



11-12 + JEE/GUJCET  
**CHEMISTRY**  
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**GUJCET CRASH COURSE**

**SEM- 3 - Ch- 5 p Block (Answers)**

- (1) Which of the following is an explosive solid?  
(a)  $\text{XeO}_3$  (b)  $\text{XeO}_4$  (c)  $\text{XeO}_6$  (d)  $\text{XeO}_2\text{F}_2$
- (2) Which bond is most polar in the following?  
(a)  $\text{Br}-\text{F}$  (b)  $\text{F}-\text{F}$   
(c)  $\text{Cl}-\text{F}$  (d)  $\text{I}-\text{F}$
- (3) What is the formula of sodium pyro phosphate?  
(a)  $\text{Na}_4\text{P}_2\text{O}_7$  (b)  $\text{N}_2\text{P}_2\text{O}_7$   
(c)  $\text{Na}_3\text{P}_4\text{O}_7$  (d)  $\text{Na}_2\text{PO}_6$
- (4) Which of the following is a radio active element?  
(a) Ne (b) Ar (c) Kr (d) Rn
- (5)  $\text{XeOF}_4$  possesses which structure?  
(a) Trigonal Pyramidal  
(b) Square pyramidal  
(c) Square planar  
(d) Pentagonal bipyramidal
- (6) How many groups are there in p-block element?  
(a) 3 (b) 4  
(c) 5 (d) 6
- (7) What is the molecular formula of chilie saltpetre?  
(a)  $\text{KNO}_3$  (b)  $\text{NaNO}_3$   
(c)  $\text{Ca}(\text{NO}_3)_2$  (d)  $\text{Ba}(\text{NO}_3)_2$
- (8) For the presence of which of the following ions, ring test is useful?  
(a)  $\text{NO}^-$  (b)  $\text{NO}_3^-$   
(c)  $\text{NO}_2$  (d)  $\text{N}_2\text{O}$
- (9) Which of the following groups of four elements is called chalcogens?  
(a) Nitrogen, phosphorus, arsenic and

antimony

Group-16 contains oxygen, sulphur, selenium, tellurium and polonium elements. The group of first four elements are known as chalcogens.

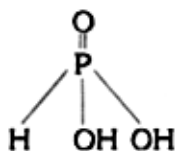
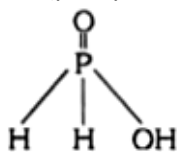
- (10) Which of the following electronic configurations is the general electronic configuration elements of group 16?  
(a)  $ns^2np^3$  (b)  $ns^2np^4$   
(c)  $ns^2np^6$  (d)  $ns^2np^5$
- (11) Which of the following oxo acids of chlorine is most stable?  
(a)  $HClO_3$  (b)  $HClO$   
(c)  $HClO_4$  (d)  $HClO_2$
- (12) Which of the following orders with reference to stability is correct?  
(a)  $HF > HBr > HCl > HI$   
(b)  $HI < HCl < HBr < HF$   
(c)  $HF > HCl > HBr > HI$   
(d)  $HF > HI > HCl > HBr$
- (13) Which of the following is the interhalogen compound?  
(a)  $XeF_4$  (b)  $IF_7$   
(c)  $NaCl$  (d)  $CaF_2$
- (14) What is the molecular formula of oleum?  
(a)  $H_2SO_3$  (b)  $H_2SO_5$   
(c)  $H_2S_2O_7$  (d)  $H_2S_2O_8$
- (15) Which of the following oxides of nitrogen, the oxidation state of nitrogen element is (+4)?  
(a)  $N_2O_3$  (b)  $N_2O_4$   
(c)  $N_2O_5$  (d)  $N_2O$
- (16) By decay of which compound, ammonia is produced?  
(a)  $CH_3NH_2$  (b)  $NH_2CONH_2$   
(c)  $CH_3CONH_2$  (d)  $C_6H_5NO_2$
- (17) By which method industrial production of ammonia is done?  
(a) Contact process (b) Ostward method  
(c) Haber's process (d) Not given
- (18) Which catalyst is used in Haber's process?  
(a)  $FeO$  (b)  $Ni$  (c)  $KCl$   
(d)  $LiAlH_4$
- (19) Which promoter is used with  $FeO$  in Haber's process?  
(a)  $K_2O$  (b)  $Al_2O_3$   
(c)  $NaNO_2$  (d) Both (a) and (b)
- (20) Which of the following halogen element shows only one oxidation state?  
(a)  $F$  (b)  $I$   
(c)  $Br$  (d)  $Cl$
- (21) How many hydroxyl group present in the pyrophosphoric acid?  
(a) Two (b) Three (c) Four  
(d) One
- (22) Which type of hybridisation is observed in  $XeF_4$ ?  
(a)  $sp^2$  (b)  $d^2sp^3$   
(c)  $sp$  (d)  $sp^3d^2$
- (23) In production of bleaching powder  $Cl_2$  gas reacts with which of the following compound?  
(a)  $CaCO_3$  (b)  $CaO$   
(c)  $Ca(OH)_2$  (d)  $CaOCl$
- (24) Which of the following have a square planar structure?  
(a)  $XeO_2F_2$  (b)  $X_3O_4$   
(c)  $XeF_4$  (d)  $XeF_6$
- (25) Which of the following statement is correct?  
(a)  $H_3PO_3$  is a monobasic and reducing agent  
(b)  $H_3PO_3$  is dibasic and reducing agent  
(c)  $H_3PO_3$  is a tribasic and reducing agent  
(d)  $H_3PO_3$  is a tribasic and oxidising agent
- (26) .....is a reducing agent while.....is an

oxidising agent.

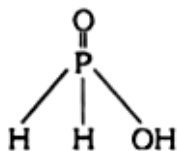
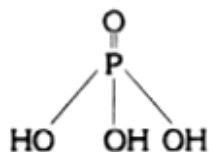
(a)  $\text{SO}_2, \text{TeO}_2$  (b)  $\text{TeO}_2, \text{SO}_2$

(c)  $\text{TeO}, \text{SO}_3$  (d)  $\text{SO}_3, \text{TeO}$

(27) Pick the correct structural formula of hypo phosphorus acid (phosphonic acid).



(c)



(28) What is the oxidation state of 'Cl' in the following compounds?  $\text{Cl}_2\text{O}$  and  $\text{ClO}_2$ .

(a) -1, -2

(b) +1, +4

(c) +1, +2

(d) -1, -4

(29)

Part-A		Part-B	
(1)	Oxides of N & P	(a)	Basic
(2)	Oxides of As & Sb	(b)	Amphoteric
(3)	Oxides of Bi	(c)	Acidic
		(d)	Neutral

(a) (1-c), (2-b), (3-c)

(b) (1-b), (2-c), (3-d)

(c) (1-c), (2-d), (3-a)

(d) (1-d), (2-a), (3-b)

(30) Match-A and B.

	Part-A		Part-B
(1)	Chile salt petre	(a)	$\text{Ca}_9(\text{PO}_4)_6 \cdot \text{CaF}_2$
(2)	Indian salt petre	(b)	$\text{NaNO}_3$
(3)	Fluorapatite	(c)	$\text{KNO}_3$

		(d)	$\text{NH}_4\text{NO}_3$
		(e)	$\text{Ca}_9(\text{PO}_4)_6 \cdot \text{Ca}(\text{OH})_2$

(a) (1-c), (2-d), (3-e)

(b) (1-e), (2-b), (3-c)

(c) (1-b), (2-c), (3-a)

(d) (1-d), (2-e), (3-b)

(31) Match A and B:

Part-A		Part-B	
(1)	Smoke screen	(a)	Nitric acid
(2)	Rocket Fuel	(b)	Phosphine
(3)	Welding of metal	(c)	Ozone
		(d)	Dioxygen
(d)		(e)	Sulphur dioxide

(a) (1-d), (2-c), (3-e)

(b) (1-b), (2-a), (3-d)

(c) (1-c), (2-e), (3-a)

(d) (1-e), (2-d), (3-c)

(32) A:  $\text{PCl}_3$  produces fumes when it come in contact with air or water.

B: P-Cl bond decompose and produces phosphorous acid.

(a) A and B both are correct and B is an explanation of A.

(b) A and B both are correct and B is not explanation of A.

(c) A is correct while B is wrong

(d) A is wrong while B is correct

(33) Ortho phosphoric acid is a weak triprotic acid because

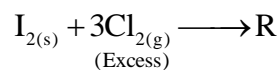
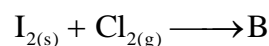
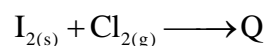
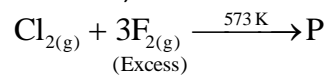
(e) It's three H atoms is directly connected with phosphorous

(f) It's three H atoms is connected with Oxygen atom

(g) It has three oxygen atoms

(h) None of these

(34) What is A, B and C?



- (a) P :  $2\text{ClF}_3$ , Q :  $2\text{ICl}$ , R :  $2\text{ICl}_3$   
 (b) P :  $2\text{ClF}$ , Q :  $2\text{ICl}_3$ , R :  $2\text{ClF}$   
 (c) P :  $2\text{ClF}_2$ , Q :  $2\text{ICl}$ , R :  $2\text{FCl}$   
 (d) P :  $\text{ClF}_3$ , Q :  $\text{ICl}_2$ , R :  $\text{ICl}_3$
- (35) From which of the following nitrogen is obtained?  
 (a) Sodium nitrate (b) Potassium nitrate  
 (c) Both (a) and (b) (d) Calcium nitrate
- (36) Which element is obtained from apatite?  
 (a) P (b) Ca (c) N (d) Bi
- (37) What is the formula of Apatite mineral?  
 (a)  $\text{Ca}_9(\text{PO}_4)_6 \cdot \text{CaF}_2$   
 (b)  $\text{Ca}_9(\text{PO}_4)_6 \cdot \text{Ca}(\text{OH})_2$   
 (c)  $\text{Ca}_9(\text{PO}_4)_6 \cdot \text{CaCl}_2$  (d) All of these
- (38) What is present in eggs and milk?  
 (a) Phospho protein (b) Phospholipids  
 (c) Glycolipids (d) All of these
- (39) What is the electronic configuration of elements of group-15?  
 (a)  $ns^2np^4$  (b)  $ns^2np^3$   
 (c)  $ns^2np^5$  (d)  $ns^2np^6$
- (40) What is the formula of Bismuthine?  
 (a)  $\text{Bi}_2\text{S}_3$  (b)  $\text{Bi}_2\text{O}_3$  (c)  $(\text{BiO})_2\text{CO}_3$  (d)  $\text{Bi}_2\text{S}_2$
- (41) Which of the following show the general oxidation state of Group-15 elements?  
 (a) -3, +3, +5 (b) +2, +3, +4 (c) -3, -4, +5  
 (d) -2, -3, -4
- (42) What is the general formula of hydride of 15<sup>th</sup> group?  
 (a)  $\text{MmH}_n$  (b)  $\text{MH}_3$   
 (c)  $\text{MmH}_{n-1}$  (d)  $\text{MH}_n$
- (43) Which is the correct order of basicity of the following?  
 (a)  $\text{NH}_3 > \text{PH}_3 > \text{AsH}_3 > \text{SbH}_3$   
 (b)  $\text{NH}_3 < \text{PH}_3 < \text{AsH}_3 < \text{SbH}_3$   
 (c)  $\text{PH}_3 > \text{NH}_3 > \text{AsH}_3 > \text{SbH}_3$   
 (d)  $\text{SbH}_3 > \text{AsH}_3 > \text{PH}_3 > \text{NH}_3$
- (44) Industrially dinitrogen ( $\text{N}_2$ ) gas is prepared by.....  
 (a) Liquefaction of air  
 (b) Fractional distillation  
 (c) Both (a) and (b) (d) Electrolysis
- (45) Which compound is used to prepare dinitrogen in laboratory?  
 (a)  $\text{NH}_4\text{Cl}$  (b)  $\text{NaNO}_3$   
 (c) Both (a) and (b) (d)  $\text{HNO}_3$
- (46) How the extrapure dinitrogen can be obtained?  
 (a) Thermal decomposition of sodium azide  
 (b) Thermal decomposition of barium azide  
 (c) Both (a) and (b)  
 (d) Thermal decomposition of potassium azide
- (47) Which are the two stable isotopes of Nitrogen?  
 (a)  $^{14}\text{N}$  and  $^{15}\text{N}$  (b)  $^{13}\text{N}$  and  $^{17}\text{N}$   
 (c)  $^{12}\text{N}$  and  $^{13}\text{N}$  (d)  $^7\text{N}$  and  $^8\text{N}$
- (48) What is the product of reaction between  $\text{N}_2$  and metals?  
 (a) Covalent nitride  
 (b) Ionic nitride  
 (c) Co-ordinate nitride (d) None
- (49) What is the product of the reaction between  $\text{N}_2$  and nonmetals?  
 (a) Covalent nitride (b) Ionic nitride  
 (c) Co-ordinate nitride (d) None
- (50) Which of following does not have allotropes?  
 (a) P (b) N  
 (c) As (d) Sb