

**NEET CHEMISTRY**

*Topic: P-Block*

**Q.1** Which out of the following gases is obtained when ammonium dichromate is heated -

- (A) Oxygen                      (C) Nitrogen  
(B) Ammonia                    (D) Nitrous oxide

**Q.2** Among the trihalides of nitrogen which one is most basic -

- (A)  $\text{NF}_3$                       (B)  $\text{NCl}_3$   
(C)  $\text{NI}_3$                       (D)  $\text{NBr}_3$

**Q.3** The correct sequence of decrease in the bond angle of the following hydrides is - :

- (A)  $\text{NH}_3 > \text{PH}_3 > \text{AsH}_3 > \text{SbH}_3$   
(B)  $\text{NH}_3 > \text{AsH}_3 > \text{PH}_3 > \text{SbH}_3$   
(C)  $\text{SbH}_3 > \text{AsH}_3 > \text{PH}_3 > \text{NH}_3$   
(D)  $\text{PH}_3 > \text{NH}_3 > \text{AsH}_3 > \text{SbH}_3$

**Q.4** The low reactivity of nitrogen is due to -

- (A) Small atomic radius                      (B) High electronegativity  
(C) Stable configuration                      (D) High bond dissociation energy

**Q.5** Which one of the following does not undergo hydrolysis -

- (A)  $\text{AsCl}_3$                       (B)  $\text{SbCl}_3$   
(C)  $\text{PCl}_3$                       (D)  $\text{NF}_3$

- Q.6** Which one of the following properties of white phosphorous are shared by red phosphorous -
- (A) It dissolves in  $\text{CS}_2$
  - (B) It burns when heated in air
  - (C) It reacts with  $\text{NaOH}$  to give  $\text{PH}_3$
  - (D) It phosphorescences in air
- Q.7** Which one of the following pentafluorides cannot be formed -
- (A)  $\text{PF}_5$                       (B)  $\text{AsF}_5$
  - (C)  $\text{SbF}_5$                       (D)  $\text{BiF}_5$
- Q.8** The dimerisation of  $\text{NO}_2$  as the temperature is lowered is accompanied by -
- (A) An increase in pressure
  - (B) A darkening in colour
  - (C) A decrease in paramagnetism
  - (D) The formation of a colloid
- Q.9** Which of the following reagents can separate nitric oxide from nitrous oxide -
- (A) Sodium nitroprusside solution
  - (B) Ferrous sulphate solution
  - (C) Nessler's reagent
  - (D) Tollen's reagent
- Q.10** Phosphine is not obtained by the reaction when -
- (A) White P is heated with  $\text{NaOH}$
  - (B) Red P is heated with  $\text{NaOH}$
  - (C)  $\text{Ca}_3\text{P}_2$  reacts with water
  - (D)  $\text{P}_4\text{O}_6$  is boiled with water
- Q.11** In  $\text{P}_4\text{O}_6$  the number of oxygen atoms bonded to each phosphorus atom is -
- (A) 1.5                              (B) 2
  - (C) 3                                 (D) 4

**Q.12** Which of the following statements are not correct about the hydrides of group 15 elements-

- (A) The hydrides of the elements of group 15 are ionic and have planar triangular shape
- (B) The thermal stability of the hydrides decreases down the group
- (C) the basic character of the hydrides decreases down the group
- (D) The reducing nature of the hydrides increases down the group

**Q.13** Bismuth does not form stable pentahalide because of –

- (A) Its higher electronegativity
- (B) Its smaller size
- (C) Inert pair effect
- (D) Non availability of d-orbitals

**Q.14** Which of the following is basic in nature -

- (A)  $\text{H}_3\text{PO}_3$                       (C)  $\text{H}_3\text{AsO}_3$
- (B)  $\text{H}_3\text{BiO}$                       (D)  $\text{H}_3\text{SbO}_3$

**Q.15** Acidic nitrogen hydride is -

- (A)  $\text{N}_2\text{H}_4$                       (C)  $\text{NH}_2\text{OH}$
- (B)  $\text{N}_3\text{H}$                       (D)  $\text{NH}_3$

**Q.16**  $\text{PCl}_5$  exists but  $\text{NCl}_5$  does not because -

- (A) Nitrogen has no vacant d-orbitals
- (B)  $\text{NCl}_5$  is unstable
- (C) Nitrogen atom is much smaller
- (D) Nitrogen is highly inert.

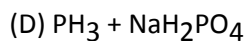
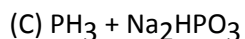
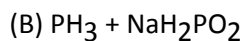
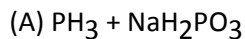
**Q.17** On heating a mixture of  $\text{NH}_4\text{Cl}$  and  $\text{KNO}_2$  we get –

- (A)  $\text{NH}_4\text{NO}_3$                       (B)  $\text{N}_2$
- (C)  $\text{NO}$                               (D)  $\text{N}_2\text{O}$

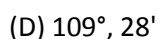
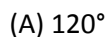
**Q.18** Which of the following phosphorus oxyacids can act as a reducing agent ?

- (A)  $\text{H}_3\text{PO}_3$                       (B)  $\text{H}_3\text{PO}_4$
- (C)  $\text{H}_4\text{P}_2\text{O}_6$                       (D)  $\text{H}_4\text{P}_2\text{O}_7$

**Q.19** When white phosphorous is heated with caustic soda, the compounds formed are -



**Q.20** The P – P – P bond angle in white phosphorus is-



**Q.21** Phosphine produces smoky rings when it comes in contact with air because -

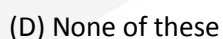
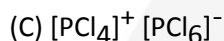
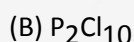
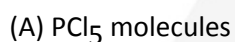
(A) It reacts with water vapour

(B) It reacts with nitrogen

(C) It burns in air

(D) It contains impurities of  $\text{P}_2\text{H}_4$

**Q.22** The solid  $\text{PCl}_5$  exists as -



**Q.23**  $\text{PCl}_5$  is kept in well stoppered bottles because -

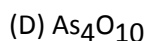
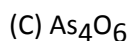
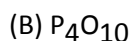
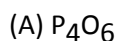
(A) It is highly volatile

(B) It reacts with oxygen

(C) It reacts readily with moisture

(D) It is explosive

**Q.24** Which of the following oxides will be least acidic –



**Q.25** Which of the following oxy acids of Phosphorus is a reducing agent and monobasic -

- (A)  $\text{H}_3\text{PO}_2$                       (B)  $\text{H}_3\text{PO}_3$   
(C)  $\text{H}_3\text{PO}_4$                       (D)  $\text{H}_4\text{P}_2\text{O}_6$

**Q.26** Which pair of oxides of nitrogen is paramagnetic ?

- (A)  $\text{NO}$ ,  $\text{N}_2\text{O}$                       (B)  $\text{N}_2\text{O}_5$ ,  $\text{NO}_2$   
(C)  $\text{N}_2\text{O}_5$ ,  $\text{N}_2\text{O}$                       (D)  $\text{NO}$ ,  $\text{NO}_2$

**Q.27** What is false about  $\text{N}_2\text{O}_5$ ?

- (A) It is anhydride of  $\text{HNO}_3$   
(B) It is a powerful oxidizing agent  
(C) Solid  $\text{N}_2\text{O}_5$  is called nitronium nitrate  
(D) Structure of  $\text{N}_2\text{O}_5$  contains no  $[\text{N} \rightarrow \text{O}]$  bond

**Q.28** Which of the following oxides is most acidic ?

- (A)  $\text{As}_2\text{O}_3$                       (B)  $\text{P}_2\text{O}_3$   
(C)  $\text{Sb}_2\text{O}_3$                       (D)  $\text{N}_2\text{O}_3$

**Q.29** Least acidic and most acidic oxides of nitrogen are -

- (A)  $\text{N}_2\text{O}$ ,  $\text{N}_2\text{O}_5$                       (B)  $\text{N}_2\text{O}$ ,  $\text{N}_2\text{O}_4$   
(C)  $\text{N}_2\text{O}$ ,  $\text{NO}$                       (D)  $\text{N}_2\text{O}$ ,  $\text{N}_2\text{O}_3$

**Q.30** The number of molecules of water needed to convert one molecule of  $\text{P}_2\text{O}_5$  into orthophosphoric acid is -

- (A) 2                      (B) 3  
(C) 4                      (D) 5

## ANSWER KEY

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<b>Que.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>Ans.</b>	C	C	A	D	D	B	D	C	B	B
<b>Que.</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
<b>Ans.</b>	C	A	C	B	B	A	B	A	B	C
<b>Que.</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>
<b>Ans.</b>	D	C	C	C	A	D	D	D	A	B

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