date: \_\_\_\_\_

#### Syllabus: Chemistry (Part Syllabus)

#### INSTRUCTIONS:

1. Immediately fill in the particulars on this page of the Test Booklet with Blue/Black Ball Point Pen. Use of pencil is strictly prohibited.
2. The test is of 1 hour duration.
3. The Test Booklet consists of 23 questions. The maximum marks are 92.
4. There are three parts in the question paper consisting of Part-A Chemistry (Q.no. 1 to 23). Each part is divided into two sections, **Section-I** consists of 20 multiple choice questions & **Section-II** consists of 3 Numerical value answer Questions.

Part	Section-I MCQ Type	Section-II Numeric Answer Type	Total
A-Chemistry	20	3	23
<b>Total</b>	<b>20</b>	<b>3</b>	<b>23</b>

5. There will be only one correct choice in the given four choices in Section-I. For each question 4 marks will be awarded for correct choice, 1 mark will be deducted for incorrect choice and zero mark will be awarded for unattempted question for both Section-I and II.
6. Use Blue/Black Ball Point Pen only for writing particulars/markings responses on Side-1 and Side-2 of the Answer Sheet. Use of pencil is strictly prohibited.
7. No candidate is allowed to carry any textual material, printed or written, bits of papers, pager, mobile phone, any electronic device, etc. except the Admit Card inside the examination hall/room.
8. Rough work is to be done on the space provided for this purpose in the Test Booklet only.
9. On completion of the test, the candidate must hand over the Answer Sheet to the Invigilator on duty in the Room/Hall. However, the candidates are allowed to take away this Test Booklet with them.
10. Do not fold or make any stray marks on the Answer Sheet.

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### PART TEST 2026

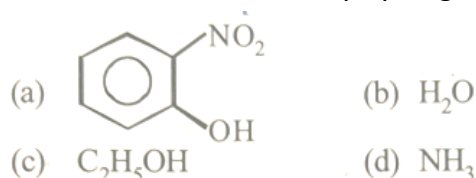
#### PART-A: CHEMISTRY

##### Section-I (Multiple Choice Questions)

- Among  $10^{-9}$  g (each) of the following elements, which one will have the highest number of atoms? Element: Pb, Po, Pr and Pt  
(a) Po (b) Pr  
(c) Pb (d) Pt
- Which of the following factors may be regarded as the main cause of lanthanide contraction?  
(a) Greater shielding of 5d electrons by 4f electrons  
(b) Poorer shielding of 5d electrons by 4f electrons  
(c) Effective shielding of one of the 4f electrons by another in the subshell  
(d) Poor shielding of one of the 4f electrons by another in the subshell
- 5 moles of  $AB_2$  weigh  $125 \times 10^{-3}$  kg and 10 moles of  $A_2B_2$  weigh  $300 \times 10^{-3}$  kg. The molar mass of A ( $M_A$ ) and molar mass of B ( $M_B$ ) in  $\text{kg mol}^{-1}$  are:  
(a)  $M_A = 10 \times 10^{-3}$  and  $M_B = 5 \times 10^{-3}$   
(b)  $M_A = 50 \times 10^{-3}$  and  $M_B = 25 \times 10^{-3}$   
(c)  $M_A = 25 \times 10^{-3}$  and  $M_B = 50 \times 10^{-3}$   
(d)  $M_A = 5 \times 10^{-3}$  and  $M_B = 10 \times 10^{-3}$
- The lanthanide contraction is responsible for the fact that  
(a) Zr and Zn have the same oxidation state  
(b) Zr and Hf have about the same radius

- (c) Zr and Nb have similar oxidation state  
(d) Zr and Y have about the same radius

5. Select the compound from the following that will show intermolecular by hydrogen bonding.



6. The difference in energy between the actual structure and the lowest energy resonance structure for the given compound is  
(a) electromeric energy  
(b) ionization energy  
(c) hyper conjugation energy  
(d) resonance energy
7. Match the List-I with List-II

List-I (Classification of molecules based on octet rule)		List-II (Example)	
A.	Molecules obeying octet rule	I.	$NO, NO_2$
B.	Molecules with incomplete octet	II.	$BCl_3, AlCl_3$
C.	Molecules with incomplete octet with odd electron	III.	$H_2SO_4, PCl_5$
D.	Molecules with expanded octet	IV.	$CCl_4, CO_2$

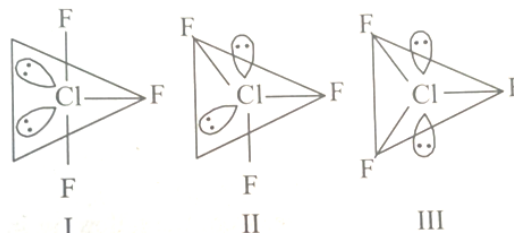
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Choose the correct answer from the options given below:

- (a) A-IV, B-II, C-I, D-III      (b) A-III, B-II, C-I, D-IV  
 (c) A-IV, B-I, C-III, D-II      (d) A-II, B-IV, C-III, D-I

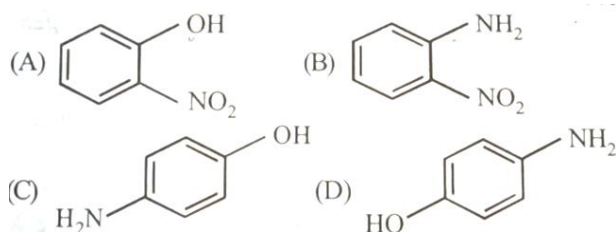


**Statement (II)** : Structure III is most stable, as the orbitals having the lone pairs are axial, where the lp-bp repulsion is minimum.

In the light of the above statements, choose the most appropriate answer from the options given below:

- (a) Statement I is incorrect but statement II is correct.  
 (b) Statement I is correct but statement II is incorrect.  
 (c) Both Statement I and statement II are correct  
 (d) Both Statement I and statement II are incorrect

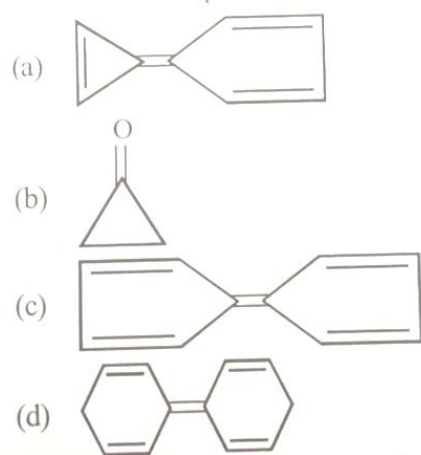
8. The steam volatile compounds among the following are:



Choose the correct answer from the options given below:

- (a) (B) and (D) only  
 (b) (A) and (C) only  
 (c) (A) and (B) only  
 (d) (A), (B) and (C) only

9. Among the following compounds, the one which shows highest dipole moment is



10. Given below are two statements:

**Statement (I)** : for  $\text{ClF}_3$ , all three possible structures may be drawn as follows:

11. The correct option with order of melting points of the pairs (Mn, Fe), (Tc, Ru) and (Re, Os) is:

- (a)  $\text{Fe} < \text{Mn}$ ,  $\text{Ru} < \text{Tc}$  and  $\text{Re} < \text{Os}$   
 (b)  $\text{Mn} < \text{Fe}$ ,  $\text{Tc} < \text{Ru}$  and  $\text{Re} < \text{Os}$   
 (c)  $\text{Mn} < \text{Fe}$ ,  $\text{Tc} < \text{Ru}$  and  $\text{Os} < \text{Re}$   
 (d)  $\text{Fe} < \text{Mn}$ ,  $\text{Ru} < \text{Tc}$  and  $\text{Os} < \text{Re}$

12. Consider 'n' is the number of lone pair of electrons present in the equatorial position of the most stable structure of  $\text{ClF}_3$ . The ions from the following with 'n' number of unpaired electrons are:

- (A)  $\text{V}^{3+}$       (B)  $\text{Ti}^{3+}$   
 (C)  $\text{Cu}^{2+}$       (D)  $\text{Ni}^{2+}$   
 (E)  $\text{Ti}^{2+}$

Choose the correct answer from the options given below:

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- (a) A and C only  
 (b) A, D and E only  
 (c) B and C only  
 (d) B and D only

- C.  $\text{Fe}^{2+}$  reduces the iodide ion  
 D.  $\text{Fe}^{2+}$  reduces the persulphate ion  
 Choose the most appropriate answer from the options given below:  
 (a) B and C only (b) B only  
 (c) A only (d) A and D only

13. Match List-I with List-II.

List-I (Transition metal ion)		List-II (Spin only magnetic moment (B.M.))	
(A)	$\text{Ti}^{3+}$	(I)	3.87
(B)	$\text{V}^{2+}$	(II)	0.00
(C)	$\text{Ni}^{2+}$	(III)	1.73
(D)	$\text{Sc}^{3+}$	(IV)	2.84

Choose the correct answer from the options given below:

- (a) (A)-(III), (B)-(I), (C)-(II), (D)-(IV)  
 (b) (A)-(III), (B)-(I), (C)-(IV), (D)-(II)  
 (c) (A)-(IV), (B)-(II), (C)-(III), (D)-(I)  
 (d) (A)-(II), (B)-(IV), (C)-(I), (D)-(III)

14. Given below are two statements:

**Statement I:** The higher oxidation states are more stable down the group among transition elements unlike p-block elements.

**Statement II:** Copper can not liberate hydrogen from weak acids.

In the light of the above statements, choose the correct answer from the options given below:

- (a) Both Statement I and Statement II are false  
 (b) Statement I is false but Statement II is true  
 (c) Both Statement I and Statement II are true  
 (d) Statement I is true but Statement II is false

15. Iron (III) catalyses the reaction between iodide and persulphate ions, in which.

- A.  $\text{Fe}^{3+}$  oxidises the iodide ion  
 B.  $\text{Fe}^{3+}$  oxidises the persulphate ion

16. Arrange the following elements in the increasing order of number of unpaired electrons in it.

- (A) Sc (B) Cr  
 (C) V (D) Ti  
 (E) Mn

Choose the correct answer from the options given below:

- (a) (C) < (E) < (B) < (A) < (D)  
 (b) (B) < (C) < (D) < (E) < (A)  
 (c) (A) < (D) < (C) < (B) < (E)  
 (d) (A) < (D) < (C) < (E) < (B)

17. Of the following outer electronic configurations of atoms, the highest oxidation state is achieved by which one of them?

- (a)  $(n-1)d^3ns^2$  (b)  $(n-1)d^5ns^1$   
 (c)  $(n-1)d^8ns^2$  (d)  $(n-1)d^5ns^2$

18. The electronic configuration of Pt (atomic number 78) is:

- (a)  $[\text{Xe}]4f^{14}5d^96s^1$  (b)  $[\text{Kr}]4f^{14}5d^{10}$   
 (c)  $[\text{Xe}]4f^{14}5d^{10}$  (d)  $[\text{Xe}]4f^{14}5d^86s^2$

19. The reaction of zinc with excess of aqueous alkali, evolves hydrogen gas and gives:

- (a)  $\text{Zn}(\text{OH})_2$  (b)  $\text{ZnO}$   
 (c)  $[\text{Zn}(\text{OH})_4]^{2-}$  (d)  $[\text{ZnO}_2]^{2-}$

20. The number of statement(s) correct from the following for copper (at no. 29) is/are \_\_\_\_

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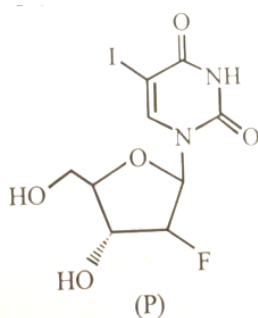
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- (a) Cu (II) complexes are always paramagnetic
- (b) Cu (I) complexes are generally colourless
- (c) Cu (I) is easily oxidized
- (d) In Fehling solution, the active reagent has Cu(I)

### Section-II (Numerical Value Questions)

21. The percentage composition of carbon by mole in methane is:
- (a) 75%
  - (b) 80%
  - (c) 25%
  - (d) 20%
22. The spin-only magnetic moment value of  $M^{3+}$  ion (in gaseous state) from the pairs  $Cr^{3+}/Cr^{2+}$ ,  $Mn^{3+}/Mn^{2+}$ ,  $Fe^{3+}/Fe^{2+}$  and  $Co^{3+}/Co^{2+}$  that has negative standard electrode potential is B. M. [Nearest integer]
23. 0.1 mol of the following antiviral compound (P) will weight \_\_\_\_\_  $\times 10^{-1}$  g



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