



# CHEMISTRY

## JEE MAIN AND ADVANCED

### MOCK TEST 25

#### Example

1. Which gas is obtained by the thermal decomposition of ammonium dichromate?

A.  $O_2$

B.  $NH_3$

C.  $N_2$

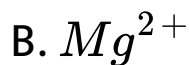
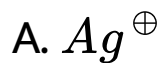
D. NO

**Answer: C**



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2. With which metal ion, aqueous ammonia reacts to give a deep blue solution?



**Answer: D**



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3. Which among the following is a paramagnetic compound?

A.  $N_2O$

B.  $NO$

C.  $N_2O_3$

D.  $N_2O_4$

**Answer: B**



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4. When copper is treated with dilute nitric acid, the gas evolved is

A.  $N_2$

B.  $NO_2$

C. NO

D.  $NH_3$

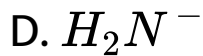
**Answer: C**



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5. Brown ring test is performed for which ion?

A.  $NO_2^-$



**Answer: B**



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**6. Shape of  $H_3PO_4$  is**

A. Pyramidal

B. Tetrahedral

C. See-saw

D. Square planar

**Answer: B**



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7. P - P - P bond angle in white phosphorous is

A.  $60^\circ$

B.  $90^\circ$

C.  $120^\circ$

D.  $109^\circ 28$

**Answer: A**



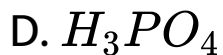
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**8.** Which among the following is not obtained by treating aqueous silver nitrate with hypophosphorous acid?

A.  $H_3PO_3$

B.  $Ag$



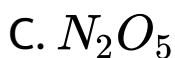
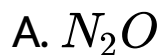


**Answer: A**



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9. Which oxide of nitrogen is coloured gas?



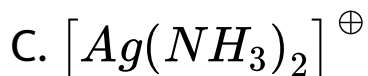
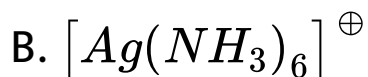
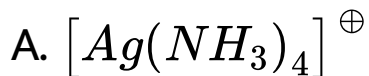
D.  $NO_2$

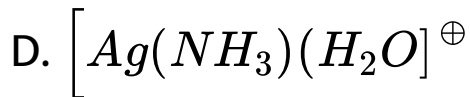
**Answer: D**



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**10.** When silver chloride is treated with aqueous ammonia, the complex obtained is





**Answer: C**



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**11.** Which gas is obtained on dissolving zinc in dilute nitric acid?



D.  $N_2O$

**Answer: D**



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**12.** Which of the following gas is used in oxyacetylene welding

A.  $O_2$

B.  $N_2$

C.  $NH_3$

D.  $CO_2$

**Answer: A**



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**13.** Phosphine is not obtained by which of the following reaction?

A. White P is heated with conc. NaOH in an inert atmosphere of  $CO_2$

B. Calcium phosphide treated with water

C. Phosphonium iodide treated with KOH

D.  $PCl_5$  treated with water

**Answer: D**



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**14.** Nitric acid can be obtained from ammonia via the formation of which intermediate compounds in Ostwald's process?

A. Nitrogen and nitrous oxide

B. Nitric oxide and nitrogen pentaoxide

C. Nitric oxide and nitrogen dioxide

D. Nitrogen and nitric oxide

**Answer: C**



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**15.** Number of single and double  $P - O$  bonds

in  $P_4O_{10}$  respectively are

A. 8, 4

B. 10 , 4

C. 12 , 4

D. 10 , 2

**Answer: C**

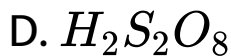
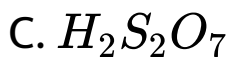
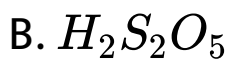


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**16.** Formula of peroxodisulphuric acid(Marshall's acid) is

A.  $H_2SO_5$





**Answer: D**



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17. Which of the following statements regarding conc. Sulphuric acid is not correct?

A. It is reduced to  $SO_2$  on reaction with Cu.

B. It is a strong dehydrating agent.

C. It can be used to manufacture more volatile acids from their corresponding salts.

D. The absorption of  $SO_2$  in sulphuric acid produces oleum.

**Answer: D**



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18. Which of the following statements regarding interhalogen compound is a gas at 298K?

A.  $ICI$

B.  $IBr$

C.  $BrF_5$

D.  $ClF$

**Answer: D**



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19. Which of the following statements regarding interhalogens is not correct?

A. Interhalogens involve covalent bonding

B. Interhalogens are less reactive than halogens

C.  $(ICl_3)_2$  in fused form shows enhanced electrical conductivity

D. Interhalogens of the formula  $XX_4$

**Answer: B**



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20. Which of the following hydrogen halide is liquid at 273K?

A. HI

B. HBr

C. HCl

D. HF

**Answer: D**



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21. The acidic strength of oxyacids follow the order



**Answer: A**



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22. Amongst hexahalides of sulphur,  $SF_6$  is exceptionally stable due to

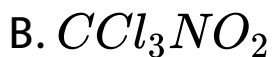
- A. See- saw geometry
- B. High polarization power
- C. Least steric hindrance
- D. Dimeric in nature

**Answer: C**



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23. Dispersion of tear gas happens during riots, the formula of tear gas is



**Answer: B**



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24. Which of the following oxoacids of halogen doesn't exist

A.  $\text{HOBrO}$

B.  $\text{HOF}$

C.  $\text{HOBrO}_2$

D.  $\text{HOIO}_3$

**Answer: A**



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25. In vapour state, sulphur ( $S_2$ ) shows paramagnetic behaviour due to

- A. Presence of one unpaired electron in the antibonding  $\sigma^*$  orbitals
- B. Presence of two unpaired electrons in the bonding pi orbitals
- C. Presence of one unpaired electrons in the bonding  $\pi^*$  orbitals

D. Presence of two unpaired electrons in the bonding  $\pi^*$  orbitals

**Answer: D**



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**26.** Which of the following given applications of  $O_3$  gas is not correct?

A. It is used as a germicide, disinfectant and for sterilising water

B. It is used as a bleaching agent for oils,  
ivory and delicate fabrics

C. It is used as an oxidising agent in the  
manufacture of potassium  
permanganate

D. It is used in oxyacetylene and  
oxyhydrogen flames

**Answer: D**



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27. The shape of  $BrF_3$  molecule is slightly bent  $T$ , because

A. The lone pairs occupy the equatorial position to minimize lone pair-lone pair and the bond pair-lone pair repulsions

B. The axial fluorine atoms will be bent towards the equatorial fluorine in order to minimize the lone pair-lone pair repulsions.

C. According to the VSEPR theory, one lone pair of Br occupies the equatorial position and the second one occupied the axial position in order to minimize the lone pair-lone pair repulsion

D. Both (1) and (2)

**Answer: D**



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28. Which of the following order is incorrect?

A.  $HF > HCl > HBr > HI$  - Acidic strength

B.  $Cl > F > Br > I$  - Electron affinity

C.  $Cl_2 > Br_2 > F_2 > I_2$  - Bond dissociation energy

D.  $F_2 > Cl_2 > Br_2 > I_2$  - Oxidising power

**Answer: A**



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29. Identify the incorrect statement with respect to ozone.

A. It is formed when dry stream of  $O_2$  is passed through a silent electrical discharge

B. It acts as a powerful oxidizing agent

C. It's decomposition into oxygen results in an increase in entropy



D. Ozone protects the earth's inhabitants  
by absorbing (gamma) radiations

**Answer: D**



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**30.** The incorrect statement for rhombic sulphur is

A. It is insoluble in water

B. It exist as  $S_8$  molecules, which is puckerd crown ring structure

C. It is white in colour

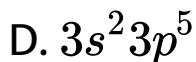
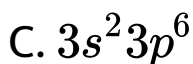
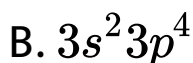
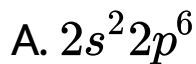
D. Its melting point is lower than monoclinic sulphur

**Answer: C**



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31. Which of the following outer electronic configuration represents Argon?



**Answer: C**



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32. Noble gases do not react with other elements because

A. The size of their atoms are very small

B. They are not found in abundance

C. They are monoatomic

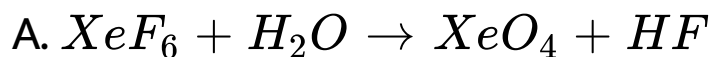
D. They have very stable electronic configuration

**Answer: D**



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33. Which one of the following reaction of Xenon compounds is not feasible?



B.

C.

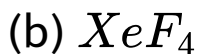
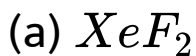
D.

**Answer: A**



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34. In which of the following compounds central atom has same number of lone pairs of electrons?



A. (a) & (b)

B. (a), (c) & (d)

C. (c) & (d)

D. (b) & (c)

**Answer: C**



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**35.** The one of the rarest element of group 18 is

A. He

B. Ar

C. Ne

D. Xe

**Answer: D**



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**36.** The correct order of boiling point for the given elements is

A.  $He > Ne > Xe > Ar > Kr$

B.  $Xe > Kr > Ar > Ne > He$

C.  $He > Ne > Ar > Kr > Xe$

D.  $Xe > Ar > Kr > Ne > He$



**Answer: B**



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**37.** The complete hydrolysis of which of the following compounds of Xe is a redox reaction?



D. Both (1) and (2)

**Answer: D**



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**38.** The least positive electron gain enthalpy is for

A. He

B. Ne

C. Ar

D. Xe

**Answer: A**



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