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CHEMISTRY · EAPCET (EAMCET)

p-Block Elements

Previous Year Questions with answers

594 questions · **149** papers · **2010–2026** · newest paper first

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What is in this PDF: every p-Block Elements question we hold from past AP and TS EAPCET (called EAMCET until 2020 in Andhra Pradesh and 2023 in Telangana) papers, with its options and answer. Where an answer comes from a source other than the official final key, it says so next to the answer.

Step-by-step solutions for every question are free in the EdLoop EAPCET app (Google Play) and on app.edloop.in. More chapters: pyq.edloop.in/free-pdfs/

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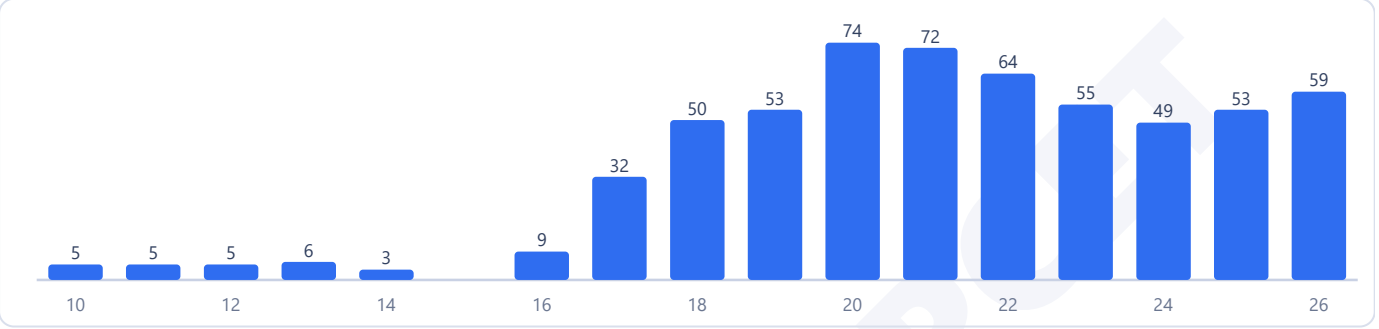
Chapter at a glance

9.1%	594	77 of 77	594 / 0
of Chemistry questions, 2022–2026	questions, 2010–2026	papers asked it, 2022–2026	MCQ / numerical, 2010–2026

Trend. Steady: 3.5 questions per paper in 2024–2026 against 3.8 in 2022–2023.

Questions per year



Counts are the questions we hold: 594 in 149 papers. 13 questions in this chapter came back in more than one paper.

Most-asked topics in this chapter (2010–2026)

Group 13 (Boron Family)	139
Group 14 (Carbon Family)	133
Group 15 (Nitrogen Family)	122
Group 16 (Oxygen Family)	76
Group 17 (Halogens)	63

How often it comes up

The p-Block Elements is the single heaviest chapter in the chemistry syllabus, reigning at rank 1 of 31 chemistry chapters between 2022 and 2026. Across our complete historical repository from 2010 through 2026, the chapter supplied an enormous 594 questions across 149 papers, appearing in every single examination to command exactly 10.0 percent of all chemistry questions with an average of 4.0 questions per paper. In the modern five-year window from 2022 to 2026, it remained the top contributor with 280 questions across 77 sittings, delivering 3.6 questions per paper and a 9.1 percent subject share.

The chapter holds an unbroken record in every paper between 2022 and 2026. Comparing regional jurisdictions during this timeframe, AP papers accumulated 148 questions across 48 sittings (3.1 questions per paper, 7.7 percent share), while TS papers gathered 132 questions over 29 sittings (4.6 questions per paper, 11.4 percent share).

Earlier examinations from 2010 through 2021 featured 314 questions across 72 sittings, which represented 4.4 questions per paper and 10.9 percent of the subject. Across the last three testing cycles from 2024 to 2026, examiners included 161 questions across 46 sittings, providing 3.5 questions per test and 8.8 percent share. Long-term trend analysis indicates that the share early versus the last three years is down, whereas the share recent versus the last three years is about the same. Every candidate encounters three to five questions from this vast combined block.

Most-asked topics

The chapter encompasses six chemical families spanning groups 13 through 18:

- **Group 13 (Boron Family)** leads the block with 139 questions overall and 68 during the recent period through 2026. Core themes include the anomalous atomic radius of gallium compared to aluminium due to d-electron shielding, preparation and three-centre two-electron bridging bonds of diborane, Lewis acidity of boron trihalides, borax bead tests, and orthoboric acid behaviour.
- **Group 14 (Carbon Family)** is close behind with 133 questions overall and 66 in the recent window through 2026. Questions explore allotropes of carbon (diamond, graphite, and fullerenes), catenation power, carbon monoxide and dioxide toxicity and bonding, synthesis and chain lengths of silicones, silicates, and zeolites.
- **Group 15 (Nitrogen Family)** provided 122 questions across the archive, with 60 occurring between 2022 and 2026. Key areas focus on nitrogen oxides (structures, oxidation states, and bond lengths), anomalous properties of dinitrogen, preparation and reducing actions of phosphine, phosphorus allotropes, and oxoacids of phosphorus.
- **Group 16 (Oxygen Family)** contributed 76 questions in total and 31 in the modern period through 2026. Topics include ozone synthesis and quantitative estimation, allotropes of sulphur (rhombic and monoclinic puckered rings), oxoacids of sulphur, and the industrial contact process for sulphuric acid.
- **Group 17 (Halogens)** accounts for 63 questions overall, with 30 appearing from 2022 to 2026. Items examine interhalogen compounds, oxidising power of halogens, bleaching powder, and acidic strengths of halogen oxoacids.
- **Group 18 (Noble Gases)** supplies 61 questions across the archive, with 25 between 2022 and 2026. Questions center on xenon fluorides and oxofluorides, their stepwise hydrolysis, molecular geometries, and lone pair counts.

What the questions look like

Examiners test descriptive chemical details, structural parameters, and industrial preparations. A recurring question asks you to arrange the boron family elements in order of increasing atomic or ionic radii, highlighting the gallium contraction caused by ineffective shielding of ten 3d electrons. Another standard format evaluates the stepwise hydrolysis of xenon hexafluoride, asking for the formulas, shapes, and oxidation states of xenon oxotetrafluoride, xenon dioxodifluoride, and xenon trioxide.

In nitrogen chemistry, problems frequently ask for the relative nitrogen-nitrogen bond lengths in nitrous oxide, dinitrogen trioxide, and dinitrogen tetroxide, or ask you to count peroxy, pyrophosphate, or hypophosphite bonds in phosphorus oxoacids. Questions on carbon and silicon often test silicone polymers, asking how the functionality of alkylchlorosilanes controls linear chains versus three-dimensional cross-linked networks.

How to practise it

Study p-block systematically family by family. For each group, master oxidation state stability trends driven by the inert pair effect: lower oxidation states become progressively more stable than group oxidation states down heavy elements (thallium prefers plus one over plus three, lead prefers plus two over plus four, and bismuth prefers plus three over plus five).

Draw the Lewis and VSEPR structures of all oxoacids of phosphorus, sulphur, chlorine, and xenon. Memorise the basicity of phosphorus oxoacids by counting hydrogen atoms directly attached to oxygen: hypophosphorous acid is monobasic with two reducing P-H bonds, phosphorous acid is dibasic with one P-H bond, and orthophosphoric acid is tribasic with zero P-H bonds. Note the bent banana bonds in diborane where two bridging hydrogen atoms connect two boron atoms via three-centre two-electron bonds.

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Q1 AP EAPCET 2026 · 18 May · Shift 1 MCQ

The reaction between X and Y produces a solid substance and a mixture of two gases, one of which is a colorless toxic gas. X and Y respectively are

(A) $LiAlH_4, BF_3$
(B) $NaBH_4, I_2$
(C) NaH, BF_3
(D) $LiBH_4, BCl_3$

Answer: (B) $NaBH_4, I_2$ · The council's preliminary key

Q2 AP EAPCET 2026 · 18 May · Shift 1 MCQ

X, Y and Z are three allotropes of carbon. They are used in black ink, in water filters and as reducing agent in metallurgy respectively. The correct statement about their production is

(A) X is produced by heating wood at high temperatures in absence of air
(B) Y is produced by burning hydrocarbons in limited air
(C) Z is produced by heating coal at high temperatures in absence of air
(D) All three are produced by same chemical process

Answer: (C) Z is produced by heating coal at high temperatures in absence of air · The council's preliminary key

Q3 AP EAPCET 2026 · 18 May · Shift 1 MCQ

Consider the following statements about sulphur allotropes and identify the incorrect statement

(A) In both rhombic and monoclinic sulphur, the S_8 ring has crown shape
(B) In cyclo S_6, the ring adopts the chair form
(C) The bond angle in S_8 ring is more than that of cyclo S_6 ring
(D) Monoclinic sulphur is stable below 369 K

Answer: (D) Monoclinic sulphur is stable below 369 K · The council's preliminary key

Q4 AP EAPCET 2026 · 18 May · Shift 1 MCQ

Consider the following statements regarding the hydrolysis of XeF_4

I. It is a disproportionation reaction

II. Xe and XeO_3 are formed in 2:1 molar ratio

III. O_2 gas is evolved in this reaction

The correct statements are

(A) I, II only
(B) II, III only
(C) I, III only
(D) I, II, III

Answer: (D) I, II, III · The council's preliminary key

Q5 AP EAPCET 2026 · 18 May · Shift 2 MCQ

What is the conjugate acid of $H_3P_2O_6^-$?

(A) Orthophosphorus acid
(B) Hypophosphorus acid
(C) Pyrophosphoric acid
(D) Hypophosphoric acid

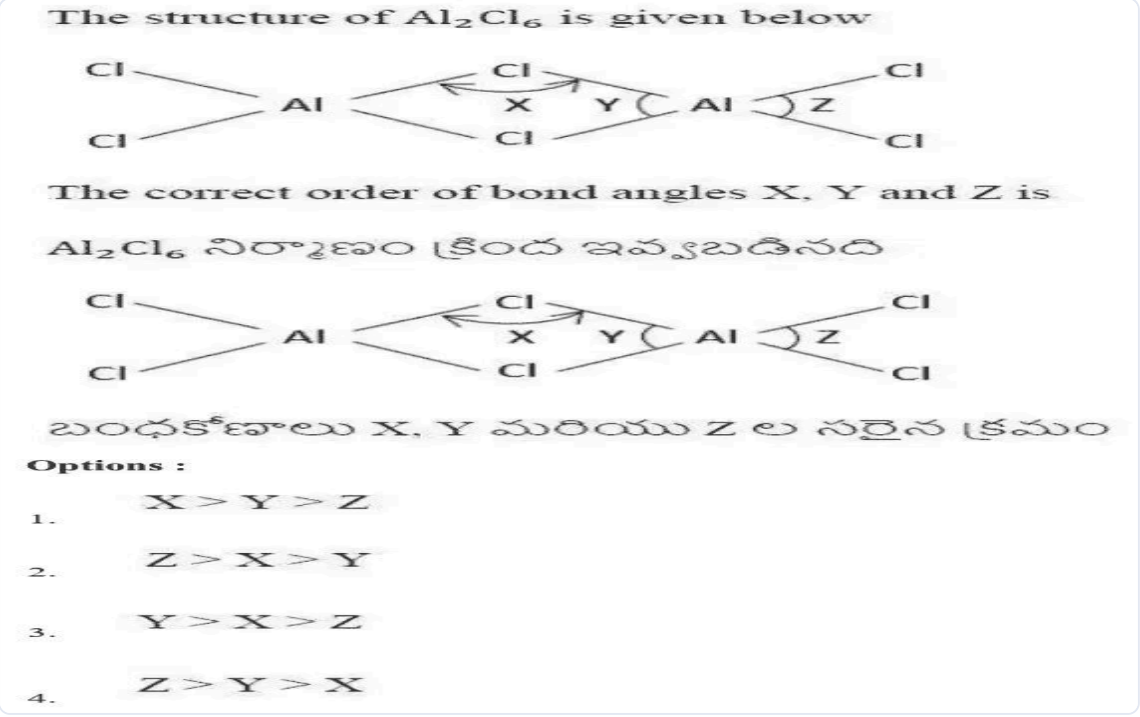
Answer: (D) Hypophosphoric acid · The council's preliminary key

Q6 AP EAPCET 2026 · 18 May · Shift 2 MCQ

The structure of Al_2Cl_6 is given below

(see the figure above)

The correct order of bond angles X, Y and Z is



(A) $X > Y > Z$
(B) $Z > X > Y$
(C) $Y > X > Z$
(D) $Z > Y > X$

Answer: (B) $Z > X > Y$ · The council's preliminary key

Q7 AP EAPCET 2026 · 18 May · Shift 2 MCQ

Which of the following reaction is not correct?

(A) $SiF_4 + 2F^- \rightarrow [SiF_6]^{2-}$
(B) $GeCl_4 + 2Cl^- \rightarrow [GeCl_6]^{2-}$
(C) $Sn(OH)_4 + 2OH^- \rightarrow [Sn(OH)_6]^{2-}$
(D) $SiCl_4 + 2Cl^- \rightarrow [SiCl_6]^{2-}$

Answer: (D) $SiCl_4 + 2Cl^- \rightarrow [SiCl_6]^{2-}$ · The council's preliminary key

Q8 AP EAPCET 2026 · 18 May · Shift 2 MCQ

The method by which very pure nitrogen can be obtained is

(A) Thermal decomposition of ammonium dichromate
(B) Thermal decomposition of barium azide
(C) Reaction of aqueous solution of ammonium chloride with sodium nitrite
(D) Thermal decomposition of ammonium nitrate

Answer: (B) Thermal decomposition of barium azide · The council's preliminary key

Q9 AP EAPCET 2026 · 15 May · Shift 1 MCQ

Observe the following reaction

$$Na_2B_4O_7 \xrightarrow{H_2O} \text{Acid} + \text{alkali}$$

The hybridisation of central atom of acid is

(A) sp^3
(B) sp^2
(C) dsp^2
(D) sp^3d^2

Answer: (B) sp^2 · The council's preliminary key

Q10 AP EAPCET 2026 · 15 May · Shift 1 MCQ

In group 13 elements, element Y has the lowest boiling point and element Z has lowest melting point. The nature of oxides of Y and Z is respectively

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(A) Acidic, amphoteric
(B) Amphoteric, Basic
(C) Basic, amphoteric
(D) Amphoteric, amphoteric

Answer: (C) Basic, amphoteric · The council's preliminary key

Q11 AP EAPCET 2026 · 15 May · Shift 1 MCQ

Consider the following statements

Statement –I: In three dimensional network of SiO_2, if few Si atoms are replaced by Al atoms, the resulting structure acquires a positive charge

Statement – II: Silicones are organo – silicon polymers which have $-(R_2SiO)-$ as a repeating unit

The correct answer is

(A) Both statements – I and II are correct
(B) Statement – I is correct but Statement – II is not correct
(C) Statement – I is not correct but Statement – II is correct
(D) Both statements – I and II are not correct

Answer: (C) Statement – I is not correct but Statement – II is correct · The council's preliminary key

Q12 AP EAPCET 2026 · 15 May · Shift 2 MCQ

Which of the following compounds is not correctly matched with the property given?

(A) Silica – Has high melting point
(B) Silicones – water-repellent and heat-resistant
(C) Zeolites – ion-exchangers
(D) Stannous chloride – good oxidizing agent

Answer: (D) Stannous chloride – good oxidizing agent · The council's preliminary key

Q13 AP EAPCET 2026 · 15 May · Shift 2 MCQ

The halogen oxide which is used in the estimation of carbon monoxide

(A) Cl_2O_7
(B) BrO_3
(C) I_2O_7
(D) I_2O_5

Answer: (D) I_2O_5 · The council's preliminary key

Q14 AP EAPCET 2026 · 15 May · Shift 2 MCQ

Given below are two statements

Statement I: The formation of $O_2^+[PtF_6]^-$ is the basis for the formation of Xenon flourides

Statement II: O_2 and Xe have almost same first ionisation enthalpy

The correct answer is

(A) Both statements I and II are correct
(B) Statement I is correct, but statement II is not correct
(C) Statement I is not correct, but statement II is correct
(D) Both statements I and II are not correct

Answer: (A) Both statements I and II are correct · The council's preliminary key

Q15 AP EAPCET 2026 · 14 May · Shift 1 MCQ

In which of the following boron and boron related substances are not correctly matched with the application shown against it?

(A) Boron fibres – manufacture of glass wool
(B) Metal borides – protective shields in nuclear industry
(C) Borax – flux for soldering metals
(D) Boric acid – mild antiseptic

Answer: (A) Boron fibres – manufacture of glass wool · The council's preliminary key

Q16 AP EAPCET 2026 · 14 May · Shift 1 MCQ

Which of the following oxoacids is formed when phosphonic acid is made to react with PCl_3?

(A) $H_4P_2O_6$
(B) $H_4P_2O_7$
(C) $H_4P_2O_5$
(D) $H_3P_3O_9$

Answer: (C) $H_4P_2O_5$ · The council's preliminary key

Q17 AP EAPCET 2026 · 14 May · Shift 1 MCQ

Which of the following statement is not correct about the structures of ozone and sulphur dioxide?

(A) Both have angular shape
(B) Both have resonance structures
(C) Both have same hybridization
(D) Both have same bond angles

Answer: (D) Both have same bond angles · The council's preliminary key

Q18 AP EAPCET 2026 · 14 May · Shift 2 MCQ

Which of the following statements regarding the similarities between boron and silicon is not correct?

(A) Both form halides that undergo hydrolysis
(B) Both form electron precise hydrides
(C) Both form acidic oxides
(D) Density of both is almost same

Answer: (B) Both form electron precise hydrides · The council's preliminary key

Q19 AP EAPCET 2026 · 14 May · Shift 2 MCQ

Which of the following carbon allotropes is not correctly matched with its use?

(A) Graphite – as electrode in batteries
(B) Diamond – as abrasive for cutting hard tools
(C) Coke – as reducing agent in extraction of metals
(D) Carbon black – in adsorbing poisonous gases

Answer: (D) Carbon black – in adsorbing poisonous gases · The council's preliminary key

Q20 AP EAPCET 2026 · 14 May · Shift 2 MCQ

Observe the following reaction

$$PH_3(aq) \xrightarrow{\text{Light}} X + H_2$$

Which of the following is NOT correct regarding X?

(A) It is non-poisonous, odourless solid
(B) It is insoluble in water and carbon disulphide
(C) It has polymeric structure
(D) It exhibits chemiluminescence in dark

Answer: (D) It exhibits chemiluminescence in dark · The council's preliminary key

Q21 AP EAPCET 2026 · 13 May · Shift 1 MCQ

Total number of electrons involved in the formation of bridge bonds in the structure of diborane is

(A) 6
(B) 2
(C) 4
(D) 3

Answer: (C) 4 · The council's preliminary key

Q22 AP EAPCET 2026 · 13 May · Shift 1 MCQ

Consider the following statements

Statement – I: Silica in its normal form is almost non-reactive because of very high Si-O bond enthalpy

Statement – II: Silica has no reaction with HF

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The correct answer is

(A) Both the statements I & II are correct.
(B) Statement I is correct but statement – II is NOT correct
(C) Statement I is NOT correct but statement – II is correct
(D) Both the statements I & II are NOT correct

Answer: (B) Statement I is correct but statement – II is NOT correct · The council's preliminary key

Q23 AP EAPCET 2026 · 13 May · Shift 1 MCQ

The reduction products formed when copper and zinc metals are separately oxidised with dilute HNO_3 respectively are

(A) NO , NO_2
(B) N_2O , NO
(C) NO , N_2O
(D) NO_2 , NO

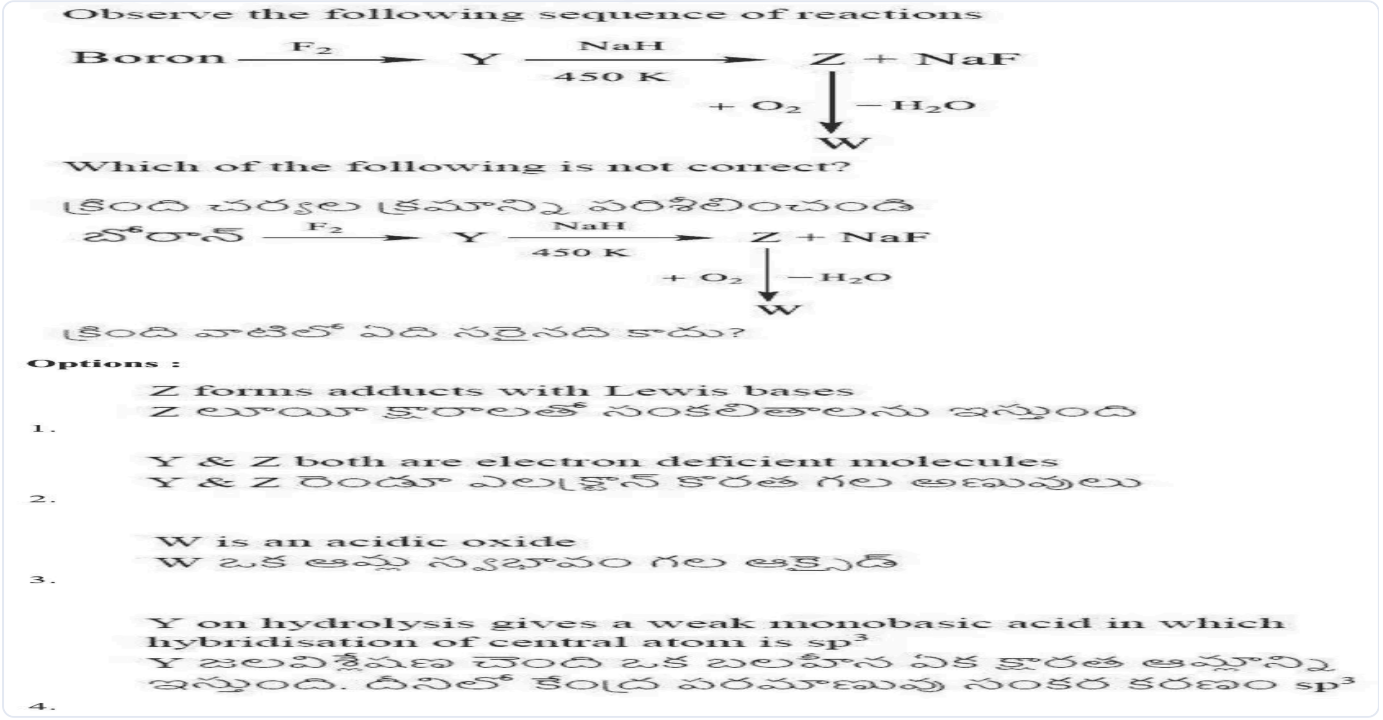
Answer: (C) NO , N_2O · The council's preliminary key

Q24 AP EAPCET 2026 · 13 May · Shift 2 MCQ

Observe the following sequence of reactions

(see the figure above)

Which of the following is not correct?



(A) Z forms adducts with Lewis bases
(B) Y & Z both are electron deficient molecules
(C) W is an acidic oxide
(D) Y on hydrolysis gives a weak monobasic acid in which hybridisation of central atom is sp^3

Answer: (D) Y on hydrolysis gives a weak monobasic acid in which hybridisation of central atom is sp^3 · The council's preliminary key

Q25 AP EAPCET 2026 · 13 May · Shift 2 MCQ

How many of the following molecules will give oxygen on thermal decomposition?

$(NH_4)_2Cr_2O_7$, $KClO_3$, HgO, NH_4NO_3, $KMnO_4$, $CaCO_3$, Pb_3O_4

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

Answer: (A) 4 · The council's preliminary key

Q26 AP EAPCET 2026 · 13 May · Shift 2 MCQ

Chlorine reacts with sodium thiosulphate in the presence of water and forms sodium sulphate, hydrochloric acid and X. Which of the following also produces X when reacted with chlorine?

(A) H_2S
(B) H_2SO_4
(C) SO_2
(D) $FeSO_4$

Answer: (A) H_2S · The council's preliminary key

Q27 AP EAPCET 2026 · 12 May · Shift 1 MCQ

The increasing order of N – N bond length of N_2O(A), N_2O_3(B), N_2O_4(C) is

(A) A, C, B
(B) A, B, C
(C) B, C, A
(D) C, B, A

Answer: (A) A, C, B · The council's preliminary key

Q28 AP EAPCET 2026 · 12 May · Shift 1 MCQ

BCl_3 on hydrolysis gives a complex ion $\underline{X}$. $AlCl_3$ in acidified aqueous solution forms a complex ion $\underline{Y}$. The hybridization of central atoms in X and Y are respectively

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(A) sp^3, sp^3
(B) sp^3, sp^3d
(C) sp^2, sp^3d^2
(D) sp^3, sp^3d^2

Answer: (D) sp^3, sp^3d^2 · The council's preliminary key

Q29 AP EAPCET 2026 · 12 May · Shift 1 MCQ

An oxoacid, X is formed by the reaction of P_4O_6 with water. When this acid is heated, it undergoes disproportionation to give a different oxoacid Y and a poisonous gas Z. Identify the correct statement regarding X, Y, Z

(A) X is a tribasic acid
(B) Y has two P-H bonds
(C) X forms another tribasic oxoacid on reacting with PCl_3
(D) Z acts as Lewis base

Answer: (D) Z acts as Lewis base · The council's preliminary key

Q30 AP EAPCET 2026 · 12 May · Shift 1 MCQ

Consider the following reactions which are not balanced

$$\mathrm{XeF_6 + H_2O \rightarrow X + HF}$$

$$\mathrm{XeF_6 + 2H_2O \rightarrow Y + HF}$$

$$\mathrm{XeF_6 + 3H_2O \rightarrow Z + HF}$$

The correct statement regarding X/Y/Z is

(A) X has square planar geometry
(B) Y has one $\mathrm{Xe{=}O}$ bond
(C) Z has no lone pairs of electrons on its central atom
(D) The oxidation state of Xenon in X, Y and Z is same

Answer: (D) The oxidation state of Xenon in X, Y and Z is same · The council's preliminary key

Q31 AP EAPCET 2026 · 12 May · Shift 2 MCQ

A boron compound $\underline{X}$ is obtained when aqueous solution of borax is treated with HCl. The incorrect statement about $\underline{X}$ is

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(A) It has layer structure
(B) Its basicity is 3
(C) On heating it gives an acidic oxide
(D) It is highly soluble in hot water

Answer: (B) Its basicity is 3 · The council's preliminary key

Q32 AP EAPCET 2026 · 12 May · Shift 2 MCQ

Observe the following statements about the oxides of group 14 elements

I. CO_2 is an acidic oxide but CO is a neutral oxide

II. Cristobalite is the crystalline form of silica

III. Liquid CO is called dry ice

IV. Both CO and CO_2 act as Lewis acids

The correct statements are

(A) I & II only
(B) I & III only
(C) I & IV only
(D) III & IV only

Answer: (A) I & II only · The council's preliminary key

Q33 AP EAPCET 2026 · 12 May · Shift 2 MCQ

Hydrolysis of chlorine nitrate gives oxoacid of chlorine $\underline{X}$ and oxoacid of nitrogen $\underline{Y}$.
The oxidation states of Cl in $\underline{X}$, N in $\underline{Y}$ are respectively

(A) $+1, \quad +3$
(B) $-1, \quad +3$
(C) $+1, \quad +5$
(D) $+3, \quad +5$

Answer: (C) $+1, \quad +5$ · The council's preliminary key

Q34 AP EAPCET 2026 · 12 May · Shift 2 MCQ

Compound X is formed when dry chlorine is passed over heated white phosphorous. X on hydrolysis gives an acid Y. What are the disproportionation products of Y?

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(A) H_3PO_4, H_3PO_2
(B) PH_3, H_3PO_4
(C) H_3PO_3, PH_3
(D) H_3PO_2, PH_3

Answer: (B) PH_3, H_3PO_4 · The council's preliminary key

Q35 TS EAPCET 2026 · 11 May · Shift 1 MCQ

The composition of Borax is $Na_2B_4O_7 \cdot xH_2O$ and that of Kernite is $Na_2B_4O_7 \cdot yH_2O$. (x-y) is equal to

(A) 4
(B) 3
(C) 2
(D) 6

Answer: (D) 6 · The council's preliminary key

Q36 TS EAPCET 2026 · 11 May · Shift 1 MCQ

Four sets of reactants required for the preparation of four different oxoacids of phosphorous are given below

I. PCl_3, H_3PO_3

II. P_2O_3, H_2O

III. Red P_4, alkali

IV. P_4O_{10}, H_2O

The oxoacids formed from which sets of reactants have phosphorus in +3 oxidation state?

(A) I, II only
(B) III, IV only
(C) II, III only
(D) I, IV only

Answer: (A) I, II only · The council's preliminary key

Q37 TS EAPCET 2026 · 11 May · Shift 1 MCQ

Ethyl alcohol on reaction with PCl_3 gives ethyl chloride and an oxoacid X. This on reaction with PCl_3 again forms another oxoacid Y. The number of $-OH$ groups in X and Y are respectively

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(A) 2, 3
(B) 2, 2
(C) 2, 4
(D) 3, 4

Answer: (B) 2, 2 · The council's preliminary key

Q38 TS EAPCET 2026 · 11 May · Shift 1 MCQ

In which of the following the order is not correctly matched with the property mentioned ?

(A) $HF < HCl < HBr < HI$ - Acidic strength
(B) $NH_3 > PH_3 > AsH_3 > SbH_3$ - Basic strength
(C) $H_2O < H_2S < H_2Se < H_2Te$ - Acidic strength
(D) $H_2O < H_2S < H_2Se < H_2Te$ - Bond angle

Answer: (D) $H_2O < H_2S < H_2Se < H_2Te$ **- Bond angle** · The council's preliminary key

Q39 TS EAPCET 2026 · 11 May · Shift 2 MCQ

Empirical formula weight of borazine is
(At. wt: H = 1 u, B = 10.8 u, N = 14 u)

(A) 13.0
(B) 13.4
(C) 26.8
(D) 40.2

Answer: (C) 26.8 · The council's preliminary key

Q40 TS EAPCET 2026 · 11 May · Shift 2 MCQ

XeF_4 on reaction with O_2F_2 at 143 K gives a Xenon compound A. This on complete hydrolysis gives HF and B. The hybridisation of central atom in B is

(A) sp^3
(B) sp^2
(C) sp^3d
(D) sp^3d^2

Answer: (A) sp^3 · The council's preliminary key

Q41 TS EAPCET 2026 · 11 May · Shift 2 MCQ

Which of the following statements are correct?

I. Reaction of bromine with excess fluorine gives a T-shaped compound

II. Iodine oxides decompose on heating

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III. Roasting of sulphide ores gives SO_2 as a byproduct

The correct answer is

(A) I, II only
(B) II, III only
(C) I, III only
(D) I, II, III

Answer: (B) II, III only · The council's preliminary key

Q42 TS EAPCET 2026 · 11 May · Shift 2 MCQ

Which of the following reactions are correct with respect to the formation of products?

I. $XeF_6 + NaF \rightarrow Na[XeF_7]$

II. $XeF_2 + PF_5 \rightarrow [XeF]^+[PF_6]^-$

III. $XeF_4 + SbF_5 \rightarrow [XeF_3]^+[SbF_6]^-$

The correct answer is

(A) II, III only
(B) I, III only
(C) I, II only
(D) I, II, III

Answer: (D) I, II, III · The council's preliminary key

Q43 TS EAPCET 2026 · 10 May · Shift 1 MCQ

Consider the following reactions

$$\text{Borax} \xrightarrow{H_2O} A + B$$

$$\text{Borax} \xrightarrow[HCl]{H_2O} B + C$$

Which of the following are the properties of A, B, C?

I. Both A, B are strong bases

II. B is a white crystalline solid with soapy touch

III. C is water soluble

The correct answer is

(A) I, II, III
(B) II, III only
(C) I, III only
(D) I, II only

Answer: (B) II, III only · The council's preliminary key

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Q44 TS EAPCET 2026 · 10 May · Shift 1 MCQ

Identify the complex ion which does not exist

(A) $[SiF_6]^{2-}$
(B) $[GeCl_6]^{2-}$
(C) $[Sn(OH)_6]^{2-}$
(D) $[SiCl_6]^{2-}$

Answer: (D) $[SiCl_6]^{2-}$ · The council's preliminary key

Q45 TS EAPCET 2026 · 10 May · Shift 1 MCQ

Match the following

	List-1 (Process)		List-2 (Catalyst)
A	Ostwald's process	I	$CuCl_2$
B	Haber's process	II	V_2O_5
C	Deacon's process	III	Iron oxide, K_2O, Al_2O_3
D	Contact process	IV	Rh gauge

The correct answer is

(A) A – II, B – III, C – IV, D – I
(B) A – IV, B – I, C – II, D – III
(C) A – IV, B – III, C – I, D – II
(D) A – II, B – IV, C – I, D – III

Answer: (C) A – IV, B – III, C – I, D – II · The council's preliminary key

Q46 TS EAPCET 2026 · 10 May · Shift 1 MCQ

Which one of the following oxides of nitrogen has linear structure?

(A) N_2O_5
(B) N_2O_4
(C) N_2O
(D) N_2O_3

Answer: (C) N_2O · The council's preliminary key

Q47 TS EAPCET 2026 · 10 May · Shift 1 MCQ

SO_2 reacts with chlorine in the presence of charcoal and gives a compound X. X on reaction with phosphorus gives SO_2 and Y. The shape of Y is

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(A) Pyramidal
(B) Tetrahedral
(C) Trigonal bipyramidal
(D) Angular

Answer: (C) Trigonal bipyramidal · The council's preliminary key

Q48 TS EAPCET 2026 · 10 May · Shift 2 MCQ

In graphite the C – C bond length with in the layer is X pm and the distance between two adjacent layers is Y pm. X and Y respectively are

(A) 340, 141.5
(B) 141.5, 340
(C) 141.5, 154
(D) 143.5, 340

Answer: (B) 141.5, 340 · The council's preliminary key

Q49 TS EAPCET 2026 · 10 May · Shift 2 MCQ

Which of the following orders are correct for the stated property?

I. $HF > HCl > HBr > HI$ - Thermal stability

II. $H_2O > H_2S > H_2Se > H_2Te$ - Bond dissociation enthalpy

III. $HClO_4 > HClO_3 > HClO_2 > HOCl$ - Acidic character

The correct answer is

(A) I, II only
(B) II, III only
(C) I, III only
(D) I, II, III

Answer: (D) I, II, III · The council's preliminary key

Q50 TS EAPCET 2026 · 10 May · Shift 2 MCQ

The transition temperature of sulphur is

(A) 369 °C
(B) 369 K
(C) 133 K
(D) 133 °C

Answer: (B) 369 K · The council's preliminary key

Q51 TS EAPCET 2026 · 9 May · Shift 1 MCQ

Identify the reactions which give orthoboric acid from the following

I. Acidification of an aqueous solution of borax

II. Hydrolysis of diborane

III. Hydrolysis of boron trichloride

The correct answer is

(A) I, II only
(B) II, III only
(C) I, III only
(D) I, II, III

Answer: (D) I, II, III · The council's preliminary key

Q52 TS EAPCET 2026 · 9 May · Shift 1 MCQ

The allotrope of carbon with aromatic character is

(A) Diamond
(B) Graphite
(C) Coke
(D) Fullerence

Answer: (D) Fullerence · The council's preliminary key

Q53 TS EAPCET 2026 · 9 May · Shift 1 MCQ

The bond angle in the most stable form of sulphur at room temperature is

(A) 102.2°
(B) 201.2°
(C) 107°
(D) 117°

Answer: (C) 107° · The council's preliminary key

Q54 TS EAPCET 2026 · 9 May · Shift 1 MCQ

Iodine on reaction with concentrated nitric acid gives three products X, Y and Z. The sum of oxidation numbers of the central atoms in X, Y and Z is

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(A) 5
(B) 6
(C) 7
(D) 4

Answer: (C) 7 · The council's preliminary key

Q55 TS EAPCET 2026 · 9 May · Shift 1 MCQ

The reaction of chlorine with hot and conc. NaOH solution gave two chlorine containing products X, Y and $\mathrm{H_2O}$. Oxidation number of chlorine in X and Y is

(A) $+1, +5$
(B) $-1, +1$
(C) $-1, +5$
(D) $+1, +3$

Answer: (C) $-1, +5$ · The council's preliminary key

Q56 TS EAPCET 2026 · 9 May · Shift 2 MCQ

The correct order of metallic radius of Al, Ga, In, Tl is

(A) Tl > In > Al > Ga
(B) Tl > In > Ga > Al
(C) In > Ga > Al > Tl
(D) Ga > In > Tl > Al

Answer: (A) Tl > In > Al > Ga · The council's preliminary key

Q57 TS EAPCET 2026 · 9 May · Shift 2 MCQ

Given below are two statements

Statement-I: Silicones have high thermal stability and high dielectric strength

Statement-II: In silica Si–O bond enthalpy is very high

The correct answer is

(A) Both statements I and II are correct
(B) Both statements I and II are not correct
(C) Statement I is correct, but statement II is not correct
(D) Statement I is not correct, but statement II is correct

Answer: (A) Both statements I and II are correct · The council's preliminary key

Q58 TS EAPCET 2026 · 9 May · Shift 2 MCQ

Observe the following

$P_2O_3 \xrightarrow{H_2O} X \xrightarrow{PCl_3} Y$

$P_4O_{10} \xrightarrow{H_2O} Z \xrightarrow{\Delta} W$

Which of the following are common for both Y and W?

I. Four P−OH bonds

II. Two P−H bonds

III. Two P=O bonds

IV. One P−O−P bond

The correct answer is (only)

(A) I, III, IV only

(B) I, II, III only

(C) II, III, IV only

(D) III, IV only

Answer: (D) III, IV only · The council's preliminary key

Q59 TS EAPCET 2026 · 9 May · Shift 2 MCQ

What are X, Y in the following reactions?

$$2X_2(g) + 2H_2O(l) \rightarrow 4H^+(aq) + 4X^-(aq) + O_2(g)$$

$$Y_2(g) + H_2O(l) \rightarrow HY(aq) + HOY(aq)$$

(A) $X = F, Y = I$

(B) $X = I, Y = Cl$

(C) $X = F, Y = Cl$

(D) $X = Cl, Y = I$

Answer: (C) $X = F, Y = Cl$ · The council's preliminary key

Q60 AP EAPCET 2025 · 27 May · Shift 1 MCQ

Select the correct statements from the following.

A) Aluminium liberates H_2 gas with dil.HCl but not with aqueous $NaOH$.

B) Formula of sodium metaborate is Na_3BO_3

C) Boric acid is a weak monobasic acid

D) For thallium, +1 state is more stable than +3 state.

(A) A & B
(B) B & C
(C) C & D
(D) A & D

Answer: (C) C & D · The council's preliminary key

Q61 AP EAPCET 2025 · 27 May · Shift 1 MCQ

Complete hydrolysis of Xenon hexafluoride gives HF along with compound X. The hybridisation in X is

(A) sp^3
(B) sp
(C) sp^2
(D) sp^3d

Answer: (A) sp^3 · The council's preliminary key

Q62 AP EAPCET 2025 · 26 May · Shift 1 MCQ

Which of the following reactions give H_2 as one of the products ? (Reactions are not balanced) (only)

I) $NaBH_4 + I_2 \longrightarrow$

II) $B_2H_6 + N(CH_3)_3 \longrightarrow$

III) $Al + NaOH + H_2O \longrightarrow$

IV) $BF_3 + NaH \longrightarrow$

(A) I, II & III only
(B) II & IV only
(C) I & III only
(D) II, III & IV only

Answer: (C) I & III only · The council's preliminary key

Q63 AP EAPCET 2025 · 26 May · Shift 1 MCQ

Consider the following.

Statement-I : CCl_4 does not undergo hydrolysis. But $SiCl_4$ undergoes hydrolysis.

Statement-II : Thermal and chemical stability of GeX_4 is more than GeX_2

The correct answer is

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(A) Both statement-I and statement-II are correct
(B) Both statement-I and statement-II are not correct
(C) Statement-I is correct, but statement-II is not correct
(D) Statement-I is not correct, but statement-II is correct

Answer: (A) Both statement-I and statement-II are correct · The council's preliminary key

Q64 AP EAPCET 2025 · 26 May · Shift 1 MCQ

Orthophosphorus acid on disproportionation gives PH_3 and another oxoacid of phosphorus 'X'. The basicity of X is

(A) 2
(B) 1
(C) 3
(D) 4

Answer: (C) 3 · The council's preliminary key

Q65 AP EAPCET 2025 · 26 May · Shift 2 MCQ

Identify the correct statements

I) CO reduces the oxygen carrying ability of blood

II) Producer gas contains CO & N_2

III) C-O bond length in CO_2 is 115 pm

(A) I & III only
(B) I, II & III
(C) I & II only
(D) II & III only

Answer: (B) I, II & III · The council's preliminary key

Q66 AP EAPCET 2025 · 24 May · Shift 1 MCQ

Identify the incorrect statement about silica.

(A) It is acidic in nature
(B) It has no reaction with most of acids except HF
(C) With $NaOH$ it forms sodium silicate
(D) Like graphite, it has two dimensional structure

Answer: (D) Like graphite, it has two dimensional structure · The council's preliminary key

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Q67 AP EAPCET 2025 · 24 May · Shift 1 MCQ

The number of $P=O$, $P-P$ bonds present in oxoacid of phosphorus, prepared by treating red P_4 with alkali are respectively

(A) 2, 1
(B) 1, 1
(C) 1, 2
(D) 2, 2

Answer: (A) 2, 1 · The council's preliminary key

Q68 AP EAPCET 2025 · 23 May · Shift 1 MCQ

Which one of the following reactions is not feasible ?

(A) $Cl_2(g) + 2KBr(aq) \longrightarrow 2KCl(g) + Br_2(l)$
(B) $Cl_2(g) + 2KI(aq) \longrightarrow 2KCl(aq) + I_2(s)$
(C) $Br_2(l) + 2KI(aq) \longrightarrow 2KBr(aq) + I_2(s)$
(D) $I_2(s) + 2KBr(aq) \longrightarrow 2KI(aq) + Br_2(l)$

Answer: (D) $I_2(s) + 2KBr(aq) \longrightarrow 2KI(aq) + Br_2(l)$ · The council's preliminary key

Q69 AP EAPCET 2025 · 23 May · Shift 1 MCQ

Identify the reaction in which diborane is produced on industrial scale ?

(A) Reaction of BF_3 with LiA/H_4 in diethyl ether
(B) Oxidation of $NaBH_4$ with I_2
(C) Reaction of BF_3 with NaH at 450 K
(D) By heating H_3BO_3 to above 370 K temperature

Answer: (C) Reaction of BF_3 with NaH at 450 K · The council's preliminary key

Q70 AP EAPCET 2025 · 23 May · Shift 1 MCQ

Which of the following properties is not correct for silicones ?

(A) bio compatible
(B) high thermal stability
(C) low dielectric strength
(D) water repelling in nature

Answer: (C) low dielectric strength · The council's preliminary key

Q71 AP EAPCET 2025 · 23 May · Shift 1 MCQ

Which of the following is not correct ?

(A) Thermal stability : $H_2O > H_2S > H_2Se > H_2Te > H_2Po$
(B) Reducing property : $H_2S > H_2Se > H_2Te > H_2Po$
(C) Boiling point : $H_2S < H_2Se < H_2Te < H_2O$
(D) Melting point : $H_2S < H_2Se < H_2Te < H_2O$

Answer: (B) Reducing property : $H_2S > H_2Se > H_2Te > H_2Po$ · The council's preliminary key

Q72 AP EAPCET 2025 · 23 May · Shift 2 MCQ

Identify the incorrect statement about the group 13 elements

(A) Nature of aqueous solution of borax is alkaline
(B) Orthoboric acid is a weak tribasic acid
(C) Metaboric acid on heating gives an acidic oxide
(D) $LiBH_4$ acts as a reducing agent

Answer: (B) Orthoboric acid is a weak tribasic acid · The council's preliminary key

Q73 AP EAPCET 2025 · 23 May · Shift 2 MCQ

Which of the following statements are correct ?

I) SnF_4 is ionic in nature

II) Stability of dihalides of group 14 elements increases down the group

III) $GeCl_2$ is more stable than $GeCl_4$

(A) I, II & III
(B) I & III only
(C) II & III only
(D) I & II only

Answer: (D) I & II only · The council's preliminary key

Q74 AP EAPCET 2025 · 23 May · Shift 2 MCQ

Nature of two oxides of nitrogen X and Y formed in the reaction of sodium nitrite with hydrochloric acid is

(A) Both X and Y are acidic in nature
(B) X is acidic and Y is neutral in nature
(C) Both X and Y are neutral in nature
(D) X is amphoteric and Y is neutral in nature

Answer: (B) X is acidic and Y is neutral in nature · The council's preliminary key

Q75 AP EAPCET 2025 · 22 May · Shift 1 MCQ

The incorrect statement from the following is

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(A) Aluminium dissolves in conc.HNO_3 and liberates H_2 gas
(B) Borazole contains 12σ and 3π bonds
(C) Gallium oxide is amphoteric in nature
(D) BF_3 is a Lewis acid

Answer: (A) Aluminium dissolves in conc.HNO_3 and liberates H_2 gas · The council's preliminary key

Q76 AP EAPCET 2025 · 22 May · Shift 1 MCQ

In Buckminster fullerene, the number of six membered carbon rings is 'x' and five membered carbon rings is 'y', $(x + y)$ value is

(A) 30
(B) 31
(C) 32
(D) 33

Answer: (C) 32 · The council's preliminary key

Q77 AP EAPCET 2025 · 22 May · Shift 2 MCQ

Consider the following

Statement-I : Al_2O_3 is amphoteric in nature.

Statement-II : Tl_2O_3 is more basic than Ga_2O_3

The correct answer is

(A) Both statement-I and statement-II are correct
(B) Both statement-I and statement-II are not correct
(C) Statement-I is correct, but statement-II is not correct
(D) Statement-I is not correct, but statement-II is correct

Answer: (A) Both statement-I and statement-II are correct · The council's preliminary key

Q78 AP EAPCET 2025 · 22 May · Shift 2 MCQ

Identify the incorrect order against the stated property.

(A) $Ge > Sn > Pb$ - Ionization enthalpy
(B) $Ge > Pb > Sn$ - Melting point
(C) $Pb > Sn > Ge$ - Density
(D) $Ge > Pb > Sn$ - Electrical resistivity

Answer: (A) $Ge > Sn > Pb$ - Ionization enthalpy · The council's preliminary key

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Q79 AP EAPCET 2025 · 22 May · Shift 2 MCQ

White phosphorus on heating with concentrated NaOH solution in an inert atmosphere of $\mathrm{CO_2}$ gives a salt 'X' and gas 'Y'. The oxidation state of central atom in X and Y is respectively

(A) $-3, +1$
(B) $+1, -3$
(C) $0, -3$
(D) $+1, +2$

Answer: (B) $+1, -3$ · The council's preliminary key

Q80 AP EAPCET 2025 · 21 May · Shift 1 MCQ

Consider the following.

Statement-I : The order of electronegativity of $\mathrm{B, Al, In, Tl}$ is $\mathrm{B > Tl > Al > In}$

Statement-II : Boric acid is a weak protonic acid

The correct answer is

(A) Both statement-I and statement-II are correct
(B) Both statement-I and statement-II are not correct
(C) Statement-I is correct, but statement-II is not correct
(D) Statement-I is not correct, but statement-II is correct

Answer: (B) Both statement-I and statement-II are not correct · The council's preliminary key

Q81 AP EAPCET 2025 · 21 May · Shift 1 MCQ

Which of the following does not exist ?

(A) $[\mathrm{SiCl_6}]^{2-}$
(B) $[\mathrm{GeCl_6}]^{2-}$
(C) $[\mathrm{SiF_6}]^{2-}$
(D) $[\mathrm{Sn(OH)_6}]^{2-}$

Answer: (A) $[\mathrm{SiCl_6}]^{2-}$ · The council's preliminary key

Q82 AP EAPCET 2025 · 21 May · Shift 1 MCQ

Consider the following.

Assertion (A) : CO is poisonous to living beings

Reason (R) : CO binds to haemoglobin forming carboxyhaemoglobin, which is less stable than oxygen-haemoglobin complex.

Correct answer is

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(A) (A) and (R) both are correct and (R) is the correct explanation for (A)
(B) (A) and (R) both are correct and (R) is not the correct explanation for (A)
(C) (A) is correct, but (R) is not correct
(D) (A) is not correct, but (R) is correct

Answer: (C) (A) is correct, but (R) is not correct · The council's preliminary key

Q83 AP EAPCET 2025 · 21 May · Shift 1 MCQ

Gas X is obtained in Deacon's process. X on reacting with iodine and water gives

(A) HIO_4
(B) HIO_2
(C) HIO
(D) HIO_3

Answer: (D) HIO_3 · The council's preliminary key

Q84 AP EAPCET 2025 · 21 May · Shift 2 MCQ

In the structure of diborane, the number of 2-centre-2-electron bonds is X and 3-centre-2-electron bonds is Y. The value of $(X + Y)$ is

(A) 5
(B) 6
(C) 4
(D) 8

Answer: (B) 6 · The council's preliminary key

Q85 AP EAPCET 2025 · 21 May · Shift 2 MCQ

Match the following

List-I (Compound)	List-II (Use)
A) Kieselghur	I) Chromotographic material
B) Silica gel	II) Softening of hard Water
C) ZSM-5	III) Filtration plants
D) Hydrated zeolites	IV) To convert alcohol directly into gasoline

The correct answer is

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(A) A-IV, B-III, C-II, D-I
(B) A-IV, B-I, C-II, D-III
(C) A-III B-IV, C-I, D-II
(D) A-III, B-I, C-IV, D-II

Answer: (D) A-III, B-I, C-IV, D-II · The council's preliminary key

Q86 AP EAPCET 2025 · 21 May · Shift 2 MCQ

The oxides of nitrogen obtained by the reaction of nitric acid with (i) P_4O_{10}, (ii) P_4 respectively are

(A) NO, N_2O
(B) N_2O_3, NO
(C) N_2O_5, NO_2
(D) NO_2, N_2O

Answer: (C) N_2O_5, NO_2 · The council's preliminary key

Q87 TS EAPCET 2025 · 4 May · Shift 1 MCQ

Boron trifluoride on reaction with lithium aluminium hydride in ether gives LiF, AlF_3 and X. X on reaction with NH_3 gives Y. Y on further heating gives a compound Z. The number of σ-bonds and π-bonds in Z are x and y respectively. $(x + y)$ is equal to

(A) 15
(B) 12
(C) 14
(D) 18

Answer: (A) 15 · The council's preliminary key

Q88 TS EAPCET 2025 · 4 May · Shift 1 MCQ

Consider the following sequence of reactions.

$$2CH_3Cl + Si \xrightarrow[573\ K]{Cu} X \xrightarrow{H_2O} Y \xrightarrow{Polymerization} Z$$

The repeating structural unit in Z is

Consider the following sequence of reactions.
క్రింది క్రమాను చర్యలను పరిగణించుము.

$$2CH_3Cl + Si \xrightarrow[573\ K]{Cu} X \xrightarrow{H_2O} Y \xrightarrow[\text{పాలిమరీకరణం}]{\text{Polymerization}} Z$$

The repeating structural unit in Z is
Z లో పునరావృతమయ్యే నిర్మాణాత్మక యూనిట్

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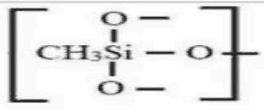
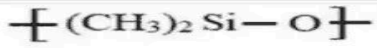
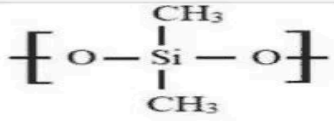
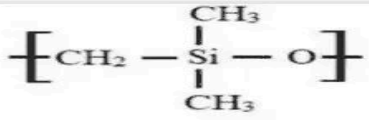
1. 
2. 
3. 
4. 

(A) *see figure*

(B) $[(CH_3)_2Si - O]$ (written as a repeating unit in brackets with open bond lines at both ends)

(C) *see figure*

(D) *see figure*

Answer: (B) $[(CH_3)_2Si - O]$ **(written as a repeating unit in brackets with open bond lines at both ends)** · The council's preliminary key

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Q89 TS EAPCET 2025 · 4 May · Shift 1 MCQ

What are the products formed when ammonium dichromate is thermally decomposed?

(A) NO_2, Cr_2O_3, H_2

(B) N_2O, Cr_2O_3, H_2O

(C) N_2, CrO_3, H_2O

(D) N_2, Cr_2O_3, H_2O

Answer: (D) N_2, Cr_2O_3, H_2O · The council's preliminary key

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Q90 TS EAPCET 2025 · 4 May · Shift 1 MCQ

Sulphur dioxide on reaction with chlorine in the presence of charcoal gives compound (A). This on reaction with white phosphorus gives SO_2 and compound (B). The correct statement about 'B' is

(A) The shape of 'B' is pyramidal
(B) 'B' on hydrolysis gives phosphorus acid
(C) 'B' in solid state exists as an ionic solid
(D) In 'B' all bonds are equivalent

Answer: (C) 'B' in solid state exists as an ionic solid · The council's preliminary key

Q91 TS EAPCET 2025 · 4 May · Shift 2 MCQ

In which of the following reactions, hydrogen is evolved?

I. Reaction of sodium borohydride with iodine

II. Oxidation of diborane

III. Reaction of boron trifluoride with sodium hydride

IV. Hydrolysis of diborane

(A) I, IV only
(B) I, II only
(C) III, IV only
(D) I, II, IV only

Answer: (A) I, IV only · The council's preliminary key

Q92 TS EAPCET 2025 · 4 May · Shift 2 MCQ

Which of the following statements is not correct regarding the gas evolved by the reaction of dilute HCl on $CaCO_3$?

(A) It is colourless, odourless gas
(B) It has least solubility in water
(C) It is acidic in nature
(D) It is poisonous gas

Answer: (D) It is poisonous gas · The council's preliminary key

Q93 TS EAPCET 2025 · 4 May · Shift 2 MCQ

Which of the following gives more number of oxides on reacting with HCl?

(A) Na_2CO_3
(B) $NaNO_2$
(C) Na_2SO_3
(D) $NaHCO_3$

Answer: (B) $NaNO_2$ · The council's preliminary key

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Q94 TS EAPCET 2025 · 4 May · Shift 2 MCQ

Which of the following statements is not correct?

(A) TeO_2 is an oxidizing agent
(B) SeO_3 is acidic in nature
(C) SeO_2 is a gas
(D) SO_2 is reducing agent

Answer: (C) SeO_2 is a gas · The council's preliminary key

Q95 TS EAPCET 2025 · 3 May · Shift 1 MCQ

Which of the following is an incorrect statement about the compounds of group 13 elements?

(A) All the trihalides exist except TlI_3
(B) Trihalides on hydrolysis form tetrahedral species
(C) Diborane is an example of electron precise hydride
(D) Hydrolysis of diborane gives boric acid

Answer: (C) Diborane is an example of electron precise hydride · The council's preliminary key

Q96 TS EAPCET 2025 · 3 May · Shift 1 MCQ

The incorrect statement about the oxidation states of group 14 elements is

(A) In addition to $+4$, $+2$, carbon also shows negative oxidation states
(B) Tin in $+2$ state acts as a reducing agent
(C) Lead in $+2$ state acts as good reducing agent
(D) Lead in $+4$ state acts as a good oxidising agent

Answer: (C) Lead in $+2$ state acts as good reducing agent · The council's preliminary key

Q97 TS EAPCET 2025 · 3 May · Shift 1 MCQ

Thionyl chloride on reaction with white phosphorus gives a compound of phosphorus 'C' which on hydrolysis gives an oxo acid 'O'. The correct statements about C and O are

I. Shape of 'C' is pyramidal

II. 'O' is a dibasic acid

III. 'O' is a monobasic acid

IV. 'C' on reaction with acetic acid gives 'O'

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(A) I & II only
(B) II & IV only
(C) I, III & IV only
(D) I, II & IV only

Answer: (D) I, II & IV only · The council's preliminary key

Q98 TS EAPCET 2025 · 3 May · Shift 1 MCQ

Which one of the following statements is not correct?

(A) Chlorine oxidises ferrous salts to ferric salts in acidic medium
(B) Chlorine oxidises iodine to periodic acid in water
(C) Chlorine acts as a bleaching agent due to oxidation
(D) Chlorine is manufactured by Deacon's process

Answer: (B) Chlorine oxidises iodine to periodic acid in water · The council's preliminary key

Q99 TS EAPCET 2025 · 3 May · Shift 1 MCQ

Consider the following

Assertion (A): phosphorus can form both phosphorus (III) and phosphorus (V) chlorides but nitrogen cannot form nitrogen(V) chloride.

Reason (R): The electronegativity of nitrogen is more than that of phosphorus

The correct answer is

(A) Both (A) and (R) are correct, (R) is the correct explanation of (A)
(B) (A) is correct, but (R) is not correct
(C) Both (A) and (R) are correct, (R) is not the correct explanation of (A)
(D) (A) is not correct, but (R) is correct

Answer: (C) Both (A) and (R) are correct, (R) is not the correct explanation of (A) · The council's preliminary key

Q100 TS EAPCET 2025 · 3 May · Shift 2 MCQ

Diborane on hydrolysis gives a compound X. The correct statements about X are

I. It is a tribasic acid

II. It is a weak monobasic acid

III. It has a layer structure

IV. It is highly soluble in water

(A) I & III
(B) II & III
(C) II & IV
(D) I & IV

Answer: (B) II & III · The council's preliminary key

Q101 TS EAPCET 2025 · 3 May · Shift 2 MCQ

Choose the correct statements about allotropes of carbon

I. Graphite has layered structure

II. Buckminster fullerene is not aromatic in nature

III. The distance between two adjacent layers in graphite is 141.5 pm

IV. The hybridization of carbons in graphite and Buckminster fullerene is same

(A) I & IV
(B) I & II
(C) II & III
(D) III & IV

Answer: (A) I & IV · The council's preliminary key

Q102 TS EAPCET 2025 · 3 May · Shift 2 MCQ

Which one of the orders is correctly matched with the property mentioned against it?

(A) $H_2S < H_2O < H_2Se < H_2Te$ (Boiling point)
(B) $N_2O < NO < N_2O_3 < N_2O_4 < N_2O_5$ (Acidic nature)
(C) $HI < HCl < HBr < HF$ (Acidic nature)
(D) $H_2O < H_2S < H_2Se < H_2Te$ (Bond angle)

Answer: (B) $N_2O < NO < N_2O_3 < N_2O_4 < N_2O_5$ **(Acidic nature)** · The council's preliminary key

Q103 TS EAPCET 2025 · 3 May · Shift 2 MCQ

Noble gas 'X' is used as a diluent for oxygen in modern diving apparatus and noble gas 'Y' is used mainly to provide an inert atmosphere in high temperature metallurgical processes. 'Y' and 'X' are respectively?

(A) He, Ar
(B) Ar, He
(C) He, Kr
(D) Ar, Kr

Answer: (B) Ar, He · The council's preliminary key

Q104 TS EAPCET 2025 · 3 May · Shift 2 MCQ

The dibasic oxoacid of phosphorus on disproportionation gives two products A and B. A and B are respectively

(A) HPO_3, PH_3
(B) H_3PO_2, H_2O
(C) H_3PO_4, PH_3
(D) $H_4P_2O_6, H_3PO_2$

Answer: (C) H_3PO_4, PH_3 · The council's preliminary key

Q105 TS EAPCET 2025 · 2 May · Shift 1 MCQ

Phosphorus on reaction with sulphuryl chloride gives a compound X, which on complete hydrolysis gives Y. X and Y are respectively

(A) PCl_3, H_3PO_3
(B) $PCl_5, POCl_3$
(C) PCl_5, H_3PO_4
(D) PCl_3, H_3PO_2

Answer: (C) PCl_5, H_3PO_4 · The council's preliminary key

Q106 TS EAPCET 2025 · 2 May · Shift 1 MCQ

Xenon hexafluoride on partial hydrolysis gives 'X' and HF. The shape of 'X' is

(A) Pyramidal
(B) Tetrahedral
(C) Square pyramidal
(D) Linear

Answer: (C) Square pyramidal · The council's preliminary key

Q107 TS EAPCET 2025 · 2 May · Shift 1 MCQ

Which of the following pairs of oxoacids have basicity as 2?

(A) H_3PO_3, H_2SO_4
(B) H_3PO_2, H_2SO_3
(C) H_3PO_4, H_3PO_2
(D) $H_2S_2O_8$, H_3PO_2

Answer: (A) H_3PO_3, H_2SO_4 · The council's preliminary key

Q108 TS EAPCET 2025 · 2 May · Shift 2 MCQ

The correct statements about the compounds of boron are

I. In borax bead test, the colour of cobalt metaborate is blue

II. Diborane is prepared by the oxidation of sodium borohydride with iodine

III. In diborane oxidation state of hydrogen is + 1

IV. Boric acid is a tribasic acid

(A) I & II
(B) III & IV
(C) I & III
(D) II & IV

Answer: (A) I & II · The council's preliminary key

Q109 TS EAPCET 2025 · 2 May · Shift 2 MCQ

Dehydration of an organic acid X with concentrated H_2SO_4 at 373K gives H_2O and gas Y. The hybridisation of the carbon in Y and nature of Y are respectively

(A) sp^2, Neutral
(B) sp, Neutral
(C) sp^2, acidic
(D) sp, acidic

Answer: (B) sp, Neutral · The council's preliminary key

Q110 TS EAPCET 2025 · 2 May · Shift 2 MCQ

An oxoacid of phosphorus 'X' reduces silver nitrate solution to metallic silver and gets oxidised to another compound Y. X and Y respectively are.

(A) HPO_3, H_3PO_4
(B) H_3PO_2, H_3PO_4
(C) H_3PO_3, H_3PO_2
(D) H_3PO_2, HNO_3

Answer: (B) H_3PO_2, H_3PO_4 · The council's preliminary key

Q111 TS EAPCET 2025 · 2 May · Shift 2 MCQ

Zinc on reaction with concentrated nitric acid gives an oxide of nitrogen (A). Zinc with dilute nitric acid gives another oxide of nitrogen (B). Oxidation numbers of nitrogen in (A) & (B) are respectively

(A) $+4, +1$
(B) $+4, +2$
(C) $+2, +4$
(D) $+1, +4$

Answer: (A) $+4, +1$ · The council's preliminary key

Q112 TS EAPCET 2025 · 2 May · Shift 2 MCQ

Identify the reaction related to Deacon's process

(A) $2H_2O + 2Cl_2 \xrightarrow{\text{sunlight}} 4HCl + O_2$

(B) $4HCl + O_2 \xrightarrow[723\,K]{CuCl_2} 2Cl_2 + 2H_2O$

(C) $2NaCl + H_2SO_4 \xrightarrow{823\,K} Na_2SO_4 + 2HCl$

(D) $Na_2S_2O_3 + Cl_2 + H_2O \longrightarrow Na_2SO_4 + 2HCl + S$

Answer: (B) $4HCl + O_2 \xrightarrow[723\,K]{CuCl_2} 2Cl_2 + 2H_2O$ · The council's preliminary key

Q113 AP EAPCET 2024 · 23 May · Shift 1 MCQ

Identify the correct sets

i. Boron fibres – bullet proof vest

ii. Metal borides – protective shields

iii. Borax – glass wool

Correct option is

(A) i, ii only

(B) i, ii, iii

(C) i, iii only

(D) ii, iii only

Answer: (B) i, ii, iii · The council's preliminary key

Q114 AP EAPCET 2024 · 23 May · Shift 1 MCQ

Which of the following is / are ionic in nature?

(i) GeF_4 (ii) SnF_4 (iii) PbF_4

The correct option is

(A) iii only

(B) ii, iii only

(C) i only

(D) i, ii only

Answer: (B) ii, iii only · The council's preliminary key

Q115 AP EAPCET 2024 · 23 May · Shift 1 MCQ

Hydrolysis of XeF_4 gives HF, O_2, Xe and 'X'. The structure of 'X' is

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(A) pyramidal
(B) Square pyramidal
(C) octahedral
(D) Square planar

Answer: (A) pyramidal · The council's preliminary key

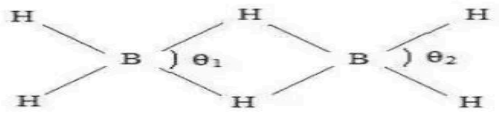
Q116 AP EAPCET 2024 · 22 May · Shift 1 MCQ

In the given structure of Diborane θ_1, θ_2 are respectively

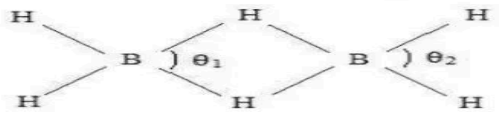
(see the figure above)

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instructi
Time : 0

In the given structure of Diborane θ_1, θ_2 are respectively



ఇచ్చిన డై బోరేన్ నిర్మాణంలో θ_1, θ_2 లు వరుసగా



Options :

1. $101^0, 118^0$
2. $118^0, 101^0$
3. $97^0, 120^0$
4. $120^0, 97^0$

(A) $101^0, 118^0$
(B) $118^0, 101^0$
(C) $97^0, 120^0$
(D) $120^0, 97^0$

Answer: (C) $97^0, 120^0$ · The council's preliminary key

Q117 AP EAPCET 2024 · 22 May · Shift 1 MCQ

In which of the following sets allotropes of carbon are correctly matched with their uses?

i. graphite – crucibles

ii. activated charcoal – water filters

iii. carbon black – fuel

The correct answer is

(A) i, iii only
(B) ii, iii only
(C) i, ii, iii
(D) i, ii only

Answer: (D) i, ii only · The council's preliminary key

Q118 AP EAPCET 2024 · 22 May · Shift 1 MCQ

Two of the products formed by the reaction of 'X' with HCl are gases. What is 'X'?

(A) $NaNO_2$
(B) Na_2S
(C) Ca_3P_2
(D) Na_2SO_3

Answer: (A) $NaNO_2$ · The council's preliminary key

Q119 AP EAPCET 2024 · 22 May · Shift 2 MCQ

The shape of colourless neutral gas formed on thermal decomposition of ammonium nitrate is

(A) Angular
(B) Linear
(C) Trigonal planar
(D) Trigonal pyramidal

Answer: (B) Linear · The council's preliminary key

Q120 AP EAPCET 2024 · 22 May · Shift 2 MCQ

In which of the following reactions, hydrogen is one of the products?

i. $NaBH_4 + I_2 \longrightarrow$

ii. $BF_3 + NaH \xrightarrow{450\ K}$

iii. $BF_3 + LiAlH_4 \longrightarrow$

iv. $B_2H_6 + NH_3 \xrightarrow{heat}$

(A) ii, iii
(B) i, ii
(C) i, iv
(D) iii, iv

Answer: (C) i, iv · The council's preliminary key

Q121 AP EAPCET 2024 · 22 May · Shift 2 MCQ

Two statements are given below

Statement I : SnF_4, PbF_4 are ionic in nature

Statement II : $GeCl_2$ is more stable than $GeCl_4$

The correct answer is

(A) Both statements I & II are correct
(B) Both statements I & II are not correct
(C) Statement I is correct, but statement II is not correct
(D) Statement I is not correct, but statement II is correct

Answer: (C) Statement I is correct, but statement II is not correct · The council's preliminary key

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Q122 AP EAPCET 2024 · 22 May · Shift 2 MCQ

The basicity of H_3PO_2, H_3PO_3, H_3PO_4 respectively is

(A) 2, 2, 3
(B) 2, 3, 3
(C) 1, 3, 3
(D) 1, 2, 3

Answer: (D) 1, 2, 3 · The council's preliminary key

Q123 AP EAPCET 2024 · 21 May · Shift 1 MCQ

A Lewis acid 'X' reacts with $LiAlH_4$ in ether medium to give a highly toxic gas, 'Y'. 'Y' when heated with NH_3 gives a compound known as inorganic benzene. 'Y' burns in oxygen and gives H_2O and 'Z'. 'Z' is

(A) Basic oxide
(B) Acidic oxide
(C) Amphoteric acid
(D) Neutral oxide

Answer: (B) Acidic oxide · The council's preliminary key

Q124 AP EAPCET 2024 · 21 May · Shift 1 MCQ

In the reaction of sulphur with concentrated sulphuric acid, the oxidised product is X and reduced product is Y. X and Y are respectively

(A) SO_3, SO_2
(B) SO_2, SO_2
(C) SO_2, H_2S
(D) SO_2, H_2O

Answer: (B) SO_2, SO_2 · The council's preliminary key

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Q125 AP EAPCET 2024 · 21 May · Shift 2 MCQ

Hydrated sodium aluminium silicate is called

(A) Calgon
(B) Zeolite
(C) Dead burnt plaster
(D) Kaolinite

Answer: (B) Zeolite · The council's preliminary key

Q126 AP EAPCET 2024 · 21 May · Shift 2 MCQ

Consider the following standard electrode potentials (E° in volts) in aqueous solution

Element	M^{3+}/M	M^{+}/M
Al	-1.66	$+0.55$
Tl	$+1.26$	-0.34

Based on this data, which of the following statements is correct?

(A) Tl^{3+} is more stable than Al^{3+}
(B) Tl^{+} is more stable than Al^{3+}
(C) Al^{+} is more stable than Al^{3+}
(D) Tl^{+} is more stable than Al^{+}

Answer: (D) Tl^{+} is more stable than Al^{+} · The council's preliminary key

Q127 AP EAPCET 2024 · 21 May · Shift 2 MCQ

Which of the allotropic forms of carbon is aromatic in nature?

(A) Diamond
(B) Graphite
(C) Buckminster fullerene
(D) coke

Answer: (C) Buckminster fullerene · The council's preliminary key

Q128 AP EAPCET 2024 · 21 May · Shift 2 MCQ

$P_2O_3 + H_2O \rightarrow X$

Red P_4 + alkali $\rightarrow$ Y

X, Y are oxoacids of phosphorous. The number of P $-$ OH bonds in X, Y respectively is

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(A) 1, 4
(B) 4, 1
(C) 2, 4
(D) 1, 1

Answer: (C) 2, 4 · The council's preliminary key

Q129 AP EAPCET 2024 · 20 May · Shift 1 MCQ

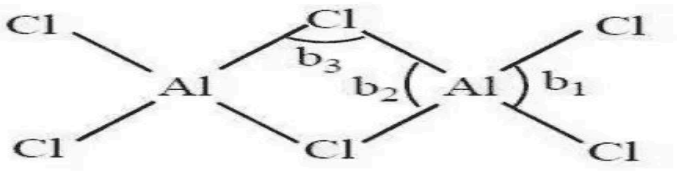
'X' on hydrolysis gives two products. One of them is solid. What is 'X'?

(A) P_4O_{10}
(B) F_2
(C) $SiCl_4$
(D) N^{3-}

Answer: (C) $SiCl_4$ · The council's preliminary key

Q130 AP EAPCET 2024 · 20 May · Shift 1 MCQ

see figure



The bond angles b_1, b_2, b_3 in the above structure are respectively (in °)
పై నిర్మాణంలోని బంధ కోణాలు b_1, b_2, b_3 వరుసగా (° లలో)

Options :

1. 79, 101, 118
2. 118, 101, 79
3. 79, 118, 101
4. 118, 79, 101

(A) 79, 101, 118
(B) 118, 101, 79
(C) 79, 118, 101
(D) 118, 79, 101

Answer: (D) 118, 79, 101 · The council's preliminary key

Q131 AP EAPCET 2024 · 20 May · Shift 1 MCQ

Which of the following reactions give phosphine?

i. Reaction of calcium phosphide with water

ii. Heating white phosphorous with concentrated NaOH solution in inert atmosphere

iii. Heating red phosphorous with alkali

(A) i, ii only
(B) i, ii, iii
(C) ii, iii only
(D) i, iii only

Answer: (A) i, ii only · The council's preliminary key

Q132 AP EAPCET 2024 · 20 May · Shift 2 MCQ

Which of the following orders is not correct against the given property?

(A) $\mathrm{Ga} < \mathrm{In} < \mathrm{Tl} < \mathrm{Al} < \mathrm{B}$ – melting point
(B) $\mathrm{Al} < \mathrm{Ga} < \mathrm{In} < \mathrm{Tl} < \mathrm{B}$ – Electronegativity
(C) $\mathrm{B} < \mathrm{Al} < \mathrm{Ga} < \mathrm{In} < \mathrm{Tl}$ – density
(D) $\mathrm{B} < \mathrm{Al} < \mathrm{Ga} < \mathrm{In} < \mathrm{Tl}$ – atomic radius

Answer: (D) $\mathrm{B} < \mathrm{Al} < \mathrm{Ga} < \mathrm{In} < \mathrm{Tl}$ **– atomic radius** · The council's preliminary key

Q133 AP EAPCET 2024 · 20 May · Shift 2 MCQ

Which of the following are correct?

i. Basic structural unit of silicates is $-\mathrm{R_2SiO}-$

ii. Silicones are biocompatible

iii. Producer gas contains CO and $\mathrm{N_2}$

The correct option is

(A) i, ii, iii
(B) ii, iii only
(C) i, iii only
(D) i, ii only

Answer: (B) ii, iii only · The council's preliminary key

Q134 AP EAPCET 2024 · 20 May · Shift 2 MCQ

$$\mathrm{Xe(g)} + 2\,\mathrm{F_2(g)} \xrightarrow[7\ \mathrm{bar}]{873\ \mathrm{K}} \mathrm{XeF_4(s)}$$

The ratio of Xe: $\mathrm{F_2}$ required in the above reaction is

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(A) $1:2$
(B) $1:5$
(C) $1:20$
(D) $1:12$

Answer: (B) $1:5$ · The council's preliminary key

Q135 AP EAPCET 2024 · 19 May · Shift 2 MCQ

Identify the correct statements

i. Oxidation of $NaBH_4$ with I_2 gives B_2H_6

ii. B_2H_6 burns in oxygen and releases an enormous amount of energy

iii. B_2H_6 on hydrolysis gives a tribasic acid

(A) i, ii, iii
(B) i, iii only
(C) i, ii only
(D) ii, iii only

Answer: (C) i, ii only · The council's preliminary key

Q136 AP EAPCET 2024 · 19 May · Shift 2 MCQ

Which one of the following is used as piezoelectric material?

(A) tridymite
(B) quartz
(C) zelolite
(D) mica

Answer: (B) quartz · The council's preliminary key

Q137 AP EAPCET 2024 · 19 May · Shift 2 MCQ

The disproportionation products of ortho phosphorous acid are

(A) H_3PO_4, PH_3
(B) H_3PO_2, H_3PO_3
(C) H_3PO_4, HPO_3
(D) H_3PO_2, P_2H_4

Answer: (A) H_3PO_4, PH_3 · The council's preliminary key

Q138 AP EAPCET 2024 · 18 May · Shift 1 MCQ

In which of the following reaction, dihydrogen is not evolved?

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(A) Oxidation of sodium borohydride with iodine
(B) Hydrolysis of boranes
(C) Heating the adduct formed by reaction of ammonia with diborane
(D) Burning of diborane in oxygen

Answer: (D) Burning of diborane in oxygen · The council's preliminary key

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Q139 AP EAPCET 2024 · 18 May · Shift 1 MCQ

Match the following

List-I Bond		List-II Bond enthalpy (in kJ mol^{-1})	
A	Si – Si	I	240
B	C – C	II	297
C	Sn – Sn	III	348
D	Ge - Ge	IV	260

The correct answer is

(A) A-II, B-III, C-I, D-IV
(B) A-II, B-IV, C-III, D-I
(C) A-III, B-II, C-I, D-IV
(D) A-III, B-I, C-IV, D-II

Answer: (A) A-II, B-III, C-I, D-IV · The council's preliminary key

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Q140 AP EAPCET 2024 · 18 May · Shift 1 MCQ

When chlorine reacts with hot and conc. $NaOH$, the products formed are

(A) $NaCl, NaClO_3, H_2O$
(B) $NaCl, NaOCl, H_2O$
(C) $NaCl, H_2O$ only
(D) $NaOCl, H_2O$

Answer: (A) $NaCl, NaClO_3, H_2O$ · The council's preliminary key

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Q141 TS EAPCET 2024 · 11 May · Shift 1 MCQ

The correct formula of borax is $Na_2[B_4O_5(OH)_x] \cdot yH_2O$. The sum of x and y is

(A) 14
(B) 09
(C) 12
(D) 10

Answer: (C) 12 · The council's preliminary key

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Q142 TS EAPCET 2024 · 11 May · Shift 1 MCQ

Match the following

List – I Industrial process	List – II Catalyst used
A Ostwald's process	I $CuCl_2$
B Haber's process	II Zeolites
C Deacon's process	III Pt gauge
D Cracking of hydrocarbons	IV Fe

The correct answer is

(A) A – II, B – I, C – IV, D – III
(B) A – IV, B – I, C – II, D – III
(C) A – III, B – IV, C – II, D – I
(D) A – III, B – IV, C – I, D – II

Answer: (D) A – III, B – IV, C – I, D – II · The council's preliminary key

Q143 TS EAPCET 2024 · 11 May · Shift 1 MCQ

$$C + \text{Conc. } H_2SO_4 \xrightarrow{\Delta} X + Y + H_2O$$

X and Y in the above reaction are

(A) CO, SO_3
(B) CO_2, SO_2
(C) CO, SO_2
(D) C_3O_2, SO_2

Answer: (B) CO_2, SO_2 · The council's preliminary key

Q144 TS EAPCET 2024 · 11 May · Shift 1 MCQ

Which among the following oxoacids of phosphorous will have $P - O - P$ bonds?

I. $H_4P_2O_5$

II. $H_4P_2O_6$

III. $H_4P_2O_7$

IV. $(HPO_3)_3$

(A) III & IV
(B) I & II
(C) I & III
(D) II & IV

Answer: (A) III & IV · The council's preliminary key

Q145 TS EAPCET 2024 · 11 May · Shift 1 MCQ

The bond angles $\overset{\frown}{\mathrm{H-O-N}}$ and $\overset{\frown}{\mathrm{O-N-O}}$ in the planar structure of nitric acid molecule are respectively

(A) $130^\circ, 102^\circ$
(B) $102^\circ, 130^\circ$
(C) $134^\circ, 100^\circ$
(D) $100^\circ, 134^\circ$

Answer: (B) $102^\circ, 130^\circ$ · The council's preliminary key

Q146 TS EAPCET 2024 · 10 May · Shift 1 MCQ

Observe the following reactions (not balanced)

$\mathrm{BF_3 + LiAlH_4 \xrightarrow{(C_2H_5)_2O} X + LiF + AlF_3}$

$\mathrm{X + NaH \longrightarrow Y}$

The incorrect statement about Y is

(A) It is a good oxidizing agent
(B) It is a good reducing agent
(C) Oxidation state of hydrogen in it is -1
(D) Oxidation of it with iodine gives diborane

Answer: (A) It is a good oxidizing agent · The council's preliminary key

Q147 TS EAPCET 2024 · 10 May · Shift 1 MCQ

Assertion (A) : Silicones are used for water proofing of fabrics

Reason (R) : The repeating unit in silicones is

(see the figure above)

The correct answer is

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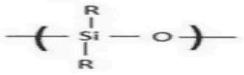
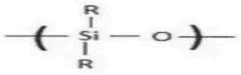
Assertion (A) : Silicones are used for water proofing of fabrics
Reason (R) : The repeating unit in silicones is



నిశ్చితం (A) : సిలికోన్ లను బట్టల పై జలవిరోధకంగా ఉపయోగిస్తారు
కారణం (R) : సిలికోన్ ల లో పునరావృతమయ్యే యూనిట్



The correct answer is
సరైన సమాధానం

Options :

1. (A) and (R) are correct, but (R) is not the correct explanation of (A)
(A) మరియు (R) లు సరియైనవి, కానీ (A) కు (R) సరియైన వివరణ కాదు

2. (A) and (R) are correct, (R)is the correct explanation of (A)
(A) మరియు (R) లు సరియైనవి. (A) కు (R) సరియైన వివరణ

3. (A) is not correct but (R) is correct
(A) సరియైనది కాదు కానీ (R) సరియైనది

4. (A) is correct but (R) is not correct
(A) సరియైనది కానీ (R) సరియైనది కాదు

(A) (A) and (R) are correct, but (R) is not the correct explanation of (A)
(B) (A) and (R) are correct, (R)is the correct explanation of (A)
(C) (A) is not correct but (R) is correct
(D) (A) is correct but (R) is not correct

Answer: (A) (A) and (R) are correct, but (R) is not the correct explanation of (A) · The council's preliminary key

Q148 TS EAPCET 2024 · 10 May · Shift 1 MCQ

Among the hydrides NH_3, PH_3 and BiH_3, the hydride with highest boiling point is X and the hydride with lowest boiling point is Y. What are X and Y respectively?

(A) PH_3, NH_3
(B) NH_3, PH_3
(C) BiH_3, PH_3
(D) NH_3, BiH_3

Answer: (C) BiH_3, PH_3 · The council's preliminary key

Q149 TS EAPCET 2024 · 10 May · Shift 1 MCQ

Xenon (VI) fluoride on complete hydrolysis gives an oxide of xenon 'O'. The total number of σ and π bonds in 'O' is

(A) 2
(B) 4
(C) 6
(D) 8

Answer: (C) 6 · The council's preliminary key

Q150 TS EAPCET 2024 · 10 May · Shift 2 MCQ

What are X and Y respectively in the following reactions?

$$X \xleftarrow{CO} B_2H_6 \xrightarrow[(C_2H_5)_2O]{NaH} Y$$

(A) $BH_3 \cdot 2CO;\ NaBO_2$
(B) $BH_3 \cdot CO;\ NaBH_4$
(C) $BH_3 \cdot CO;\ NaBO_2$
(D) $BH_3 \cdot CO;\ Na_2B_4O_7$

Answer: (B) $BH_3 \cdot CO;\ NaBH_4$ · The council's preliminary key

Q151 TS EAPCET 2024 · 10 May · Shift 2 MCQ

Which of the following statements are correct?

(i) CCl_4 undergoes hydrolysis easily

(ii) Diamond has directional covalent bonds

(iii) Fullerene is thermodynamically most stable allotrope of carbon

(iv) Glass is a man-made silicate

The correct answer is

(A) i, iii only
(B) ii, iv only
(C) ii, iii, iv only
(D) i, ii only

Answer: (B) ii, iv only · The council's preliminary key

Q152 TS EAPCET 2024 · 10 May · Shift 2 MCQ

The correct order of boiling points of hydrogen halides is

(A) $HF < HCl < HBr < HI$
(B) $HI < HBr < HCl < HF$
(C) $HCl < HBr < HI < HF$
(D) $HBr < HCl < HI < HF$

Answer: (C) $HCl < HBr < HI < HF$ · The council's preliminary key

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Q153 TS EAPCET 2024 · 10 May · Shift 2 MCQ

Observe the following reactions (unbalanced)

$P_2O_3 + H_2O \rightarrow X$

$P_4O_{10} + H_2O \rightarrow Y$

The number of $P = O$ bonds present in X, Y are respectively

(A) 1, 3
(B) 1, 2
(C) 2, 1
(D) 1, 1

Answer: (D) 1, 1 · The council's preliminary key

Q154 TS EAPCET 2024 · 9 May · Shift 1 MCQ

Identify the element for which +1 oxidation state is more stable than +3 oxidation state

(A) Ga
(B) Sn
(C) Tl
(D) Ge

Answer: (C) Tl · The council's preliminary key

Q155 TS EAPCET 2024 · 9 May · Shift 1 MCQ

Which of the following when subjected to thermal decomposition will liberate dinitrogen?

(i) sodium nitrate

(ii) ammonium dichromate

(iii) barium azide

(A) i, ii only
(B) ii, iii only
(C) i, iii only
(D) i, ii, iii

Answer: (B) ii, iii only · The council's preliminary key

Q156 TS EAPCET 2024 · 9 May · Shift 1 MCQ

Observe the following reaction. This reaction represents

$$4HCl + O_2 \xrightarrow[723\,K]{CuCl_2} 2Cl_2 + 2H_2O$$

(A) van Arkel process
(B) Hall – Heroult process
(C) Serpeck's process
(D) Deacon's process

Answer: (D) Deacon's process · The council's preliminary key

Q157 TS EAPCET 2024 · 9 May · Shift 1 MCQ

Identify the set which is not correctly matched in the following

(A) PH_3, colourless gas, rotten fish smell
(B) Cl_2, greenish yellow gas, pungent smell
(C) Ne, fluorescent green gas, rotten egg smell
(D) SO_2, colourless gas, pungent smell

Answer: (C) Ne, fluorescent green gas, rotten egg smell · The council's preliminary key

Q158 TS EAPCET 2024 · 9 May · Shift 2 MCQ

Consider the following reactions (not balanced)

$$BF_3 + NaH \xrightarrow{450K} X + NaF$$
$$X + H_2O \rightarrow Y + H_2\uparrow$$

The correct statements about X and Y are

I) X is an electron deficient molecule

II) In X, B—B bond is present

III) Y is a weak tribasic acid

IV) Y acts as a Lewis acid

(A) I & IV
(B) II & III
(C) II & IV
(D) I & III

Answer: (A) I & IV · The council's preliminary key

Q159 TS EAPCET 2024 · 9 May · Shift 2 MCQ

Which of the following does not exist?

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(A) $[GeCl_6]^{2-}$
(B) $[SiF_6]^{2-}$
(C) $[SiCl_6]^{2-}$
(D) $[Sn(OH)_6]^{2-}$

Answer: (C) $[SiCl_6]^{2-}$ · The council's preliminary key

Q160 TS EAPCET 2024 · 9 May · Shift 2 MCQ

Y in the given sequence of reactions is

$$P_4 + xNaOH + yH_2O \xrightarrow{CO_2} X + zNaH_2PO_2$$
$$X + CuSO_4 \rightarrow Y + H_2SO_4$$

(A) $Cu_3(PO_4)_2$
(B) Cu_3P_2
(C) $Cu(OH)_2$
(D) $CuCO_3$

Answer: (B) Cu_3P_2 · The council's preliminary key

Q161 TS EAPCET 2024 · 9 May · Shift 2 MCQ

In contact process of manufacture of H_2SO_4, the arsenic purifier used in the industrial plant contains

(A) $Al_2O_3 \cdot xH_2O$
(B) $FeO \cdot xH_2O$
(C) $Cr_2O_3 \cdot xH_2O$
(D) $Fe_2O_3 \cdot xH_2O$

Answer: (D) $Fe_2O_3 \cdot xH_2O$ · The council's preliminary key

Q162 AP EAPCET 2023 · 19 May · Shift 1 MCQ

An oxide of chlorine with water gives the strongest acid. The ratio of chlorine and oxygen in its formula is

(A) $2:1$
(B) $1:2$
(C) $2:7$
(D) $1:3$

Answer: (C) $2:7$ · The council's preliminary key

Q163 AP EAPCET 2023 · 19 May · Shift 1 MCQ

Relative stability orders of +1, +3 oxidation states of Ga, In, Tl are respectively

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(A) $Tl^{+} > In^{+} > Ga^{+}, \quad Ga^{3+} > In^{3+} > Tl^{3+}$
(B) $Ga^{+} > In^{+} > Tl^{+}, \quad Tl^{3+} > In^{3+} > Ga^{3+}$
(C) $Ga^{+} > In^{+} > Tl^{+}, \quad Ga^{3+} > In^{3+} > Tl^{3+}$
(D) $Tl^{+} > In^{+} > Ga^{+}, \quad Tl^{3+} > In^{3+} > Ga^{3+}$

Answer: (A) $Tl^{+} > In^{+} > Ga^{+}, \quad Ga^{3+} > In^{3+} > Tl^{3+}$ · The council's preliminary key

Q164 AP EAPCET 2023 · 19 May · Shift 1 MCQ

Which element of group 14 decomposes steam to form dioxide and dihydrogen gas?

(A) C
(B) Pb
(C) Ge
(D) Sn

Answer: (D) Sn · The council's preliminary key

Q165 AP EAPCET 2023 · 19 May · Shift 1 MCQ

The sum of oxygen atoms in the formulae of peroxysulphuric acid and pyrosulphuric acid is

(A) 7
(B) 12
(C) 15
(D) 13

Answer: (C) 15 · The council's preliminary key

Q166 AP EAPCET 2023 · 18 May · Shift 1 MCQ

Which one of the following is correct?

(A) Thallium is more electropositive than aluminium
(B) Boron has high electrical conductivity
(C) An aqueous solution of ortho boric acid is generally used as a mild antiseptic
(D) Boron– 11 (^{11}B) isotope has high ability to absorb neutrons

Answer: (C) An aqueous solution of ortho boric acid is generally used as a mild antiseptic · The council's preliminary key

Q167 AP EAPCET 2023 · 18 May · Shift 1 MCQ

Thermodynamically most stable allotrope of carbon is

(A) Graphite
(B) Diamond
(C) Fullerene
(D) Coke

Answer: (A) Graphite · The council's preliminary key

Q168 AP EAPCET 2023 · 18 May · Shift 1 MCQ

Manganese dioxide on heating with concentrated hydrochloric acid gives a greenish yellow gas, X. With excess of ammonia X gives Y and Z. Y and Z respectively are

(A) NH_4F, N_2
(B) NH_4I, $NOCl$
(C) NCl_3, $HOCl$
(D) NH_4Cl, N_2

Answer: (D) NH_4Cl, N_2 · The council's preliminary key

Q169 AP EAPCET 2023 · 18 May · Shift 2 MCQ

Match the following

List I	List II
A. Carbon black	I. Electrodes in batteries
B. Graphite	II. Extraction of metals
C. Diamond	III. Abrasive
D. Activated charcoal	IV. Filler in automobile tyres
	V. Air conditioning system

(A) A - IV B- III C- II D- V
(B) A - III B- I C- II D- IV
(C) A - V B - I C- III D- II
(D) A – IV B - I C - III D - V

Answer: (D) A – IV B - I C - III D - V · The council's preliminary key

Q170 AP EAPCET 2023 · 17 May · Shift 1 MCQ

Statement I: Boron does not exhibit allotropy

Statement II: Boron is extremely hard and black coloured solid

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(A) Both I & II are correct
(B) Both I & II are not correct
(C) I is correct but II is not correct
(D) I is not correct but II is correct

Answer: (D) I is not correct but II is correct · The council's preliminary key

Q171 AP EAPCET 2023 · 17 May · Shift 1 MCQ

Which of the following is not correct?

(A) Lead does not show catenation
(B) Buckminster fullerene contains 20 six-membered rings and 12 five-membered rings
(C) Stability order of GeX_2, SnX_2 and PbX_2 is $GeX_2 < SnX_2 < PbX_2$
(D) The number of metalloids in group 14 elements is 2

Answer: (D) The number of metalloids in group 14 elements is 2 · The council's preliminary key

Q172 AP EAPCET 2023 · 17 May · Shift 2 MCQ

The elements with metallic nature in the following are

C, Si, Ge, Sn, Pb

(A) Ge, Pb
(B) Ge, Sn
(C) C, Ge
(D) Sn, Pb

Answer: (D) Sn, Pb · The council's preliminary key

Q173 AP EAPCET 2023 · 17 May · Shift 2 MCQ

In the below reaction, geometry of BCl_3, X respectively are

$$BCl_3 + NH_3 \longrightarrow X$$

(A) Pyramidal, tetrahedral
(B) Pyramidal, octahedral
(C) Trigonal planar, tetrahedral
(D) Trigonal planar, octahedral

Answer: (C) Trigonal planar, tetrahedral · The council's preliminary key

Q174 AP EAPCET 2023 · 16 May · Shift 1 MCQ

Which of the following fluorides of Xenon does not exist?

(A) XeF_3
(B) XeF_2
(C) XeF_6
(D) XeF_4

Answer: (A) XeF_3 · The council's preliminary key

Q175 AP EAPCET 2023 · 16 May · Shift 1 MCQ

Which of the following statements are not correct?

i. Atomic radius of Ga is less than that of Al

ii. The order of ionization enthalpy of group 13 elements is $B > Al > Ga > In > Tl$

iii. Boron trioxide is amphoteric in nature

(A) ii, iii only
(B) i, iii only
(C) i, ii only
(D) i, ii, iii

Answer: (A) ii, iii only · The council's preliminary key

Q176 AP EAPCET 2023 · 16 May · Shift 1 MCQ

Identify the correct statements from the following.

i. Melting points and boiling points of group 13 elements are much higher than those of corresponding group 14 elements

ii. SiO only exists at high temperatures

iii. PbI_4 does not exist

iv. Buckminster fullerene contain twelve 6-membered carbon rings and twenty 5 - membered carbon rings.

(A) i, iii only
(B) ii, iii, iv only
(C) ii, iii only
(D) i, iv only

Answer: (C) ii, iii only · The council's preliminary key

Q177 AP EAPCET 2023 · 16 May · Shift 1 MCQ

$X + Y \rightarrow \text{oleum}$

The sum of oxidation states of central atom in X and Y is

(A) 12
(B) 10
(C) 06
(D) 08

Answer: (A) 12 · The council's preliminary key

Q178 AP EAPCET 2023 · 16 May · Shift 2 MCQ

The number of water molecules present in borax, kernite and bauxite respectively are

(A) 10, 4, 2
(B) 5, 1, 2
(C) 4, 2, 3
(D) 10, 4, 10

Answer: (A) 10, 4, 2 · The council's preliminary key

Q179 AP EAPCET 2023 · 16 May · Shift 2 MCQ

Which of the following are not in accordance with the property mentioned against them?

I. $F_2 > Cl_2 > Br_2 > I_2$: Oxidising power

II. $MI > MBr > MCl > MF$: Ionic character of metal halide

III. $F_2 > Cl_2 > Br_2 > I_2$: Bond dissociation enthalpy

IV. $HI < HBr < HCl < HF$: Hydrogen-halogen bond strength

(A) I & III only
(B) II & III only
(C) I & IV only
(D) II & IV only

Answer: (B) II & III only · The council's preliminary key

Q180 AP EAPCET 2023 · 15 May · Shift 1 MCQ

Match the following

List I (Group 13 element)	List II (metallic radius, pm)
A. Al	I. 135
B. Ga	II. 143
C. In	III. 170
D. Tl	IV. 167

The correct answer is

(A) A-I, B-II, C-IV, D-III
(B) A-II, B-I, C-IV, D-III
(C) A-III, B-IV, C-II, D-I
(D) A-II, B-I, C-III, D-IV

Answer: (B) A-II, B-I, C-IV, D-III · The council's preliminary key

Q181 AP EAPCET 2023 · 15 May · Shift 1 MCQ

For ozone molecule consider the following

(A) It is a linear molecule with bond angle 180°
(B) It is an angular molecule with bond angle 117°
(C) The bond lengths of both O – O bonds are same
(D) With respect to oxygen it is thermodynamically more stable

The correct options are

(A) (B), (C) only
(B) (A), (B) only
(C) (B), (D) only
(D) (A), (D) only

Answer: (A) (B), (C) only · The council's preliminary key

Q182 AP EAPCET 2023 · 15 May · Shift 2 MCQ

The correct order of melting points of Al, Ga, In is

(A) $\mathrm{Ga} < \mathrm{In} < \mathrm{Al}$
(B) $\mathrm{In} < \mathrm{Ga} < \mathrm{Al}$
(C) $\mathrm{Al} < \mathrm{Ga} < \mathrm{In}$
(D) $\mathrm{Ga} < \mathrm{Al} < \mathrm{In}$

Answer: (A) $\mathrm{Ga} < \mathrm{In} < \mathrm{Al}$ · The council's preliminary key

Q183 AP EAPCET 2023 · 15 May · Shift 2 MCQ

Among the following the correct statements are

I. Germanium exists only in traces

II. $\mathrm{PbF_4}$ molecule is tetrahedral in shape

III. $\mathrm{GeX_2}$ is more stable than $\mathrm{GeX_4}$

The correct answer is

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(A) II, III only
(B) I, II only
(C) I, II, III
(D) I, III only

Answer: (B) I, II only · The council's preliminary key

Q184 AP EAPCET 2023 · 15 May · Shift 2 MCQ

Identify the reaction in which oxygen is not one of the products

(A) $XeF_2 + H_2O \rightarrow$
(B) $XeF_4 + H_2O \rightarrow$
(C) $XeF_4 + O_2F_2 \rightarrow$
(D) $XeF_6 + H_2O \rightarrow$

Answer: (D) $XeF_6 + H_2O \rightarrow$ · The council's preliminary key

Q185 TS EAMCET 2023 · 14 May · Shift 1 MCQ

Identify the incorrect statement about the oxidation states of group 14 elements

(A) Carbon and Silicon mostly exhibit +4 oxidation state
(B) Tin in +2 oxidation state is a reducing agent
(C) Lead in +2 oxidation state is a reducing agent
(D) The order of stability of +2 oxidation state follow the sequence Ge<Sn<Pb

Answer: (C) Lead in +2 oxidation state is a reducing agent · The council's preliminary key

Q186 TS EAMCET 2023 · 14 May · Shift 1 MCQ

$P_4 + 3NaOH + 3H_2O \xrightarrow{CO_2} 3X + PH_3 \uparrow$

$X \xrightarrow[HCl(aq)]{HCl(aq)} Y + NaCl$

The incorrect statement about Y is

(A) It is also called phosphonic acid
(B) It is a monobasic acid
(C) It is a reducing agent
(D) Oxidation state of the central atom in it is $+1$

Answer: (A) It is also called phosphonic acid · The council's preliminary key

Q187 TS EAMCET 2023 · 14 May · Shift 1 MCQ

Consider the following statements about the oxides of halogens

A. At room temperature, OF_2 is thermally stable

B. Order of stability of oxides of halogens is I > Br > Cl

C. I_2O_5 is used in the estimation of CO

D. ClO_2 is used as a bleaching agent

The correct statements are

(A) A & B only
(B) A, B & C only
(C) B & C only
(D) A, C & D only

Answer: (D) A, C & D only · The council's preliminary key

Q188 TS EAMCET 2023 · 14 May · Shift 1 MCQ

$XeF_4 + O_2F_2 \rightarrow X + O_2$

$X + \underset{(1\text{ mole})}{H_2O} \rightarrow Y + 2HF$

The shapes of molecules of X and Y respectively are

(A) Square planar, square pyramidal
(B) Distorted octahedral, square pyramidal
(C) Distorted tetrahedral, Distorted octahedral
(D) Square pyramidal, Tetrahedral

Answer: (B) Distorted octahedral, square pyramidal · The council's preliminary key

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Q189 TS EAMCET 2023 · 14 May · Shift 2 MCQ

Zeolite is a silicate of two metal ions X and Y. X and Y are respectively

(A) Ca^{2+}, Na^+
(B) Mg^{2+}, Na^+
(C) Na^+, Al^{3+}
(D) Ca^{2+}, Mg^{2+}

Answer: (C) Na^+, Al^{3+} · The council's preliminary key

Q190 TS EAMCET 2023 · 14 May · Shift 2 MCQ

The atomic radius of gallium is less than that of aluminium. This is due to

(A) Greater shielding power of s-electrons of gallium atom
(B) poor shielding power of s-electrons of gallium
(C) Poor shielding power of d-electrons of gallium
(D) Greater shielding power of d-electrons of gallium

Answer: (C) Poor shielding power of d-electrons of gallium · The council's preliminary key

Q191 TS EAMCET 2023 · 14 May · Shift 2 MCQ

Which of the following has lowest melting point?

(A) Si
(B) Ge
(C) Sn
(D) Pb

Answer: (C) Sn · The council's preliminary key

Q192 TS EAMCET 2023 · 14 May · Shift 2 MCQ

Among the hydrides of group 16 elements, the hydride X has lowest boiling point and the hydride Y has highest boiling point. X and Y respectively are

(A) $\mathrm{H_2Te}, \mathrm{H_2Se}$
(B) $\mathrm{H_2O}, \mathrm{H_2Te}$
(C) $\mathrm{H_2S}, \mathrm{H_2Te}$
(D) $\mathrm{H_2S}, \mathrm{H_2O}$

Answer: (D) $\mathrm{H_2S}, \mathrm{H_2O}$ · The council's preliminary key

Q193 TS EAMCET 2023 · 14 May · Shift 2 MCQ

Sodium nitrite with hydrochloric acid gives water along with two nitrogen oxides. They are

(A) $\mathrm{NO}, \mathrm{NO_2}$
(B) $\mathrm{NO_2}, \mathrm{N_2O_3}$
(C) $\mathrm{NO_2}, \mathrm{N_2O}$
(D) $\mathrm{NO}, \mathrm{N_2O_5}$

Answer: (A) $\mathrm{NO}, \mathrm{NO_2}$ · The council's preliminary key

Q194 TS EAMCET 2023 · 14 May · Shift 2 MCQ

Identify the incorrect statement about the interhalogen compounds

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(A) ICl is more reactive than $\mathrm{I_2}$
(B) They are diamagnetic in nature
(C) The products of ICl and water are $\mathrm{HI} + \mathrm{HOCl}$
(D) They act as fluorinating agents

Answer: (C) The products of ICl and water are $\mathrm{HI} + \mathrm{HOCl}$ · The council's preliminary key

Q195 TS EAMCET 2023 · 13 May · Shift 1 MCQ

Kernite and cryolite are the minerals of two elements X and Z. Respectively X and Z are

(A) B, Ga
(B) B, Al
(C) Al, In
(D) B, Tl

Answer: (B) B, Al · The council's preliminary key

Q196 TS EAMCET 2023 · 13 May · Shift 1 MCQ

Choose the correct statement from the following with reference to inert pair effect

(A) $\mathrm{Sn^{+4}}$ is reducing agent but $\mathrm{Pb^{+4}}$ is an oxidizing agent
(B) $\mathrm{Sn^{+4}}$ is an oxidizing agent but $\mathrm{Pb^{+2}}$ is a reducing agent
(C) $\mathrm{Sn^{+2}}$ is reducing agent but $\mathrm{Pb^{+4}}$ is an oxidizing agent
(D) $\mathrm{Sn^{+2}}$ is an oxidizing agent but $\mathrm{Pb^{+4}}$ is a reducing agent

Answer: (C) $\mathrm{Sn^{+2}}$ is reducing agent but $\mathrm{Pb^{+4}}$ is an oxidizing agent · The council's preliminary key

Q197 TS EAMCET 2023 · 13 May · Shift 1 MCQ

Identify the correct orders from the following with respect to the property associated with

A. $\mathrm{NH_3} > \mathrm{PH_3} > \mathrm{AsH_3} > \mathrm{SbH_3}$ - Bond Angle

B. $\mathrm{NH_3} > \mathrm{PH_3} > \mathrm{AsH_3} > \mathrm{SbH_3}$ - Basic Character

C. $\mathrm{PH_3} > \mathrm{AsH_3} > \mathrm{SbH_3} > \mathrm{NH_3}$ - Thermal stability

D. $\mathrm{SbH_3} > \mathrm{NH_3} > \mathrm{AsH_3} > \mathrm{PH_3}$ - Boiling point

(A) A, B & C only
(B) A, C & D only
(C) B, C & D only
(D) A, B & D only

Answer: (D) A, B & D only · The council's preliminary key

Q198 TS EAMCET 2023 · 13 May · Shift 1 MCQ

Which of the following is the strongest reducing agent?

(A) TeO_3
(B) SO_3
(C) TeO_2
(D) SO_2

Answer: (D) SO_2 · The council's preliminary key

Q199 TS EAMCET 2023 · 13 May · Shift 1 MCQ

Match the following

List – I (Molecule)	List – II (Shape)
A. XeF_4	I. Square pyramid
B. ClF_3	II. Pentagonal bipyramidal
C. BrF_5	III. square planar
D. IF_7	IV. Bent T-Shape

The correct answer is

(A) A - III ; B - II ; C- I ; D- IV
(B) A - III ; B - II ; C- IV ; D- I
(C) A - III ; B - IV ; C- I ; D- II
(D) A - IV ; B - II ; C- I ; D- III

Answer: (C) A - III ; B - IV ; C- I ; D- II · The council's preliminary key

Q200 TS EAMCET 2023 · 13 May · Shift 2 MCQ

Consider the following statements about group 13 elements

A. $AlCl_3$ gets stability by forming a dimer

B. BCl_3 is an electron deficient molecule

C. $E^0_{M^{3+}|M}$ (V) is +1.26 for aluminium

D. In +1 oxidation state thallium is unstable

The incorrect statements are

(A) C & D only
(B) A & B only
(C) A & D only
(D) B & C only

Answer: (A) C & D only · The council's preliminary key

Q201 TS EAMCET 2023 · 13 May · Shift 2 MCQ

What is the correct order of melting temperature of C, Si, Ge?

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(A) $C > Ge > Si$
(B) $Si > C > Ge$
(C) $C > Si > Ge$
(D) $Si > Ge > C$

Answer: (C) $C > Si > Ge$ · The council's preliminary key

Q202 TS EAMCET 2023 · 13 May · Shift 2 MCQ

Which one of the following statements is correct?

(A) N_2 is a brown coloured gas
(B) O_3 is thermodynamically stable compared to oxygen
(C) Rhombic sulphur is stable at room temperature
(D) Cl_2 is a colourless gas

Answer: (C) Rhombic sulphur is stable at room temperature · The council's preliminary key

Q203 TS EAMCET 2023 · 13 May · Shift 2 MCQ

Which oxo acid of sulphur contains S-O-S bond?

(A) $H_2S_2O_5$
(B) $H_2S_2O_4$
(C) $H_2S_2O_7$
(D) $H_2S_2O_8$

Answer: (C) $H_2S_2O_7$ · The council's preliminary key

Q204 TS EAMCET 2023 · 13 May · Shift 2 MCQ

Which of the following reaction gives nitrogen (II) oxide as one of the products?

(A) $Cu + dil\, HNO_3 \rightarrow$
(B) $Cu + conc.\ HNO_3 \rightarrow$
(C) $Zn + dil.\ HNO_3 \rightarrow$
(D) $Zn + conc.\ HNO_3 \rightarrow$

Answer: (A) $Cu + dil\, HNO_3 \rightarrow$ · The council's preliminary key

Q205 TS EAMCET 2023 · 13 May · Shift 2 MCQ

Identify the correct pairs in which the chemical substance given is correctly matched with its use

Chemical substance	use
A) Cl_2	Preparation of phosgene
B) I_2O_5	estimation of CO
C) O_3	disinfectant

EdLoop EAPCET

(A) A, B, C
(B) A, B only
(C) B, C only
(D) A, C only

Answer: (A) A, B, C · The council's preliminary key

Q206 TS EAMCET 2023 · 12 May · Shift 1 MCQ

What are the correct statements about the elements of group 13 given below?

I) The stability of $+1$ oxidation state follows the order $\mathrm{Tl} > \mathrm{In} > \mathrm{Ga}$

II) Boron has the lowest melting point and boiling point as it is a non-metal

III) Boron shows a maximum covalency of 4 in its compounds

IV) The order of atomic radius is $\mathrm{Ga} > \mathrm{Al} > \mathrm{In}$

V) Aluminium is passive to concentrated nitric acid

(A) I, III & V only
(B) II, IV, & V only
(C) I, II, & IV only
(D) III, IV, V only

Answer: (A) I, III & V only · The council's preliminary key

Q207 TS EAMCET 2023 · 12 May · Shift 1 MCQ

Assertion (A): Graphite is used as a dry lubricant in machines which run at high temperatures

Reason (R): The layers of graphite slip one over the other when pressure is applied

The correct option among the following is

(A) (A) is true but (R) is false
(B) (A) is false but (R) is true
(C) (A) and (R) are true. (R) is the correct explanation of (A)
(D) (A) and (R) are true, but (R) is not correct explanation of (A)

Answer: (C) (A) and (R) are true. (R) is the correct explanation of (A) · The council's preliminary key

Q208 TS EAMCET 2023 · 12 May · Shift 1 MCQ

Consider the reaction $\mathrm{P_4 + 3NaOH + 3H_2O \rightarrow Q + 3NaH_2PO_2}$

Identify the reaction in which Q is not the product. (Equations are not balanced)

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(A) $Ca_3P_2 + H_2O \rightarrow$

(B) $H_3PO_3 \xrightarrow{\Delta}$

(C) $PH_4I + KOH \rightarrow$

(D) $PCl_3 + H_2O \rightarrow$

Answer: (D) $PCl_3 + H_2O \rightarrow$ · The council's preliminary key

Q209 TS EAMCET 2023 · 12 May · Shift 1 MCQ

The oxidation states of sulphur atoms and number of S – OH bonds in Peroxydisulphric acid are respectively

(A) $(+6, +5), 2$

(B) $(+6, +6), 4$

(C) $(+6, +6), 2$

(D) $(+5, +5), 4$

Answer: (C) $(+6, +6), 2$ · The council's preliminary key

Q210 TS EAMCET 2023 · 12 May · Shift 1 MCQ

Identify the correct statements from the following

I) Au is soluble in aqua regia but not Pt

II) Among the oxoacids of chlorine highest oxidation state possible for chlorine is +7

III) Among the hydrogen halides lowest boiling point is for HCl

IV) The order of stability of oxides of halogens is $Cl > Br > I$

(A) I & II only

(B) II & III only

(C) I & IV only

(D) II & IV only

Answer: (B) II & III only · The council's preliminary key

Q211 TS EAMCET 2023 · 12 May · Shift 1 MCQ

$Xe(g) + F_2(g) \xrightarrow[60\text{-}70\ bar]{573\ K} X(s)$

(1 : 20)

$X + H_2O \rightarrow Y + HF$

$X + 3H_2O \rightarrow Z + HF$

The correct statements regarding Y and Z are

I) Y has square pyramidal geometry

II) Y has linear geometry

III) Z has $3\sigma, 3\pi$ bonds and 1 lone pair of electrons on the central atom

IV) Z has tetrahedral geometry

(A) I & III only
(B) II & III only
(C) III & IV only
(D) I & IV only

Answer: (A) I & III only · The council's preliminary key

Q212 TS EAMCET 2023 · 12 May · Shift 2 MCQ

In group 13 of the long form of periodic table an element X has a boiling point of T_2(K) and melting point of T_1(K). Identify the element X for which $T_2 - T_1$(K) is maximum

(A) Al
(B) Ga
(C) In
(D) B

Answer: (B) Ga · The council's preliminary key

Q213 TS EAMCET 2023 · 12 May · Shift 2 MCQ

The dioxides and monoxides of elements X and Y are amphoteric in nature. X and Y are respectively

(A) C, Si
(B) Si, Ge
(C) Sn, Pb
(D) Ge, Pb

Answer: (C) Sn, Pb · The council's preliminary key

Q214 TS EAMCET 2023 · 12 May · Shift 2 MCQ

Assertion (A): In group 15 elements nitrogen does not form pentahalides

Reason (R): Nitrogen can exhibit +5 oxidation state

The correct option among the following is

(A) (A) and (R) are true. (R) is the correct explanation of (A)
(B) (A) and (R) are true, but (R) is not correct explanation of (A)
(C) (A) is true but (R) is false
(D) (A) is false but (R) is true

Answer: (B) (A) and (R) are true, but (R) is not correct explanation of (A) · The council's preliminary key

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Q215 TS EAMCET 2023 · 12 May · Shift 2 MCQ

Which of the following reaction represents Deacon's method?

(A) $2H_2O + 2Cl_2 \xrightarrow{\text{Sunlight}} 4HCl + O_2$

(B) $4HCl + O_2 \xrightarrow[723\,K]{CuCl_2} 2H_2O + Cl_2$

(C) $2NaCl + 2H_2O \xrightarrow{\text{Electrolysis}} 2NaOH + H_2 + Cl_2$

(D) $Ca(OH)_2 + Cl_2 \rightarrow CaOCl_2.H_2O$

Answer: (B) $4HCl + O_2 \xrightarrow[723\,K]{CuCl_2} 2H_2O + Cl_2$ · The council's preliminary key

Q216 TS EAMCET 2023 · 12 May · Shift 2 MCQ

The number of lone pair of electrons present in the valence shell of Xenon (z = 54) in $XeOF_4$, XeF_4, XeF_2 and XeF_6 are respectively

(A) 1, 2, 3, 1

(B) 2, 1, 2, 2

(C) 3, 1, 2, 1

(D) 1, 3, 2, 0

Answer: (A) 1, 2, 3, 1 · The council's preliminary key

Q217 TS EAMCET 2022 · 20 Jul · Shift 1 MCQ

Assertion (A) : $[B(OH_2)_6]^{3+}$ and $[B(OH)_4]^-$ form octahedral and tetrahedral structures.
Reason (R) : Being electron deficient, boron readily reacts with Lewis bases like H_2O, OH^-
The correct option among the following is

(A) (A) is true, (R) is true and (R) is the correct explanation for (A)

(B) (A) is true, (R) is true but (R) is not the correct explanation for (A)

(C) (A) is true but (R) is false

(D) (A) is false but (R) is true

Answer: (D) (A) is false but (R) is true · The council's preliminary key

Q218 TS EAMCET 2022 · 20 Jul · Shift 1 MCQ

The minimum temperature required for a non catalytic reaction between N_2 and O_2 is

(A) 3000 K

(B) 2000 K

(C) 1000 K

(D) 500 K

Answer: (B) 2000 K · The council's preliminary key

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Q219 TS EAMCET 2022 · 20 Jul · Shift 1 MCQ

Assertion (A) : Both rhombic and monoclinic Sulphur have S_8 molecules.
Reason (R) : They have planar structure.
The correct option among the following is

(A) (A) is true, (R) is true and (R) is the correct explanation for (A)
(B) (A) is true, (R) is true but (R) is not the correct explanation for (A)
(C) (A) is true but (R) is false
(D) (A) is false but (R) is true

Answer: (C) (A) is true but (R) is false · The council's preliminary key

Q220 TS EAMCET 2022 · 20 Jul · Shift 1 MCQ

The chemical structures of XeO_3 and $XeOF_4$, respectively, are

(A) Planar; Trigonal bipyramidal
(B) Pyramidal; Square pyramidal
(C) Planar; Square pyramidal
(D) Pyramidal; Square planar

Answer: (B) Pyramidal; Square pyramidal · The council's preliminary key

Q221 TS EAMCET 2022 · 20 Jul · Shift 2 MCQ

A black coloured element with ns^2np^1 outer electronic configuration cannot react with air in its crystalline form. However, in amorphous form, it gives an oxide in air which is acidic in nature. Identify the element.

(A) Boron
(B) Aluminium
(C) Gallium
(D) Indium

Answer: (A) Boron · The council's preliminary key

Q222 TS EAMCET 2022 · 20 Jul · Shift 2 MCQ

The element that does not show catenation is

(A) C
(B) Ge
(C) Sn
(D) Pb

Answer: (D) Pb · The council's preliminary key

Q223 TS EAMCET 2022 · 20 Jul · Shift 2 MCQ

In the following, the oxoacid with a peroxy bond is

(A) $H_2S_2O_5$
(B) $H_2S_2O_6$
(C) $H_2S_2O_7$
(D) $H_2S_2O_8$

Answer: (D) $H_2S_2O_8$ · The council's preliminary key

Q224 TS EAMCET 2022 · 20 Jul · Shift 2 MCQ

Chlorine is allowed to react with excess of ammonia. In this, 1 mole of chlorine can oxidise 'Z' moles of NH_3. 'Z' is

(A) $\frac{3}{8}$
(B) $\frac{8}{3}$
(C) $\frac{2}{3}$
(D) $\frac{3}{2}$

Answer: (C) $\frac{2}{3}$ · Checked by our team

Q225 TS EAMCET 2022 · 20 Jul · Shift 2 MCQ

The correct order of enthalpy of vaporisation of noble gases is

(A) Xe > Kr > Ar > Ne > He
(B) He > Ne > Kr > Ar > Xe
(C) Xe > Ar > He > Ne > Kr
(D) Ne > Xe > Kr > He > Ar

Answer: (A) Xe > Kr > Ar > Ne > He · The council's preliminary key

Q226 TS EAMCET 2022 · 19 Jul · Shift 1 MCQ

Phosphorous and phosphoric acids are, respectively, _____ acids.

(A) dibasic, tribasic
(B) tribasic, tribasic
(C) tribasic, dibasic
(D) tetrabasic, tribasic

Answer: (A) dibasic, tribasic · The council's preliminary key

Q227 TS EAMCET 2022 · 19 Jul · Shift 1 MCQ

The correct order of Lewis acidic character of boron trihaldes (sic) is

(A) $BF_3 > BCl_3 > BI_3 > BBr_3$
(B) $BI_3 > BBr_3 > BF_3 > BCl_3$
(C) $BI_3 > BBr_3 > BCl_3 > BF_3$
(D) $BF_3 > BCl_3 > BBr_3 > BI_3$

Answer: (C) $BI_3 > BBr_3 > BCl_3 > BF_3$ · The council's preliminary key

Q228 TS EAMCET 2022 · 19 Jul · Shift 1 MCQ

The acidic oxide from the following is

(A) SnO_2
(B) SiO_2
(C) PbO_2
(D) SnO

Answer: (B) SiO_2 · The council's preliminary key

Q229 TS EAMCET 2022 · 19 Jul · Shift 1 MCQ

Match the following.

Column-I (Molecule): A) F_2 B) Cl_2 C) Br_2 D) I_2
Column-II (Colour): I) Red II) Violet III) Yellow IV) Greenish yellow

The correct match is

(A) A-IV, B-III, C-I, D-II
(B) A-III, B-IV, C-I, D-II
(C) A-III, B-I, C-IV, D-II
(D) A-IV, B-III, C-II, D-I

Answer: (B) A-III, B-IV, C-I, D-II · The council's preliminary key

Q230 TS EAMCET 2022 · 19 Jul · Shift 1 MCQ

The correct decreasing order of the following 'Xe' compounds to act as both fluorinating and oxidizing agent is
i) XeF_6 ii) XeF_4 iii) XeF_2

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(A) $XeF_2 > XeF_4 > XeF_6$
(B) $XeF_6 > XeF_4 > XeF_2$
(C) $XeF_4 > XeF_6 > XeF_2$
(D) $XeF_6 = XeF_4 > XeF_2$

Answer: (B) $XeF_6 > XeF_4 > XeF_2$ · The council's preliminary key

Q231 TS EAMCET 2022 · 19 Jul · Shift 2 MCQ

Among the following elements, X exhibits maximum catenation and Y is the least abundant on earth. X and Y elements are

(A) C, Ge
(B) Si, Ge
(C) C, Pb
(D) Ge, C

Answer: (A) C, Ge · The council's preliminary key

Q232 TS EAMCET 2022 · 19 Jul · Shift 2 MCQ

The oxoacid of phosphorous which contains 4 P–O–H, 2P=O and one P–O–P bond is

(A) Orthophosphoric acid
(B) Metaphosphoric acid
(C) Pyrophosphoric acid
(D) Hypophosphoric acid

Answer: (C) Pyrophosphoric acid · The council's preliminary key

Q233 TS EAMCET 2022 · 19 Jul · Shift 2 MCQ

Group 16 elements are also called

(A) Pnicogens
(B) Picogens
(C) Halogens
(D) Chalocogens

Answer: (D) Chalocogens · The council's preliminary key

Q234 TS EAMCET 2022 · 19 Jul · Shift 2 MCQ

For the reaction $Br_2 + F_2$ (excess) $\rightarrow$ P, the molecular formula and structure of P, respectively, are

(A) BrF_5, Square pyramidal
(B) BrF_4, Square planar
(C) BrF_3, Bent T-shaped
(D) BrF_3, Linear

Answer: (A) BrF_5, **Square pyramidal** · The council's preliminary key

Q235 TS EAMCET 2022 · 19 Jul · Shift 2 MCQ

In the following reaction, a, b, p, q, r and s are
$a\ XeF_4 + b\ H_2O \longrightarrow p\ Xe + q\ XeO_3 + r\ HF + s\ O_2$

(A) a=6, b=10, p=4, q=2, r=20, s=3
(B) a=8, b=14, p=5, q=2, r=26, s=4
(C) a=6, b=12, p=4, q=2, r=24, s=3
(D) a=5, b=10, p=3, q=2, r=20, s=3

Answer: (C) a=6, b=12, p=4, q=2, r=24, s=3 · The council's preliminary key

Q236 TS EAMCET 2022 · 18 Jul · Shift 1 MCQ

The relative order of electronegativity of C, Ge, and Pb is

(A) $C > Ge > Pb$
(B) $Ge > C > Pb$
(C) $Pb > C > Ge$
(D) $C > Pb > Ge$

Answer: (D) $C > Pb > Ge$ · The council's preliminary key

Q237 TS EAMCET 2022 · 18 Jul · Shift 1 MCQ

In which of the following reactions there is no liberation of nitrogen gas

(A) $NO_2^-(aq) + NH_4^+(s) \xrightarrow{\Delta}$
(B) $CO(NH_2)_2(s) + HNO_2(l) \longrightarrow$
(C) $NH_3(g) + NaOCl(aq) \xrightarrow{\text{gelatine}}$
(D) $(NH_4)_2Cr_2O_7(s) \xrightarrow{\Delta}$

Answer: (C) $NH_3(g) + NaOCl(aq) \xrightarrow{\text{gelatine}}$ · The council's preliminary key

Q238 TS EAMCET 2022 · 18 Jul · Shift 1 MCQ

The correct order of boiling points of H_2O, H_2S, H_2Se and H_2Te respectively is

(A) $H_2O > H_2S = H_2Se = H_2Te$
(B) $H_2O < H_2S < H_2Se < H_2Te$
(C) $H_2O > H_2S > H_2Se > H_2Te$
(D) $H_2O > H_2Te > H_2Se > H_2S$

Answer: (D) $H_2O > H_2Te > H_2Se > H_2S$ · The council's preliminary key

Q239 TS EAMCET 2022 · 18 Jul · Shift 1 MCQ

Which of the following is not a mineral of fluorine?

(A) Fluorspar
(B) Cryolite
(C) Fluoroapatite
(D) Carnallite

Answer: (D) Carnallite · The council's preliminary key

Q240 TS EAMCET 2022 · 18 Jul · Shift 1 MCQ

The element that even can diffuse through silica glass is

(A) He
(B) Ar
(C) Kr
(D) Xe

Answer: (A) He · The council's preliminary key

Q241 TS EAMCET 2022 · 18 Jul · Shift 2 MCQ

When aluminium chloride is dissolved in water, it gives

(A) $[Al(OH)_6]^{3-} + 3\ HCl$
(B) $Al_2O_3 + 6\ HCl$
(C) $[Al(H_2O)_6]^{3+} + 3\ Cl^-$
(D) $Al^{3+} + 3\ Cl^-$

Answer: (C) $[Al(H_2O)_6]^{3+} + 3\ Cl^-$ · The council's preliminary key

Q242 TS EAMCET 2022 · 18 Jul · Shift 2 MCQ

The total number of paramagnetic gaseous products formed in all the following reactions [A + B + C]
(A) $NH_4NO_3 \xrightarrow{\Delta}$ Products
(B) $3NaNO_2 + 3H_2SO_4 \longrightarrow$ Products
(C) $Pb(NO_3)_2 \xrightarrow{673\ K}$ Products

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(A) 0
(B) 1
(C) 2
(D) 3

Answer: (D) 3 · The council's preliminary key

Q243 TS EAMCET 2022 · 18 Jul · Shift 2 MCQ

The main products P and Q of the following unbalanced disproportionation reaction are $SeCl_2 \rightarrow P + Q$

(A) P: $SeCl_2$, Q: $SeCl_3$
(B) P: $SeCl_4$, Q: $SeCl_2$
(C) P: $SeCl_4$, Q: Se
(D) P: $SeCl_4$, Q: Se_2

Answer: (C) P: $SeCl_4$, Q: Se · The council's preliminary key

Q244 TS EAMCET 2022 · 18 Jul · Shift 2 MCQ

The correct order of acidity of HClO, HBrO and HIO is

(A) HIO > HBrO > HClO
(B) HBrO > HIO > HClO
(C) HClO > HBrO > HIO
(D) HIO > HClO > HBrO

Answer: (C) HClO > HBrO > HIO · The council's preliminary key

Q245 AP EAPCET 2022 · 8 Jul · Shift 1 MCQ

The structures of BCl_3 and $BCl_3.NH_3$ respectively are

(A) Planar trigonal and Tetrahedral
(B) Planar trigonal and Pyramidal
(C) Pyramidal and Tetrahedral
(D) Pyramidal and Pyramidal

Answer: (A) Planar trigonal and Tetrahedral · The council's preliminary key

Q246 AP EAPCET 2022 · 8 Jul · Shift 1 MCQ

Among the given group 14 elements, the one with highest density is

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(A) Carbon
(B) Silicon
(C) Tin
(D) Lead

Answer: (D) Lead · The council's preliminary key

Q247 AP EAPCET 2022 · 8 Jul · Shift 1 MCQ

Small quantities of NO and HNO_3 are formed as impurities, when N_2 is prepared from NH_4Cl (aq) and $NaNO_2$ (aq), these impurities can be removed by passing the N_2 gas through which of the following?

(A) H_2SO_4 (aq) containing SO_3
(B) H_2SO_4 (aq) containing $K_2Cr_2O_7$
(C) H_2SO_4 (aq) containing $KMnO_4$
(D) HCl (aq) containing $KMnO_4$

Answer: (B) H_2SO_4 (aq) containing $K_2Cr_2O_7$ · The council's preliminary key

Q248 AP EAPCET 2022 · 8 Jul · Shift 1 MCQ

When KI is reacted with O_3 under aqueous condition the product formed is

(A) I_2O_4
(B) I_2O_5
(C) I_4O_9
(D) I_2

Answer: (D) I_2 · The council's preliminary key

Q249 AP EAPCET 2022 · 8 Jul · Shift 2 MCQ

The general formula of zeolite is Na_2Z. In this 'Z' represents

(A) $Al\ Si_2O_8.\ xH_2O$
(B) $Al_3\ Si_2O_8.\ xH_2O$
(C) $Al_2\ Si_2O_8.\ xH_2O$
(D) $AlO_2.\ xH_2O$

Answer: (C) $Al_2\ Si_2O_8.\ xH_2O$ · The council's preliminary key

Q250 AP EAPCET 2022 · 8 Jul · Shift 2 MCQ

For which of the following +3 oxidation state is highly oxidizing in character?

(A) Al
(B) Ga
(C) In
(D) Tl

Answer: (D) Tl · The council's preliminary key

Q251 AP EAPCET 2022 · 8 Jul · Shift 2 MCQ

Silicon (IV) chloride on hydrolysis gives an acid X. The number -OH groups present in X is

(A) 2
(B) 3
(C) 6
(D) 4

Answer: (D) 4 · The council's preliminary key

Q252 AP EAPCET 2022 · 8 Jul · Shift 2 MCQ

The element that can form multiple bonds with itself from the following is

(A) Antimony
(B) Arsenic
(C) Phosphorus
(D) Nitrogen

Answer: (D) Nitrogen · The council's preliminary key

Q253 AP EAPCET 2022 · 8 Jul · Shift 2 MCQ

Which one among the following has the "S-O-S" bonding?

(A) $H_2S_2O_5$
(B) $H_2S_2O_8$
(C) $H_2S_2O_7$
(D) $H_2S_2O_4$

Answer: (C) $H_2S_2O_7$ · The council's preliminary key

Q254 AP EAPCET 2022 · 7 Jul · Shift 1 MCQ

In the following unbalanced reaction, the product formed is

$Al_2O_3 + NaOH(aq) + H_2O \rightarrow$

(A) $Na_3[Al(OH)_6]$
(B) $Na_3[Al(OH)_4]$
(C) $Na_2[Al(OH)_5]$
(D) $Na[Al(OH)_6]$

Answer: (A) $Na_3[Al(OH)_6]$ · The council's preliminary key

Q255 AP EAPCET 2022 · 7 Jul · Shift 2 MCQ

Bond enthalpy of Ge-Ge bond is $260\ kJ\ mol^{-1}$. The bond ethalpies (sic) of Si-Si and Sn-Sn bonds in $kJ\ mol^{-1}$ are respectively,

(A) 240, 270
(B) 297, 297
(C) 297, 240
(D) 200, 348

Answer: (C) 297, 240 · The council's preliminary key

Q256 AP EAPCET 2022 · 7 Jul · Shift 2 MCQ

Which of the following represents correct order of oxidizing power of halogens with water

(A) $I_2 > Br_2 > Cl_2 > F_2$
(B) $Cl_2 > F_2 > Br_2 > I_2$
(C) $F_2 > Cl_2 > I_2 > Br_2$
(D) $F_2 > Cl_2 > Br_2 > I_2$

Answer: (D) $F_2 > Cl_2 > Br_2 > I_2$ · The council's preliminary key

Q257 AP EAPCET 2022 · 6 Jul · Shift 1 MCQ

Which of the following reaction is not an example of hydrolysis reaction?

(A) $P_4O_{10} + 6H_2O \rightarrow 4H_3PO_4$
(B) $Mg_3N_2 + 3H_2O \rightarrow 3Mg(OH)_2 + 2NH_3$
(C) $SiCl_4 + 2H_2O \rightarrow SiO_2 + 4HCl$
(D) $2F_2 + 2H_2O \rightarrow 4HF + O_2$

Answer: (D) $2F_2 + 2H_2O \rightarrow 4HF + O_2$ · The council's preliminary key

Q258 AP EAPCET 2022 · 6 Jul · Shift 1 MCQ

Borax dissolves in water and forms a product of boron (X). Identify the compound X.

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(A) HBO_2
(B) B_2O_3
(C) $NaBO_2$
(D) H_3BO_3

Answer: (D) H_3BO_3 · The council's preliminary key

Q259 AP EAPCET 2022 · 6 Jul · Shift 1 MCQ

The number of six membered carbon rings and five membered carbon rings present in Buckminster fullerene are x and y respectively. The sum of x and y is:

(A) 32
(B) 23
(C) 30
(D) 42

Answer: (A) 32 · The council's preliminary key

Q260 AP EAPCET 2022 · 6 Jul · Shift 1 MCQ

The moisture present in ammonia can be removed by using which of the following?

(A) P_4O_{10}
(B) Conc. H_2SO_4
(C) $CaCl_2$ (anhydrous)
(D) CaO

Answer: (D) CaO · The council's preliminary key

Q261 AP EAPCET 2022 · 6 Jul · Shift 1 MCQ

Which of the following source materials generate SO_2 that is used in contact process?

(A) S, FeS_2
(B) S, FeS
(C) H_2S, FeS_2
(D) Na_2S, FeS_2

Answer: (A) S, FeS_2 · The council's preliminary key

Q262 AP EAPCET 2022 · 6 Jul · Shift 2 MCQ

The maximum covalency and highest oxidation state possible of an element with Z=13 are respectively

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(A) $3, +6$
(B) $4, +3$
(C) $6, +3$
(D) $4, +2$

Answer: (C) $6, +3$ · The council's preliminary key

Q263 AP EAPCET 2022 · 6 Jul · Shift 2 MCQ

Identify A, B, C, & D in the reactions (I), (II)
(I) $x\mathrm{Cl_2} + y\mathrm{NaOH} \rightarrow A + B + \mathrm{H_2O}(l)$ (cold, dil)
(II) $x\mathrm{Cl_2} + y\mathrm{NaOH} \rightarrow C + D + \mathrm{H_2O}(l)$ (hot, conc)

(A) NaCl, HCl, NaOCl, $\mathrm{NaClO_3}$
(B) NaCl, NaOCl, NaCl, $\mathrm{NaClO_3}$
(C) NaCl, $\mathrm{NaOCl_3}$, NaCl, NaOCl
(D) NaOCl, $\mathrm{Na_2O}$, NaOCl, $\mathrm{NaO_2}$

Answer: (B) NaCl, NaOCl, NaCl, $\mathrm{NaClO_3}$ · The council's preliminary key

Q264 AP EAPCET 2022 · 6 Jul · Shift 2 MCQ

The hybridization of elements present in Fullerene and graphite are respectively

(A) $\mathrm{sp^3}, \mathrm{sp^2}$
(B) $\mathrm{sp^2}, \mathrm{sp^2}$
(C) $\mathrm{sp}, \mathrm{sp^2}$
(D) $\mathrm{sp^2}, \mathrm{sp}$

Answer: (B) $\mathrm{sp^2}, \mathrm{sp^2}$ · The council's preliminary key

Q265 AP EAPCET 2022 · 6 Jul · Shift 2 MCQ

Which of the following compound has reducing character?

(A) $\mathrm{SO_2}$
(B) $\mathrm{TeO_2}$
(C) $\mathrm{SO_3}$
(D) $\mathrm{TeO_3}$

Answer: (A) $\mathrm{SO_2}$ · The council's preliminary key

Q266 AP EAPCET 2022 · 6 Jul · Shift 2 MCQ

Assertion (A): All noble gases are monatomic.
Reason (R): All noble gases have very low melting and boiling points.

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(A) Both (A) and (R) are correct and (R) is the correct explanation of (A)
(B) Both (A) and (R) are correct but (R) is not the correct explanation of (A)
(C) (A) Is correct but (R) is incorrect
(D) (A) Is incorrect but (R) is correct

Answer: (B) Both (A) and (R) are correct but (R) is not the correct explanation of (A) · The council's preliminary key

Q267 AP EAPCET 2022 · 5 Jul · Shift 1 MCQ

Identify the P and Q of the following reaction
$P + Q \longrightarrow [B(OH)_4]^- + H_3O^+$

(A) $P = H_3BO_3$; $Q = 3H_2O$
(B) $P = H_3BO_3$; $Q = 2H_2O$
(C) $P = HBO_2$; $Q = 2H_2O$
(D) $P = 2H_3BO_3$; $Q = H_2O$

Answer: (B) $P = H_3BO_3$; $Q = 2H_2O$ · The council's preliminary key

Q268 AP EAPCET 2022 · 5 Jul · Shift 1 MCQ

Identify the species, which does not exist

(A) $[SiF_6]^{2-}$
(B) $[SiCl_6]^{2-}$
(C) $[GeCl_6]^{2-}$
(D) $[Sn(OH)_6]^{2-}$

Answer: (B) $[SiCl_6]^{2-}$ · The council's preliminary key

Q269 AP EAPCET 2022 · 5 Jul · Shift 2 MCQ

The compound that is used in smoke screens is

(A) Mg_3N_2
(B) MgO
(C) NaN_3
(D) Ca_3P_2

Answer: (D) Ca_3P_2 · The council's preliminary key

Q270 AP EAPCET 2022 · 5 Jul · Shift 2 MCQ

The reaction of diborane in diethylether with $\underline{X}$ gives metalborohydride. X is a

(A) Metal
(B) Metal halide
(C) Metal hydride
(D) Metal oxide

Answer: (C) Metal hydride · The council's preliminary key

Q271 AP EAPCET 2022 · 5 Jul · Shift 2 MCQ

The correct statements with respect to halides of group 14 elements are

I. Both CCl_4 and $SiCl_4$ undergo hydrolysis.

II. GeX_4 is more stable than GeX_2

III. PbX_4 is less stable than PbX_2

IV. Stability of dihalides decreases down the group.

(A) I, IV only
(B) II, IV only
(C) II, III only
(D) III, IV only

Answer: (C) II, III only · The council's preliminary key

Q272 AP EAPCET 2022 · 5 Jul · Shift 2 MCQ

The shapes of XeF_2, XeF_4, and XeO_3 respectively are

(A) Linear, Tetrahedral, Pyramidal
(B) Angular, Square Planar, Pyramidal
(C) Linear, Tetrahedral, Planar
(D) Linear, Square planar, Pyramidal

Answer: (D) Linear, Square planar, Pyramidal · The council's preliminary key

Q273 AP EAPCET 2022 · 4 Jul · Shift 1 MCQ

Identify the correct statements about Boron.
I. It has high melting point.
II. It has high density.
III. It has high electrical conductivity
IV. B-10 isotope of it has high ability to absorb neutrons

(A) I, II only
(B) II, III only
(C) III, IV only
(D) I, IV only

Answer: (D) I, IV only · The council's preliminary key

Q274 AP EAPCET 2022 · 4 Jul · Shift 1 MCQ

Which of the following tetrahalides does not exist?

(A) CCl_4
(B) $SiCl_4$
(C) $PbCl_4$
(D) PbI_4

Answer: (D) PbI_4 · The council's preliminary key

Q275 AP EAPCET 2022 · 4 Jul · Shift 1 MCQ

What are x and y in the following reaction?
$x\,Pb_3O_4 \rightarrow y\,PbO + O_2$

(A) x=3, y=6
(B) x=2, y=4
(C) x=2, y=5
(D) x=2, y=6

Answer: (D) x=2, y=6 · The council's preliminary key

Q276 AP EAPCET 2022 · 4 Jul · Shift 1 MCQ

Assertion (A): HCl gas is dried by passing through concentrated H_2SO_4.
Reason (R): HCl gas reacts with NH_3 that gives white fumes

(A) Both (A) and (R) are correct and (R) is the correct explanation of (A)
(B) Both (A) and (R) are correct and (R) is not the correct explanation of (A)
(C) (A) Is correct but (R) is incorrect
(D) (A) Is incorrect but (R) is correct

Answer: (B) Both (A) and (R) are correct and (R) is not the correct explanation of (A) · The council's preliminary key

Q277 AP EAPCET 2022 · 4 Jul · Shift 2 MCQ

Identify the correct statements about the anomalous behavior of Boron
I. Boron trihalides can form dimeric structures.
II. Boron shows + 1 as stable oxidation state

III. Maximum covalency of Boron is four.
IV. Boron does not form BF_6^{3-} ion.

(A) I, II only
(B) II, III only
(C) III, IV only
(D) I, IV only

Answer: (C) III, IV only · The council's preliminary key

Q278 AP EAPCET 2022 · 4 Jul · Shift 2 MCQ

The hybridizations of carbon in graphite, diamond and C_{60} are respectively

(A) sp^2, sp^3, sp
(B) sp^2, sp^3, sp^2
(C) sp, sp^2, sp^3
(D) sp, sp^3, sp

Answer: (B) sp^2, sp^3, sp^2 · The council's preliminary key

Q279 AP EAPCET 2022 · 4 Jul · Shift 2 MCQ

In the reaction of phosphorous with conc. HNO_3, the oxidized and reduced products respectively are

(A) H_3PO_4, NO_2
(B) H_3PO_2, NO
(C) H_3PO_3, N_2O
(D) HPO_3, NO

Answer: (A) H_3PO_4, NO_2 · The council's preliminary key

Q280 AP EAPCET 2022 · 4 Jul · Shift 2 MCQ

Which of the following is formed when SO_3 is absorbed by concentrated H_2SO_4

(A) $H_2S_2O_8$
(B) $H_2S_2O_3$
(C) $H_2S_2O_7$
(D) $H_2S_2O_5$

Answer: (C) $H_2S_2O_7$ · The council's preliminary key

Q281 AP EAPCET 2021 · 5 Oct · Shift 1 MCQ

Which one of the following compounds does not exist?

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(A) $B_2H_4(CH_3)_2$
(B) $B_2H_3(CH_3)_3$
(C) $B_2H_2(CH_3)_4$
(D) $B_2H(CH_3)_5$

Answer: (D) $B_2H(CH_3)_5$ · The council's preliminary key

Q282 AP EAPCET 2021 · 5 Oct · Shift 1 MCQ

The appropriate product(s) formed in the following reaction is(are) _____

$XeF_2 + PF_5 \longrightarrow$

(A) XeF_4 & PF_3
(B) XeF_3 & PF_4
(C) $[PF_4]^+[XeF_3]^-$
(D) $[XeF]^+[PF_6]^-$

Answer: (D) $[XeF]^+[PF_6]^-$ · The council's preliminary key

Q283 AP EAPCET 2021 · 25 Aug · Shift 1 MCQ

Which element belongs to the family of elements, that also includes element Gallium?

(A) Carbon
(B) Aluminum
(C) Iron
(D) Arsenic

Answer: (B) Aluminum · The council's preliminary key

Q284 AP EAPCET 2021 · 25 Aug · Shift 1 MCQ

Which of the following metals produces Hydrogen gas on reacting with cold dilute Nitric acid

(A) Al
(B) Fe
(C) Mg
(D) Cu

Answer: (C) Mg · The council's preliminary key

Q285 AP EAPCET 2021 · 25 Aug · Shift 1 MCQ

Boron compounds behave as Lewi's acids because of their _____

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(A) electron rich in nature
(B) electron deficient in nature
(C) ionization properties
(D) proton donating nature

Answer: (B) electron deficient in nature · The council's preliminary key

Q286 AP EAPCET 2021 · 25 Aug · Shift 1 MCQ

An inorganic compound (A) made of two most occurring elements in the earth's crust and used in building construction when made to react with carbon, forms a poisonous gas(B) which is most stable diatomic molecule. Compound (A) and (B) are

(A) SiO_2, CO_2
(B) SiO_2, CO
(C) SiO_2, N_2
(D) CaO, CO_2

Answer: (B) SiO_2, CO · The council's preliminary key

Q287 AP EAPCET 2021 · 25 Aug · Shift 1 MCQ

The structures of XeF_2 and XeF_4 respectively are _____

(A) Linear and Square planar
(B) Bent and Square planar
(C) Linear and Tetrahedral
(D) Bent and Trigonal pyramidal

Answer: (A) Linear and Square planar · The council's preliminary key

Q288 AP EAPCET 2021 · 25 Aug · Shift 1 MCQ

When Sulphur is boiled with Na_2SO_3, a compound (A) is produced. (A) on reaction with excess $AgNO_3$ solution gives a compound (B), which after dissolving in water produces a black colored sulphide (C). Identify the compound (A), (B) and (C).

(A) $Na_2S_2O_3, Ag_2S_2O_3, Ag_2S$
(B) $Na_2SO_4, Ag_2SO_4, Ag_2S$
(C) $Na_2S_2O_7, Ag_2SO_4, Ag_2S$
(D) $Na_2SO_5, Ag_2SO_5, Ag_2SO_4$

Answer: (A) $Na_2S_2O_3, Ag_2S_2O_3, Ag_2S$ · The council's preliminary key

Q289 AP EAPCET 2021 · 25 Aug · Shift 2 MCQ

The product(s) of the reaction $NaBH_4 + I_2 \longrightarrow$ 'Products' is/are

(A) $B_2H_4I_2 + 2\,NaI$

(B) $B_2H_6 + NaH + HI$

(C) $B_2H_6 + 2\,NaI + H_2$

(D) $2\,NaBH_4I$

Answer: (C) $B_2H_6 + 2\,NaI + H_2$ · The council's preliminary key

Q290 AP EAPCET 2021 · 25 Aug · Shift 2 MCQ

Match the following?

Material | Application

(a) Silicones | (i) As a catalyst

(a) Silicones | (ii) Greases

(b) Zeolites | (iii) In surgical implants

(b) Zeolites | (iv) As ion exchangers

(A) (a - ii), (a - iii), (b - i), (b - iv)

(B) (a - i), (a - iii), (b - ii), (b - iv)

(C) (a - ii), (a - iv), (b - i), (B - iii)

(D) (a - i), (a - iv), (b - ii), (b - iii)

Answer: (A) (a - ii), (a - iii), (b - i), (b - iv) · The council's preliminary key

Q291 AP EAPCET 2021 · 25 Aug · Shift 2 MCQ

Which reaction among the following gives nascent oxygen?

(A) $Na_2SO_3 + Cl_2 \xrightarrow{H_2O}$

(B) $NaOH + Cl_2 \longrightarrow$

(C) $Ca(OH)_2 + Cl_2 \longrightarrow$

(D) $Cl_2 + H_2O \longrightarrow$

Answer: (D) $Cl_2 + H_2O \longrightarrow$ · The council's preliminary key

Q292 AP EAPCET 2021 · 25 Aug · Shift 2 MCQ

Molecular bromine on reaction with three moles of molecular fluorine produces an inter halogen compound. The total number of lone pairs at the central halogen atom is _____

(A) 3

(B) 2

(C) 1

(D) 0

Answer: (B) 2 · The council's preliminary key

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Q293 AP EAPCET 2021 · 25 Aug · Shift 2 MCQ

The gases liberated when zinc reacts with dilute and conc. HNO_3 respectively are _____

(A) NO , NO_2
(B) NO , N_2O
(C) N_2O , NO
(D) N_2O , NO_2

Answer: (D) N_2O , NO_2 · The council's preliminary key

Q294 AP EAPCET 2021 · 24 Aug · Shift 1 MCQ

The stability of +1 oxidation state increases in the sequence _____

(A) $Ga < In < Al < Tl$
(B) $Al < Ga < In < Tl$
(C) $Tl < In < Ga < Al$
(D) $In < Tl < Ga < Al$

Answer: (B) $Al < Ga < In < Tl$ · The council's preliminary key

Q295 AP EAPCET 2021 · 24 Aug · Shift 1 MCQ

Identify the incorrect statement about SiO_2 (silica) from the following:

(A) It is highly reactive due to low Si - O bond enthalpy.
(B) It is a covalent three-dimensional network solid.
(C) Quartz, the crystalline form of silica, is used as a piezoelectric material.
(D) An amorphous form of silica is used in filtration plants.

Answer: (A) It is highly reactive due to low Si - O bond enthalpy. · The council's preliminary key

Q296 AP EAPCET 2021 · 24 Aug · Shift 1 MCQ

The acidic character of the group-15 elements in the increasing order is _____

(A) $As_2O_3 < P_2O_3 < Bi_2O_3 < Sb_2O_3$
(B) $As_2O_3 < P_2O_3 < Sb_2O_3 < Bi_2O_3$
(C) $Bi_2O_3 < Sb_2O_3 < As_2O_3 < P_2O_3$
(D) $Sb_2O_3 < As_2O_3 < P_2O_3 < Bi_2O_3$

Answer: (C) $Bi_2O_3 < Sb_2O_3 < As_2O_3 < P_2O_3$ · The council's preliminary key

Q297 AP EAPCET 2021 · 24 Aug · Shift 1 MCQ

Which of the following is not given by SO_2?

(A) It converts acidified iodates to iodine
(B) It decolorizes acidified $KMnO_4$ solution
(C) It reacts with acidified potassium dichromate to form green colored solution
(D) It reacts with green colored ferrous sulphate to form yellowish brown ferric sulphate

Answer: (D) It reacts with green colored ferrous sulphate to form yellowish brown ferric sulphate · The council's preliminary key

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Q298 AP EAPCET 2021 · 24 Aug · Shift 1 MCQ

Match the following:
Molecule: A) XeF_2 B) XeO_3 C) XeF_6 D) $XeOF_4$
Geometry: I) Trigonal Pyramidal II) Distorted octahedral III) Linear IV) Square pyramidal

(A) A-III, B-I, C-II, D-IV
(B) A-IV, B-III, C-II, D-I
(C) A-III, B-I, C-IV, D-II
(D) A-IV, B-III, C-II, D-I

Answer: (A) A-III, B-I, C-II, D-IV · The council's preliminary key

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Q299 AP EAPCET 2021 · 24 Aug · Shift 2 MCQ

Bleaching powder can be obtained by which of the following reactions?

(A) $Mg(OH)_2 + F_2 \xrightarrow{\Delta} MgOF_2 + H_2O$
(B) $Ca(OH)_2 + Cl_2 \xrightarrow{\Delta} CaOCl_2 + H_2O$
(C) $Ba(OH)_2 + Br_2 \xrightarrow{\Delta} BaOBr_2 + H_2O$
(D) $Ca(OH)_2 + F_2 \xrightarrow{\Delta} CaOF_2 + H_2O$

Answer: (B) $Ca(OH)_2 + Cl_2 \xrightarrow{\Delta} CaOCl_2 + H_2O$ · The council's preliminary key

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Q300 AP EAPCET 2021 · 24 Aug · Shift 2 MCQ

Aluminium (III) chloride forms a dimer because aluminium _____

(A) belongs to Boron family.
(B) has a very high ionization enthalpy.
(C) can have higher co-ordination number.
(D) is next to Magnesium.

Answer: (C) can have higher co-ordination number. · The council's preliminary key

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Q301 AP EAPCET 2021 · 24 Aug · Shift 2 MCQ

Which of the following species do not exist?

(A) $[SiF_6]^{2-}$
(B) $[SiCl_6]^{2-}$
(C) $[GeCl_6]^{2-}$
(D) $[SiF_5]^{-}$

Answer: (B) $[SiCl_6]^{2-}$ · The council's preliminary key

Q302 AP EAPCET 2021 · 24 Aug · Shift 2 MCQ

Shape of XeF_4 molecule is _____

(A) Pyramidal
(B) Square planar
(C) Triangular planar
(D) Linear

Answer: (B) Square planar · The council's preliminary key

Q303 AP EAPCET 2021 · 24 Aug · Shift 2 MCQ

Which reaction(s) among the following produce Dinitrogen?
(i) $NH_4Cl_{(aq)} + NaNO_{2(aq)} \longrightarrow$
(ii) $NH_2CONH_2 + 2\ H_2O \longrightarrow$
(iii) $Ba(N_3)_2 \longrightarrow$
(iv) $NH_4Cl + Ca(OH)_2 \longrightarrow$

(A) (i) & (iii) only
(B) (ii) & (iii) only
(C) (iii) & (iv) only
(D) (ii) & (iv) only

Answer: (A) (i) & (iii) only · The council's preliminary key

Q304 AP EAPCET 2021 · 24 Aug · Shift 2 MCQ

$HClO_4$ is a stronger acid than H_2SO_4 due to which of the following reasons?
(i) Oxidation state of Cl in $HClO_4$ is $+7$ and that of S in H_2SO_4 is $+6$
(ii) Cl is more electronegative than S
(iii) $HClO_4$ is monobasic, whereas H_2SO_4 is dibasic
(iv) ClO_3 part of $HClO_4$ can break $O-H$ bond more easily to liberate a proton than SO_3 part in H_2SO_4

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(A) (i), (ii) & (iii) only
(B) (i), (ii) & (iv) only
(C) (i), (iii) & (iv) only
(D) (ii), (iii) & (iv) only

Answer: (B) (i), (ii) & (iv) only · The council's preliminary key

Q305 AP EAPCET 2021 · 23 Aug · Shift 1 MCQ

Consider the reaction $BCl_3 + NH_3 \longrightarrow BCl_3 \cdot NH_3$, the geometries of BCl_3 and $BCl_3 \cdot NH_3$ respectively are _____

(A) Trigonal planar & Tetrahedral
(B) Tetrahedral & Square planar
(C) Tetrahedral & Trigonal bipyramidal
(D) Square planar & Trigonal pyramidal

Answer: (A) Trigonal planar & Tetrahedral · The council's preliminary key

Q306 AP EAPCET 2021 · 23 Aug · Shift 1 MCQ

Carbon and germanium belong to the 14th group. The maximum co-ordination number of Carbon is less than germanium, because of _____

(A) larger size of germanium
(B) electronegativity difference
(C) availability of low-lying d-orbitals in germanium
(D) electrical conductivity

Answer: (C) availability of low-lying d-orbitals in germanium · The council's preliminary key

Q307 AP EAPCET 2021 · 23 Aug · Shift 1 MCQ

The geometries of XeF_4 and $XeOF_4$ respectively are _____

(A) Pyramidal and Distorted octahedral
(B) Square-pyramidal and Square-pyramidal
(C) Square-planar and Square-pyramidal
(D) Square-planar and Square-planar

Answer: (C) Square-planar and Square-pyramidal · The council's preliminary key

Q308 AP EAPCET 2021 · 23 Aug · Shift 1 MCQ

In the following reaction $I_2 + H_2O + Cl_2 \longrightarrow X + Y$, the products X and Y respectively are _____

(A) $HClO_4$, HI
(B) I_2O_7, HCl
(C) HIO_3, HCl
(D) ICl_3 & HCL (sic)

Answer: (C) HIO_3, HCl · The council's preliminary key

Q309 AP EAPCET 2021 · 23 Aug · Shift 2 MCQ

The anhydride of the oxoacid $HOCl$ is _____

(A) ClO_2
(B) Cl_2O
(C) Cl_2O_7
(D) Cl_2O_6

Answer: (B) Cl_2O · The council's preliminary key

Q310 AP EAPCET 2021 · 23 Aug · Shift 2 MCQ

$AlCl_3$ is an electron deficient compound but AlF_3 is not. This is because

(A) Atomic size of F is smaller than Cl which makes AlF_3 more covalent
(B) $AlCl_3$ is a covalent compound while AlF_3 is an ionic compound
(C) $AlCl_3$ exists as dimer but AlF_3 does not
(D) Al in $AlCl_3$ is in sp^3 hybrid state but Al in AlF_3 is in sP^2 state

Answer: (B) $AlCl_3$ **is a covalent compound while** AlF_3 **is an ionic compound** · The council's preliminary key

Q311 AP EAPCET 2021 · 23 Aug · Shift 2 MCQ

When graphite is subjected to an electric arc in the presence of inert atmosphere, it gives ____

(A) C_{70} as main product and C_{80} in small quantities
(B) C_{60} as main product and C_{70} in small quantities
(C) C_{50} as main product and C_{60} in small quantities
(D) equal amounts of C_{60} and C_{70}

Answer: (B) C_{60} **as main product and** C_{70} **in small quantities** · The council's preliminary key

Q312 AP EAPCET 2021 · 23 Aug · Shift 2 MCQ

Among the common mineral acids, H_2SO_4 is less volatile due to

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(A) Hydrogen bonding
(B) Vander Waal's forces
(C) Disulphide linkages
(D) Strong bonds

Answer: (A) Hydrogen bonding · The council's preliminary key

Q313 AP EAPCET 2021 · 23 Aug · Shift 2 MCQ

The angular shape of the ozone molecule consists of _____

(A) 1 σ and 1 π bonds with bond angle 109°
(B) 2 σ and 1 π bonds with bond angle 117°
(C) 2 σ and 2 π bonds with bond angle 120°
(D) 1 σ and 2 π bonds with bond angle 60°

Answer: (B) 2 σ and 1 π bonds with bond angle 117° · The council's preliminary key

Q314 AP EAPCET 2021 · 20 Aug · Shift 1 MCQ

Which of the following statement is incorrect?

(A) Tl^{3+} salts are oxidizing agents.
(B) Ga^{+} salts are reducing agents.
(C) Pb^{4+} salts are better oxidizing agents.
(D) As^{+5} salts are better oxidizing agents.

Answer: (D) As^{+5} salts are better oxidizing agents. · The council's preliminary key

Q315 AP EAPCET 2021 · 20 Aug · Shift 1 MCQ

AlF_3 is soluble in HF only in the presence of KF due to formation of _____

(A) AlH_3
(B) $[AlH_6]^{3-}$
(C) $[AlF_6]^{3-}$
(D) $K[AlF_3H]$

Answer: (C) $[AlF_6]^{3-}$ · The council's preliminary key

Q316 AP EAPCET 2021 · 20 Aug · Shift 1 MCQ

What would be the product of following reaction $SiCl_4 \xrightarrow{\text{Excess of } H_2O}$? (Major Product)

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(A) $SiCl_3(OH)$
(B) $Si(OH)_4$
(C) $SiCl_2(OH)_2$
(D) $SiCl_4$ (no reaction)

Answer: (B) $Si(OH)_4$ · The council's preliminary key

Q317 AP EAPCET 2021 · 20 Aug · Shift 2 MCQ

H_3BO_3 or $B(OH)_3$ is considered as an acid because its molecule _____

(A) Combines with proton from water molecule
(B) Accepts OH^- from water, releasing a proton
(C) Contains replaceable H^+ ion
(D) Can donate proton easily

Answer: (B) Accepts OH^- from water, releasing a proton · The council's preliminary key

Q318 AP EAPCET 2021 · 20 Aug · Shift 2 MCQ

The element with maximum bond-energy _____

(A) C
(B) Pb
(C) Ge
(D) Si

Answer: (A) C · The council's preliminary key

Q319 AP EAPCET 2021 · 20 Aug · Shift 2 MCQ

Xenon best reacts with _____

(A) Neutral atoms
(B) Most electronegative elements
(C) Most electropositive elements
(D) Transition elements

Answer: (B) Most electronegative elements · The council's preliminary key

Q320 AP EAPCET 2021 · 20 Aug · Shift 2 MCQ

The correct order of acidic character of the following is:

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(A) $H_2O > H_2S > H_2Se > H_2Te$
(B) $H_2Se > H_2S > H_2O > H_2Te$
(C) $H_2Te > H_2Se > H_2S > H_2O$
(D) $H_2Te > H_2S > H_2Se > H_2O$

Answer: (C) $H_2Te > H_2Se > H_2S > H_2O$ · The council's preliminary key

Q321 AP EAPCET 2021 · 20 Aug · Shift 2 MCQ

In the following reactions (i) and (ii), the number of moles of chlorine gas released respectively are

(i) $MnO_2 + 4\ HCl \longrightarrow$
(ii) $KMnO_4 + 16\ HCl \longrightarrow$

(A) 1 & 4
(B) 1 & 5
(C) 2 & 5
(D) 2 & 4

Answer: (B) 1 & 5 · The council's preliminary key

Q322 AP EAPCET 2021 · 19 Aug · Shift 1 MCQ

When borax is dissolved in water, it gives an alkaline solution. The alkaline solution consists the following products

(A) $NaOH$ & BH_3
(B) $NaOH$ & H_3BO_3
(C) $NaHCO_3$ & H_3BO_3
(D) Na_2CO_3 & H_3BO_3

Answer: (B) $NaOH$ & H_3BO_3 · The council's preliminary key

Q323 AP EAPCET 2021 · 19 Aug · Shift 1 MCQ

Identify (P) and (Q) in the following reaction:
$CH_3Cl + Si \xrightarrow[570\ K]{Cu\text{-powder}} (P) \xrightarrow{H_2O} (Q) \longrightarrow$ Straight chain polymer

(A) P: $(CH_3)_3SiCl$ Q: $(CH_3)_3SiOH$
(B) P: $(CH_3)_2SiCl_2$ Q: $(CH_3)_2Si(OH)_2$
(C) P: $(CH_3)_2SiCl_2$ Q: $(CH_3)_2Si(OH)Cl$
(D) P: $(CH_3)_2SiCl_2$ Q: $(CH_3)_2SiO$

Answer: (B) P: $(CH_3)_2SiCl_2$ Q: $(CH_3)_2Si(OH)_2$ · The council's preliminary key

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Q324 AP EAPCET 2021 · 19 Aug · Shift 1 MCQ

Match the following compounds with their corresponding physical properties:

Column-I

a) IBr

b) ClF_3

c) BrF_3

d) ICl_3

Column-II

i) Orange solid

ii) Yellow-green liquid

iii) Black solid

iv) Colorless gas

(A) (a-ii), (b-i), (c-iv), (d-iii)

(B) (a-i), (b-iii), (c-ii), (d-iv)

(C) (a-iii), (b-iv), (c-ii), (d-i)

(D) (a-iv), (b-ii), (c-i), (d-iii)

Answer: (C) (a-iii), (b-iv), (c-ii), (d-i) · The council's preliminary key

Q325 AP EAPCET 2021 · 19 Aug · Shift 2 MCQ

The structure of diborane B_2H_6 is given below. Identify the bond angles x, y. In diborane, _____ are commonly known as banana-bonds *(see the figure above)*

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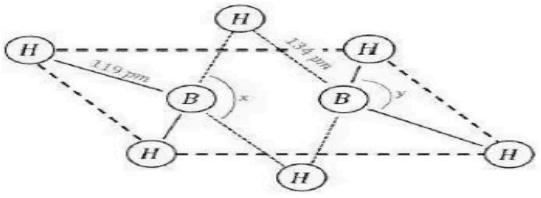
Mandatory : No

The structure of diborane B_2H_6 is given below. Identify the bond angles x, y. In diborane, _____ are commonly known as banana-bonds

డైబోరేన్ నిర్మాణం పటంలో ఇవ్వబడినది. x, y బంధకోణాలు కనుగొనుము మరియు _____ ను సాధారణంగా బనానా బంధాలు అంటారు.



Options :

1. $x = 101°$, $y = 118°$ and 2-centered-3-electron bonds
   $x = 101°$, $y = 118°$ మరియు 2-కేంద్రక-3-ఎలక్ట్రాన్ బంధాలు

2. $x = 97°$, $y = 120°$ and 3-centered-2-electron bonds
   $x = 97°$, $y = 120°$ మరియు 3-కేంద్రక-2-ఎలక్ట్రాన్ బంధాలు

3. $x = 118°$, $y = 79°$ and ionic bond between the two B's
   $x = 118°$, $y = 79°$ మరియు రెండు B ల మధ్య అయానిక బంధం

4. $x = 79°$, $y = 118°$ and ionic bond between the two B's
   $x = 79°$, $y = 118°$ మరియు రెండు B ల మధ్య అయానిక బంధం

(A) $x = 101^\circ$, $y = 118^\circ$ and 2-centered-3-electron bonds
(B) $x = 97^\circ$, $y = 120^\circ$ and 3-centered-2-electron bonds
(C) $x = 118^\circ$, $y = 79^\circ$ and ionic bond between the two B's
(D) $x = 79^\circ$, $y = 118^\circ$ and ionic bond between the two B's

Answer: (B) $x = 97^\circ$, $y = 120^\circ$ **and 3-centered-2-electron bonds** · The council's preliminary key

Q326 AP EAPCET 2021 · 19 Aug · Shift 2 MCQ

The incorrect statement among the following is /are _____

(A) NCl_5 does not exist while PCl_5 does
(B) Pb prefers to form tetravalent compounds
(C) The three $C - O$ bonds are equal in the CO_3^{2-} ion
(D) Both O_2^+ and NO are paramagnetic

Answer: (B) Pb **prefers to form tetravalent compounds** · The council's preliminary key

Q327 AP EAPCET 2021 · 19 Aug · Shift 2 MCQ

Due to $p\pi - p\pi$ bonding interactions, nitrogen for N_2. But phosphorus forms _____ and does not form a diatomic molecule.

(A) P_5
(B) P_3
(C) P_4
(D) P_6

Answer: (C) P_4 · The council's preliminary key

Q328 AP EAPCET 2021 · 19 Aug · Shift 2 MCQ

Which statements among the following are correct about Helium?
(i) Liquid helium is used to sustain powerful superconducting magnets.
(ii) Liquid helium is useful to carry low temperature experiments.
(iii) It is a heavy gas.
(iv) It is a flammable gas.

(A) (i) & (ii) only
(B) (ii) & (iii) only
(C) (i) & (iv) only
(D) (iii) & (iv) only

Answer: (A) (i) & (ii) only · The council's preliminary key

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Q329 TS EAMCET 2021 · 6 Aug · Shift 1 MCQ

Match the following

List I Compound

A) H_3BO_3

B) $AlCl_3$

C) $B_3N_3H_6$

D) BF_3

List II Physical/Chemical property/name/ structure

I) Dimeric form

II) Back bonding

III) Hydrogen bonding

IV) Inorganic benzene

The correct match is

(A) A-I, B-II, C-III, D-IV

(B) A-III, B-II, C-IV, D-I

(C) A-III, B-I, C-II, D-IV

(D) A-III, B-I, C-IV, D-II

Answer: (D) A-III, B-I, C-IV, D-II · The council's preliminary key

Q330 TS EAMCET 2021 · 6 Aug · Shift 1 MCQ

The correct statements from the below is

(I) Charcoal can be obtained on heating wood in absence of air

(II) Charcoal is impure form of graphite

(III) Diamond is thermodynamically the most stable allotrope of carbon

(IV) Coke is used as an oxydizing agent during the extraction of iron from its ores

(A) (I) and (III)

(B) (II) and (IV)

(C) (I) and (IV)

(D) (I) and (II)

Answer: (D) (I) and (II) · The council's preliminary key

Q331 TS EAMCET 2021 · 6 Aug · Shift 1 MCQ

Sulphur on boiling with NaOH solution forms

(A) $Na_2S_2O_3 + Na_2S$
(B) $Na_2SO_3 + SO_2$
(C) $Na_2S_2O_3 + NaHSO_3$
(D) $Na_2SO_3 + H_2S$

Answer: (A) $Na_2S_2O_3 + Na_2S$ · The council's preliminary key

Q332 TS EAMCET 2021 · 6 Aug · Shift 1 MCQ

Commercial name of Peroxydisulphuric acid is

(A) Marshall's acid
(B) Caro's acid
(C) Oleum
(D) Fuming sulphuric acid

Answer: (A) Marshall's acid · The council's preliminary key

Q333 TS EAMCET 2021 · 6 Aug · Shift 1 MCQ

Which of the following does not exist?

(A) $XeOF_4$
(B) NeF_2
(C) XeF_2
(D) XeF_6

Answer: (B) NeF_2 · The council's preliminary key

Q334 TS EAMCET 2021 · 6 Aug · Shift 2 MCQ

Amphoteric hydroxide from the following is

(A) $Al(OH)_3$
(B) $In(OH)_3$
(C) $B(OH)_3$
(D) $Tl(OH)_3$

Answer: (A) $Al(OH)_3$ · The council's preliminary key

Q335 TS EAMCET 2021 · 6 Aug · Shift 2 MCQ

Among the following options the element with the highest density and lowest boiling point is

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(A) C
(B) Sn
(C) Pb
(D) Ge

Answer: (C) Pb · The council's preliminary key

Q336 TS EAMCET 2021 · 6 Aug · Shift 2 MCQ

False statement about white phosphorous is

(A) It is highly soluble in carbon disulphide
(B) The angle $\angle PPP$ in P_4 molecule is 60°
(C) White P_4 molecules contains four $P-P$ covalent bonds
(D) White phosphorous is the most reactive allotrope of phosphorous

Answer: (C) White P_4 molecules contains four $P-P$ covalent bonds · The council's preliminary key

Q337 TS EAMCET 2021 · 6 Aug · Shift 2 MCQ

Match the following

List-I Element
A) He
B) Ar
C) Xe
D) Rn

List-II Property
I) can be used as inert atmosphere
II) Radioactive element
III) Form fluoride compounds
IV) can be used as airship balloons

The correct match is

(A) A-IV, B-III, C-II, D-I
(B) A-IV, B-I, C-III, D-II
(C) A-I, B-II, C-III, D-IV
(D) A-II, B-I, C-IV, D-III

Answer: (B) A-IV, B-I, C-III, D-II · The council's preliminary key

Q338 TS EAMCET 2021 · 5 Aug · Shift 1 MCQ

Match the following.
Column-1 (Reaction) Column-2 (Main product)
A) $B_2H_6 + 2CO \rightarrow$ I) B_2O_3
B) $B_2H_6 + 3O_2 \rightarrow$ II) $2BH_3 \cdot CO$

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C) $B_2H_6 + 6H_2O \rightarrow$ III) $2H_3BO_3$
IV) $2BH_2(CO)$
V) $2HBO_2$
The correct match is

(A) A-IV, B-I, C-III
(B) A-II, B-III, C-V
(C) A-IV, B-III, C-I
(D) A-II, B-I, C-III

Answer: (D) A-II, B-I, C-III · The council's preliminary key

Q339 TS EAMCET 2021 · 5 Aug · Shift 1 MCQ

The correct order of reducing ability of the following hydrides is

(A) $BiH_3 > SbH_3 > PH_3 > NH_3$
(B) $NH_3 > PH_3 > SbH_3 > BiH_3$
(C) $SbH_3 > BiH_3 > PH_3 > NH_3$
(D) $PH_3 > BiH_3 > SbH_3 > NH_3$

Answer: (A) $BiH_3 > SbH_3 > PH_3 > NH_3$ · The council's preliminary key

Q340 TS EAMCET 2021 · 5 Aug · Shift 1 MCQ

Sulphur dioxide reacts with chlorine in the presence of charcoal to give

(A) H_2SO_3
(B) $SOCl_2$
(C) SO_2Cl_2
(D) H_2SO_4

Answer: (C) SO_2Cl_2 · The council's preliminary key

Q341 TS EAMCET 2021 · 5 Aug · Shift 1 MCQ

Assertion (A) : The bond dissociation energy increases from F_2 to Cl_2 and then decreases to I_2
Reason (R) : The low bond energy of fluorine is due to the repulsion between the lone pairs of electrons in two fluorine atoms.
The correct option among the following is

(A) (A) is true, (R) is true and (R) is the correct explanation for (A)
(B) (A) is true, (R) is true but (R) is not the correct explanation for (A)
(C) (A) is true but (R) is false
(D) (A) is false but (R) is true

Answer: (A) (A) is true, (R) is true and (R) is the correct explanation for (A) · The council's preliminary key

Q342 TS EAMCET 2021 · 5 Aug · Shift 2 MCQ

Give the correct characteristic colours of the products (P, Q, R, S) formed in the following reactions.

A) $NO + NO_2 \xrightarrow{<250\ K} P$

B) $2NO_2 \longleftrightarrow Q$

C) $Pb(NO_3)_2 \xrightarrow{673\ K} R + PbO$

D) $HNO_3 + P_4O_{10} \longrightarrow S + 4HPO_3$

(A) P: Blue, Q: Colourless, R: Brown, S: Colourless

(B) P: Colourless, Q: Blue, R: Colourless, S: Brown

(C) P: Colourless, Q: Colourless, R: Blue, S: Brown

(D) P: Brown, Q: Blue, R: Colourless, S: Colourless

Answer: (A) P: Blue, Q: Colourless, R: Brown, S: Colourless · The council's preliminary key

Q343 TS EAMCET 2021 · 4 Aug · Shift 1 MCQ

Which of the following complex ions does not exist?

(A) $[B(H_2O)_6]^{3+}$

(B) $[Al(H_2O)_6]^{3+}$

(C) $[Ga(H_2O)_6]^{3+}$

(D) $[In(H_2O)_6]^{3+}$

Answer: (A) $[B(H_2O)_6]^{3+}$ · The council's preliminary key

Q344 TS EAMCET 2021 · 4 Aug · Shift 1 MCQ

Which of the following statements are correct?

a) The isotope of carbon containing 7 neutrons has natural abundance of 1.1 %

b) Among the IVA group elements, Sn has the lowest melting point

c) Silicon is the 2nd (by mass) most abundant element in the earth's crust

d) Elemental carbon shows the highest electrical resistivity among the 14 group elements

(A) a, c and d only

(B) a, b and c only

(C) b, c and d only

(D) a, b, c and d

Answer: (D) a, b, c and d · The council's preliminary key

Q345 TS EAMCET 2021 · 4 Aug · Shift 1 MCQ

The main products formed when copper metal is reacted with concentrated HNO_3 are

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(A) $Cu(NO_3)_2$; NO
(B) $Cu(NO_3)_2$; H_2
(C) $Cu(NO_3)_2$; NO_2
(D) $Cu(NO_3)$; NO

Answer: (C) $Cu(NO_3)_2$; NO_2 · The council's preliminary key

Q346 TS EAMCET 2021 · 4 Aug · Shift 1 MCQ

Assertion (A) : SF_6 is highly stable
Reason (R) : SF_6 is a gas
The correct option among the following is

(A) (A) is true, (R) is true and (R) is the correct explanation for (A)
(B) (A) is true, (R) is true but (R) is not the correct explanation for (A)
(C) (A) is true but (R) is false
(D) (A) is false but (R) is true

Answer: (B) (A) is true, (R) is true but (R) is not the correct explanation for (A) · The council's preliminary key

Q347 TS EAMCET 2021 · 4 Aug · Shift 1 MCQ

Complete hydrolysis of XeF_4 and XeF_6 gives its oxides P and Q, respectively. Identify P and Q

(A) P = XeO_2, Q = XeO_3
(B) P = XeO, Q = XeO_2
(C) P = XeO_3, Q = XeO_3
(D) P = XeO_2, Q = XeO_2

Answer: (C) P = XeO_3, Q = XeO_3 · The council's preliminary key

Q348 TS EAMCET 2021 · 4 Aug · Shift 2 MCQ

The general formula of the compounds formed when group 13 elements (A) reacts with group 16 elements (B) is

(A) AB
(B) A_3B_2
(C) A_2B_3
(D) A_3B_3

Answer: (C) A_2B_3 · The council's preliminary key

Q349 TS EAMCET 2021 · 4 Aug · Shift 2 MCQ

In the following reaction sequence, the compound C is
$Al + N_2 \xrightarrow{\Delta} (A) \xrightarrow{H_2O} B\,(ppt) + C\,(g)$

(A) NO_2
(B) NH_3
(C) NO
(D) N_2

Answer: (B) NH_3 · The council's preliminary key

Q350 TS EAMCET 2021 · 4 Aug · Shift 2 MCQ

Diamond is extremely hard whereas graphite is soft. This is because

(A) diamond is covalent, whereas graphite is ionic
(B) diamond is ionic whereas graphite is covalent
(C) each carbon atom in diamond is chemically bonded to greater number of neighbouring carbon atoms
(D) certain atoms in diamond are smaller in size

Answer: (C) each carbon atom in diamond is chemically bonded to greater number of neighbouring carbon atoms · The council's preliminary key

Q351 TS EAMCET 2021 · 4 Aug · Shift 2 MCQ

The boiling point of hydrogen halides varies in the order

(A) $HF > HI > HBr > HCl$
(B) $HF > HCl > HBr > HI$
(C) $HI > HBr > HCl > HF$
(D) $HBr > HI > HCl > HF$

Answer: (A) $HF > HI > HBr > HCl$ · The council's preliminary key

Q352 TS EAMCET 2021 · 4 Aug · Shift 2 MCQ

The correct order of bond angles of the following compounds is

(A) $H_2O < H_2S < H_2Se < H_2Te$
(B) $H_2S < H_2O < H_2Se < H_2Te$
(C) $H_2Se < H_2S < H_2O < H_2Te$
(D) $H_2Te < H_2Se < H_2S < H_2O$

Answer: (D) $H_2Te < H_2Se < H_2S < H_2O$ · The council's preliminary key

Q353 AP EAMCET 2020 · 7 Oct · Shift 1 MCQ

Which among the following is not a property of silicones?

(A) They are organo-silicon polymers having R_2SiO as repeating unit
(B) They are water repelling due to non-polar alkyl group
(C) They are biocompatible
(D) They are good conductors of electricity

Answer: (D) They are good conductors of electricity · The council's preliminary key

Q354 AP EAMCET 2020 · 7 Oct · Shift 1 MCQ

Boron halides usually are Lewi's acids in nature. This is due to _____

(A) Presence of six valence electrons
(B) Their ionic character
(C) Presence of lone pair of electrons
(D) Their covalent character

Answer: (A) Presence of six valence electrons · The council's preliminary key

Q355 AP EAMCET 2020 · 7 Oct · Shift 1 MCQ

Phosphorous can be stored in _____

(A) Kerosene
(B) Alcohol
(C) Water
(D) Ammonia

Answer: (C) Water · The council's preliminary key

Q356 AP EAMCET 2020 · 7 Oct · Shift 1 MCQ

Match the following items of List-I with those in List-II and choose the correct option
A) $[S_2O_3]^{2-}$
B) H_2O_2
C) H_2S
D) S_2
I) Paramagnetic
II) Toxic gas
III) Strong reducing agent
IV) Disproportionate in presence of Mn^{2+}

(A) A-IV, B-II, C-I, D-III
(B) A-I, B-III, C-IV, D-II
(C) A-III, B-I, C-II, D-IV
(D) A-III, B-IV, C-II, D-I

Answer: (D) A-III, B-IV, C-II, D-I · The council's preliminary key

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Q357 AP EAMCET 2020 · 7 Oct · Shift 1 MCQ

The oxidation state of phosphorus in cyclo-tri-meta phosphoric acid is

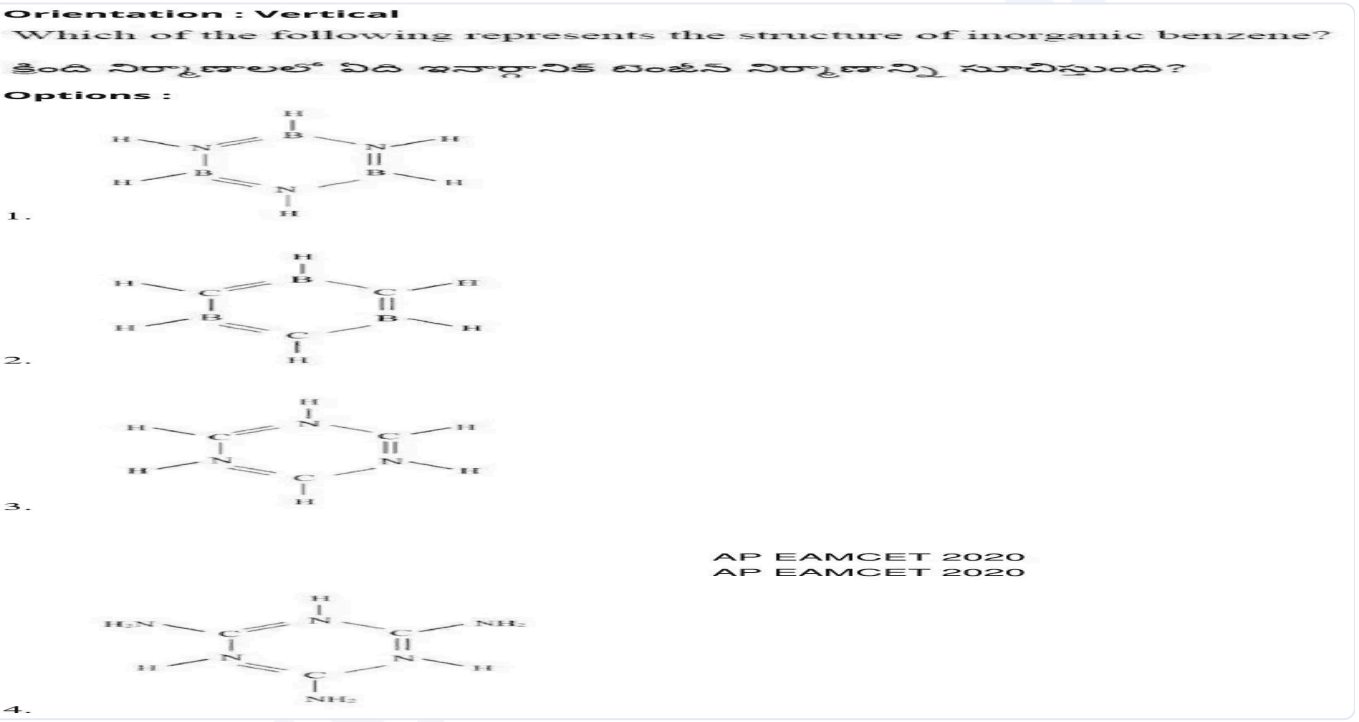
(A) $+3$
(B) -3
(C) -5
(D) $+5$

Answer: (D) $+5$ · The council's preliminary key

Q358 AP EAMCET 2020 · 23 Sep · Shift 1 MCQ

Which of the following represents the structure of inorganic benzene?

Orientation : Vertical
Which of the following represents the structure of inorganic benzene?
Options :



AP EAMCET 2020
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(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (A) · The council's preliminary key

Q359 AP EAMCET 2020 · 23 Sep · Shift 1 MCQ

$O_3 + 2KI_{(aq)} \longrightarrow$?

(A) IO_3
(B) Cl_3
(C) I_2
(D) HI

Answer: (C) I_2 · The council's preliminary key

Q360 AP EAMCET 2020 · 23 Sep · Shift 1 MCQ

Find the non-semiconductor element among the following.

(A) Ge
(B) Pb
(C) Si
(D) As

Answer: (B) Pb · The council's preliminary key

Q361 AP EAMCET 2020 · 23 Sep · Shift 1 MCQ

Which of the following does not exist?

(A) XeO_3
(B) $XeOF_4$
(C) XeF_6
(D) NeF_2

Answer: (D) NeF_2 · The council's preliminary key

Q362 AP EAMCET 2020 · 22 Sep · Shift 1 MCQ

Which among $\mathrm{KI}, \mathrm{FeSO_4}, \mathrm{K_2MnO_4}, \mathrm{KMnO_4}$ can't be oxidized by $\mathrm{O_3}$?

(A) KI
(B) $\mathrm{FeSO_4}$
(C) $\mathrm{K_2MnO_4}$
(D) $\mathrm{KMnO_4}$

Answer: (D) $\mathrm{KMnO_4}$ · The council's preliminary key

Q363 AP EAMCET 2020 · 22 Sep · Shift 1 MCQ

The formula of vapor state of white phosphorus is _____

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(A) P_5
(B) P_{16}
(C) P_3
(D) P_4

Answer: (D) P_4 · The council's preliminary key

Q364 AP EAMCET 2020 · 22 Sep · Shift 1 MCQ

To avoid bends sickness, the tanks used by scuba divers are filled with air and diluted with _____

(A) Helium gas
(B) Argon gas
(C) Krypton gas
(D) Xenon gas

Answer: (A) Helium gas · The council's preliminary key

Q365 AP EAMCET 2020 · 22 Sep · Shift 1 MCQ

Me_3SiCl is used during polymerization of organo silicones because

(A) The chain length of organo silicone polymers can be controlled by adding Me_3SiCl
(B) Me_3SiCl improves the quality of the silicone polymer
(C) Me_3SiCl improves the yield of the silicone polymer
(D) Me_3SiCl acts as a catalyst during polymerization

Answer: (A) The chain length of organo silicone polymers can be controlled by adding Me_3SiCl · The council's preliminary key

Q366 AP EAMCET 2020 · 22 Sep · Shift 1 MCQ

Which among the following doesn't undergo hydrolysis?

(A) CCl_4
(B) $SiCl_4$
(C) VCl_4
(D) $TiCl_4$

Answer: (A) CCl_4 · The council's preliminary key

Q367 AP EAMCET 2020 · 22 Sep · Shift 2 MCQ

The tendency of catenation in group-14 elements follows the order:

(A) $C >> Si > Ge > Sn$

(B) $C >> Si > Ge \approx Sn$

(C) $Si > C > Sn > Ge$

(D) $Ge \approx Sn > Si > C$

Answer: (B) $C >> Si > Ge \approx Sn$ · The council's preliminary key

Q368 AP EAMCET 2020 · 22 Sep · Shift 2 MCQ

Which halogen can be oxidized by concentrated nitric acid?

(A) Fluorine

(B) Chlorine

(C) Bromine

(D) Iodine

Answer: (D) Iodine · The council's preliminary key

Q369 AP EAMCET 2020 · 22 Sep · Shift 2 MCQ

According to the figure given, which of the following statements is incorrect?

(see the figure above)

Orientation : Vertical

AP EAMCET 2020

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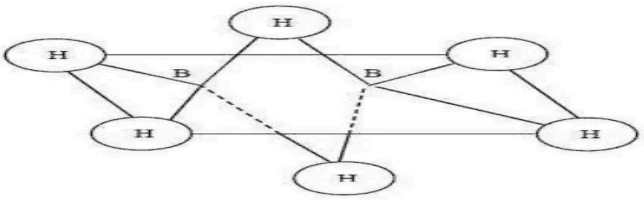
According to the figure given, which of the following statements is incorrect?

కింది చిత్రము ఆధారముగా కింది వానిలో సరి కాని ప్రవచనాన్ని తెలుపండి.



Options :

1. The 2 bridged hydrogen atoms and 2 boron atoms lie in one plane
   రెండు వారధి హైడ్రోజన్ పరమాణువులు, రెండు బోరాన్ పరమాణువులు ఒకే తలములో ఉండును.
2. Out of 6 B-H bonds two bonds can be described in terms of 3 center 2-electron bonds
   ఆరు B-H బంధాలలో రెండు బంధాలను 3 కేంద్రకాల 2 ఎలక్ట్రాన్ బంధముగా చెప్పవచ్చును
3. Out of 6 B-H bonds four bonds can be described in terms of 3 center 2-electron bonds
   ఆరు B-H బంధాలలో నాలుగు బంధాలను 3 కేంద్రకాల 2 ఎలక్ట్రాన్ బంధముగా చెప్పవచ్చును
4. The Four terminal B-H bonds are 2 center 2 electron regular bonds
   నాలుగు అంత్య B-H బంధాలు, 2 కేంద్రకాల 2 ఎలక్ట్రాన్ సాధారణ బంధముగా చెప్పవచ్చును

(A) The 2 bridged hydrogen atoms and 2 boron atoms lie in one plane
(B) Out of 6 B-H bonds two bonds can be described in terms of 3 center 2-electron bonds
(C) Out of 6 B-H bonds four bonds can be described in terms of 3 center 2-electron bonds
(D) The Four terminal B-H bonds are 2 center 2 electron regular bonds

Answer: (C) Out of 6 B-H bonds four bonds can be described in terms of 3 center 2-electron bonds · The council's preliminary key

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Q370 AP EAMCET 2020 · 22 Sep · Shift 2 MCQ

The correct order of acidic character of group-16 hydrides is

(A) $H_2O < H_2S < H_2Se < H_2Te$
(B) $H_2O > H_2S > H_2Se > H_2Te$
(C) $H_2O < H_2S > H_2Se > H_2Te$
(D) $H_2O < H_2S < H_2Se > H_2Te$

Answer: (A) $H_2O < H_2S < H_2Se < H_2Te$ · The council's preliminary key

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Q371 AP EAMCET 2020 · 22 Sep · Shift 2 MCQ

Which of the following statements is true?

(A) The two axial $P - Cl$ bonds in PCl_5 are longer than the three equatorial bonds
(B) The axial bonds in PCl_5 are stronger than equatorial bonds
(C) The axial bonds in PCl_5 are more stable than equatorial bonds
(D) All five bonds in PCl_5 molecule are equivalent

Answer: (A) The two axial $P - Cl$ bonds in PCl_5 are longer than the three equatorial bonds · The council's preliminary key

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Q372 AP EAMCET 2020 · 22 Sep · Shift 2 MCQ

The correct order comparing the acid strengths of HF, HCl, HBr and HI ?

(A) HF >> HCl >> HBr >> HI
(B) HF << HCl << HBr << HI
(C) HF > HCl >> HBr >> HI
(D) HF << HCl >> HBr >> HI

Answer: (B) HF << HCl << HBr << HI · The council's preliminary key

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Q373 AP EAMCET 2020 · 21 Sep · Shift 1 MCQ

Conc. HNO_3 turns brown on standing due to formation of _____

(A) NO
(B) NO_2
(C) N_2O
(D) N_2O_4

Answer: (B) NO_2 · The council's preliminary key

Q374 AP EAMCET 2020 · 21 Sep · Shift 1 MCQ

Which acid among the following has the highest pK_a value?

(A) HCl
(B) HF
(C) HI
(D) HBr

Answer: (B) HF · The council's preliminary key

Q375 AP EAMCET 2020 · 21 Sep · Shift 2 MCQ

A pungent smelling gas "A" gives dense white fumes with conc.HCl. When "A" reacts with alkaline solution of a colorless reagent "B", a reddish-brown precipitate "C" is formed. The compounds A, B, C respectively are

(A) NO_2, $NaOH$, $[Fe(H_2O)_5NO]^{2+}$
(B) NH_3, $NaOH$, K_2HgI_4
(C) NH_3, K_2HgI_4, $NH_2.HgO.HgI$
(D) Cl_2, Sodium nitroprusside, $[Na_2Fe(CN)_5NOS]$

Answer: (C) NH_3, K_2HgI_4, $NH_2.HgO.HgI$ · The council's preliminary key

Q376 AP EAMCET 2020 · 21 Sep · Shift 2 MCQ

The possible oxidation states of Group-13 elements is/are

(A) $+3$
(B) $+1, +3$
(C) $+1$
(D) $+1, +2, +3$

Answer: (B) $+1, +3$ · The council's preliminary key

Q377 AP EAMCET 2020 · 21 Sep · Shift 2 MCQ

Which of the following mineral acids can attack SiO_2?

(A) conc. HNO_3
(B) H_2SO_4
(C) HF
(D) HCl

Answer: (C) HF · The council's preliminary key

Q378 AP EAMCET 2020 · 21 Sep · Shift 2 MCQ

What is the shape of I_3^- ion?

(A) Trigonal
(B) Linear
(C) Bent
(D) Trigonal planar

Answer: (B) Linear · The council's preliminary key

Q379 AP EAMCET 2020 · 21 Sep · Shift 2 MCQ

Find the product of the following reaction when Xe is taken in excess. $Xe_{(g)} + F_{2(g)} \longrightarrow$?

(A) XeF_4
(B) XeF_2
(C) XeF_6
(D) XeF_7

Answer: (B) XeF_2 · The council's preliminary key

Q380 AP EAMCET 2020 · 18 Sep · Shift 1 MCQ

Gas 'X' is obtained on heating $KClO_3$ with catalyst MnO_2. This gas (in excess) on reaction with white Phosphorus forms an acidic oxide 'Y'. 'Y' on dissolving in water forms a compound 'Z'. Identify X, Y and Z

(A) O_2, P_2O_5, H_3PO_4
(B) O_3, P_2O_5, H_3PO_4
(C) O_2, P_2O_3, H_3PO_3
(D) O_2, P_2O_5, H_3PO_3

Answer: (A) O_2, P_2O_5, H_3PO_4 · The council's preliminary key

Q381 AP EAMCET 2020 · 18 Sep · Shift 1 MCQ

The 'Dry ice' is _____

(A) Dry CO_2 gas
(B) Solid CO_2
(C) Dry SO_2 gas
(D) Solid NH_3

Answer: (B) Solid CO_2 · The council's preliminary key

Q382 AP EAMCET 2020 · 18 Sep · Shift 1 MCQ

Number of different bonds present in P_4O_{10} is _____

(A) 8 $P-O$ bonds and 4 $P=O$ bonds
(B) 12 $P-O$ bonds and 3 $P=O$ bonds
(C) 12 $P-O$ bonds and 4 $P=O$ bonds
(D) 8 $P-O$ bonds and 3 $P=O$ bonds

Answer: (C) 12 $P-O$ bonds and 4 $P=O$ bonds · The council's preliminary key

Q383 AP EAMCET 2020 · 18 Sep · Shift 1 MCQ

Which of the following compounds are formed when boron trichloride is treated with water?

(A) $H_3BO_3 + HCl$
(B) $B_2H_6 + HCl$
(C) $B_2O_3 + HCl$
(D) $HBO_3 + HCl$

Answer: (A) $H_3BO_3 + HCl$ · The council's preliminary key

Q384 AP EAMCET 2020 · 18 Sep · Shift 1 MCQ

When SbF_5 reacts with XeF_4 to form an adduct, the shapes of cation and anion in the adduct respectively are

(A) Square planar, trigonal bipyramidal
(B) T-shaped, octahedral
(C) Square pyramidal, octahedral
(D) Plane triangular, trigonal bipyramidal

Answer: (B) T-shaped, octahedral · The council's preliminary key

Q385 AP EAMCET 2020 · 18 Sep · Shift 2 MCQ

Identify the products formed when chlorine reacts with cold and dilute sodium hydroxide solution

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(A) $NaCl, NaClO_3, H_2O$
(B) $NaCl, NaClO_4, H_2O$
(C) $NaCl, NaOCl, H_2O$
(D) $NaCl, HCl, H_2O$

Answer: (C) $NaCl, NaOCl, H_2O$ · The council's preliminary key

Q386 AP EAMCET 2020 · 18 Sep · Shift 2 MCQ

Dilute sodium hydroxide does not react with which of the following?

(A) Ga
(B) Al
(C) Ti
(D) B

Options (3) or (4) were accepted. More than one answer was accepted. · The council's preliminary key

Q387 AP EAMCET 2020 · 17 Sep · Shift 1 MCQ

The geometry with respect to the central atom of the molecules $\mathrm{N(SiH_3)_3}$, $\mathrm{Me_3N}$, $\mathrm{(SiH_3)_3P}$ respectively are

(A) Planar, pyramidal, planar
(B) Planar, pyramidal, pyramidal
(C) Pyramidal, pyramidal, pyramidal
(D) Pyramidal, planar, pyramidal

Answer: (B) Planar, pyramidal, pyramidal · The council's preliminary key

Q388 AP EAMCET 2020 · 17 Sep · Shift 1 MCQ

Among the following oxides, which one is weakly basic and yet a powerful oxidant?

(A) $\mathrm{CO_2}$
(B) $\mathrm{SnO_2}$
(C) $\mathrm{SiO_2}$
(D) $\mathrm{PbO_2}$

Answer: (D) $\mathrm{PbO_2}$ · The council's preliminary key

Q389 AP EAMCET 2020 · 17 Sep · Shift 1 MCQ

Which of the compounds among $\mathrm{N_2O}$, NO, $\mathrm{N_2O_3}$, $\mathrm{NO_2}$, $\mathrm{N_2O_4}$, $\mathrm{N_2O_5}$ are diamagnetic?

EdLoop EAPCET

(A) NO, NO_2, N_2O_3
(B) $N_2O, N_2O_3, N_2O_4, N_2O_5$
(C) NO, NO_2
(D) N_2O_4, N_2O_5

Answer: (B) $N_2O, N_2O_3, N_2O_4, N_2O_5$ · The council's preliminary key

Q390 AP EAMCET 2020 · 17 Sep · Shift 1 MCQ

BF_3 is used as a catalyst in several industrial processes due to its

(A) Strong reducing nature
(B) Weak reducing action
(C) Strong Lewis acid nature
(D) Weak Lewis acid character

Answer: (C) Strong Lewis acid nature · The council's preliminary key

Q391 AP EAMCET 2020 · 17 Sep · Shift 2 MCQ

SF_6 is a kinetically inert substance because

(A) Fluorine is highly electronegative
(B) It is sterically protected
(C) Greater difference in electro negativities of S and F
(D) Larger size of S atom

Answer: (B) It is sterically protected · The council's preliminary key

Q392 AP EAMCET 2020 · 17 Sep · Shift 2 MCQ

How many compounds can be formed when carbon combines with oxygen?

(A) 4
(B) 1
(C) 2
(D) 3

Options (1) or (3) were accepted. More than one answer was accepted. · The council's preliminary key

Q393 AP EAMCET 2020 · 17 Sep · Shift 2 MCQ

A compound X, of boron reacts with NH_3 on heating to give another compound Y which is called inorganic benzene. The compound X can be prepared by treating BF_3 with Lithium aluminum hydride. The compounds X and Y are represented by the formulas.

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(A) B_2H_6, $B_3N_3H_6$
(B) B_2O_3, $B_3N_3H_6$
(C) BF_3, $B_3N_3H_6$
(D) $B_3N_3H_6$, B_2H_6

Answer: (A) B_2H_6, $B_3N_3H_6$ · The council's preliminary key

Q394 AP EAMCET 2020 · 17 Sep · Shift 2 MCQ

Name the kind of silicate formed when two silicate units $(SiO_4)^{4-}$ share one oxygen atom.

(A) Chain silicate
(B) Cycle (Ring) silicate
(C) Pyro silicate
(D) Sheet silicate

Answer: (C) Pyro silicate · The council's preliminary key

Q395 TS EAMCET 2020 · 14 Sep · Shift 1 MCQ

Find the element, which displays greater ability to form $p_\pi - p_\pi$ multiple bonds to itself and to other elements in the same block.

(A) Na
(B) Mg
(C) Li
(D) N

Answer: (D) N · Official TGCHE final key

Q396 TS EAMCET 2020 · 14 Sep · Shift 1 MCQ

Match the following
LIST I (compounds)
A) Boron-10
B) Borax
C) Boron-Fibre
D) Orthoboric acid
LIST II (uses)
I) Antiseptic
II) Bullet proof vest
III) Neutron absorber
IV) Heat resistance glasses
The correct match is

EdLoop EAPCET

(A) A-I, B-IV, C-II, D-III
(B) A-I, B-III, C-II, D-IV
(C) A-III, B-IV, C-II, D-I
(D) A-III, B-I, C-II, D-IV

Answer: (C) A-III, B-IV, C-II, D-I · Official TGCHE final key

Q397 TS EAMCET 2020 · 14 Sep · Shift 1 MCQ

Glass reacts with HF to produce

(A) SiF_4
(B) Na_2SiO_3
(C) H_2SiO_3
(D) Silicones

Answer: (A) SiF_4 · Official TGCHE final key

Q398 TS EAMCET 2020 · 14 Sep · Shift 1 MCQ

Which of the following molecules react with hemoglobin of the blood to produce toxic effect?

(A) Carbon monoxide
(B) Carbon dioxide
(C) Oxygen
(D) Nitrogen

Answer: (A) Carbon monoxide · Official TGCHE final key

Q399 TS EAMCET 2020 · 14 Sep · Shift 1 MCQ

When cold and dilute NaOH reacts with Cl_2, which of the following is formed?

(A) $NaOCl$
(B) $NaClO_2$
(C) $NaClO_3$
(D) $NaClO_4$

Answer: (A) $NaOCl$ · Official TGCHE final key

Q400 TS EAMCET 2020 · 14 Sep · Shift 1 MCQ

The hybridization of Xe in XeO_3 is

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(A) sp^3
(B) sp^3d
(C) sp^3d^3
(D) dsp^2

Answer: (A) sp^3 · Official TGCHE final key

Q401 TS EAMCET 2020 · 14 Sep · Shift 2 MCQ

Pick the correct statement
(i) Borax is white crystalline solid containing $[B_4O_5(OH)_4]^{2-}$ units.
(ii) Aqueous solution of borax is acidic in nature.
(iii) Cobalt gives blue colour in borax bead test.

(A) (i) and (ii)
(B) (i) and (iii)
(C) (ii) only
(D) (ii) and (iii)

Answer: (B) (i) and (iii) · Official TGCHE final key

Q402 TS EAMCET 2020 · 14 Sep · Shift 2 MCQ

Which element does not show catenation property?

(A) Si
(B) Ge
(C) Sn
(D) Pb

Answer: (D) Pb · Official TGCHE final key

Q403 TS EAMCET 2020 · 14 Sep · Shift 2 MCQ

Phosphine is prepared by the reaction of P_4 with which of the following?

(A) H_2SO_4
(B) $NaOH$
(C) H_2S
(D) HNO_3

Answer: (B) $NaOH$ · Official TGCHE final key

Q404 TS EAMCET 2020 · 14 Sep · Shift 2 MCQ

The most stable form of sulphur allotrope is

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(A) S_6
(B) S_7
(C) S_8
(D) S_{10}

Answer: (C) S_8 · Official TGCHE final key

Q405 TS EAMCET 2020 · 11 Sep · Shift 1 MCQ

Decreasing order of number of ionisable hydrogen atoms in the following molecules is
(i) H_3PO_4 (ii) H_3PO_3 (iii) H_3PO_2 (iv) $H_4P_2O_6$

(A) (ii) > (iv) > (i) > (iii)
(B) (iv) > (iii) > (ii) > (i)
(C) (iv) > (i) > (ii) > (iii)
(D) (ii) > (iv) > (iii) > (i)

Answer: (C) (iv) > (i) > (ii) > (iii) · Official TGCHE final key

Q406 TS EAMCET 2020 · 11 Sep · Shift 1 MCQ

When orthoboric acid (H_3BO_3) is subjected to strong heating, the residue left is

(A) Diborane
(B) Boron
(C) Boric anhydride
(D) Borax

Answer: (C) Boric anhydride · Official TGCHE final key

Q407 TS EAMCET 2020 · 11 Sep · Shift 1 MCQ

When graphite is heated at 300 °C with potassium vapour, it forms C_8K compound that shows one of the following property.

(A) Conducting and diamagnetic
(B) Non-conducting and diamagnetic
(C) Conducting and paramagnetic
(D) Non-conducting and paramagnetic

Answer: (C) Conducting and paramagnetic · Official TGCHE final key

Q408 TS EAMCET 2020 · 11 Sep · Shift 1 MCQ

How many bridging oxygen atoms are present in P_4O_{10}?

(A) 4
(B) 5
(C) 6
(D) 2

Answer: (C) 6 · Official TGCHE final key

Q409 TS EAMCET 2020 · 11 Sep · Shift 1 MCQ

Ozone is obtained from oxygen

(A) By oxidation at high temperature
(B) By oxidation using a catalyst
(C) By silent electric discharge
(D) By conversion at high pressure

Answer: (C) By silent electric discharge · Official TGCHE final key

Q410 TS EAMCET 2020 · 11 Sep · Shift 2 MCQ

Borax is converted into crystalline boron by the following steps

$$\text{Borax} \xrightarrow[\text{H}_2\text{O}]{X} \text{H}_3\text{BO}_3 \xrightarrow{\Delta} \text{B}_2\text{O}_3 \xrightarrow[\Delta]{Y} \text{B}$$

Identify X and Y respectively.

(A) HCl and Mg
(B) C and Al
(C) HCl and C
(D) HCl and Sn

Answer: (A) HCl and Mg · Official TGCHE final key

Q411 TS EAMCET 2020 · 11 Sep · Shift 2 MCQ

Buckminster fullerene contains the following X number of six- and Y number of five-member rings. What is the value of X and Y?

(A) $X = 10, Y = 12$
(B) $X = 15, Y = 15$
(C) $X = 20, Y = 12$
(D) $X = 10, Y = 20$

Answer: (C) $X = 20, Y = 12$ · Official TGCHE final key

Q412 TS EAMCET 2020 · 11 Sep · Shift 2 MCQ

The number of dissociable protons in "Orthophosphoric acid" is

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(A) 3
(B) 4
(C) 2
(D) 1

Answer: (A) 3 · Official TGCHE final key

Q413 TS EAMCET 2020 · 11 Sep · Shift 2 MCQ

The geometry of $XeOF_4$ is

(A) Octahedral
(B) Tetrahedral
(C) Linear
(D) Square pyramidal

Answer: (D) Square pyramidal · Official TGCHE final key

Q414 TS EAMCET 2020 · 10 Sep · Shift 1 MCQ

Which of the following elements reacts with water?

(A) C
(B) Ge
(C) Sn
(D) Pb

Answer: (C) Sn · Official TGCHE final key

Q415 TS EAMCET 2020 · 10 Sep · Shift 1 MCQ

When copper metal is treated with cold and dilute nitric acid, it forms

(A) NO
(B) N_2O
(C) N_2O_5
(D) NO_3

Answer: (A) NO · Official TGCHE final key

Q416 TS EAMCET 2020 · 10 Sep · Shift 1 MCQ

Which one of the following is not a colorless compound?

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(A) NO
(B) N_2O_4
(C) N_2O
(D) NO_2

Answer: (D) NO_2 · Official TGCHE final key

Q417 TS EAMCET 2020 · 10 Sep · Shift 2 MCQ

Match the given ionization constant values with the corresponding acids
A) HI
B) HF
C) HCl
D) HBr
I) 3.2×10^{9}
II) 3.5×10^{-4}
III) 1.3×10^{6}
IV) 1.0×10^{9}
The correct match is

(A) A-I, B-II, C-III, D-IV
(B) A-II, B-III, C-IV, D-I
(C) A-IV, B-III, C-II, D-I
(D) A-II, B-I, C-III, D-IV

Answer: (A) A-I, B-II, C-III, D-IV · Official TGCHE final key

Q418 TS EAMCET 2020 · 10 Sep · Shift 2 MCQ

An aqueous solution of borax is

(A) Neutral
(B) Amphoteric
(C) Basic
(D) Acidic

Answer: (C) Basic · Official TGCHE final key

Q419 TS EAMCET 2020 · 10 Sep · Shift 2 MCQ

The molecular formula of metaphosphoric acid is

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(A) H_3PO_4
(B) HPO_3
(C) H_2PO_3
(D) H_3PO_2

Answer: (B) HPO_3 · Official TGCHE final key

Q420 TS EAMCET 2020 · 10 Sep · Shift 2 MCQ

The final acid product obtained during the synthesis of H_2SO_4 by contact process is

(A) H_2SO_4 (conc.)
(B) H_2SO_4 (dil.)
(C) $H_2S_2O_3$
(D) $H_2S_2O_7$

Answer: (D) $H_2S_2O_7$ · Official TGCHE final key

Q421 TS EAMCET 2020 · 9 Sep · Shift 1 MCQ

H_3BO_3 is

(A) Monobasic and weak Lewis acid
(B) Monobasic and weak Bronsted acid
(C) Monobasic and strong Lewis acid
(D) Tribasic and weak Bronsted acid

Answer: (A) Monobasic and weak Lewis acid · Official TGCHE final key

Q422 TS EAMCET 2020 · 9 Sep · Shift 2 MCQ

The product D in the following reaction sequence is $Na_2CO_3 \xrightarrow[H_2O]{SO_2} A \xrightarrow{Na_2CO_3} B \xrightarrow[heat]{elemental\ sulfur} C \xrightarrow{I_2} D$ *(see the figure above)*

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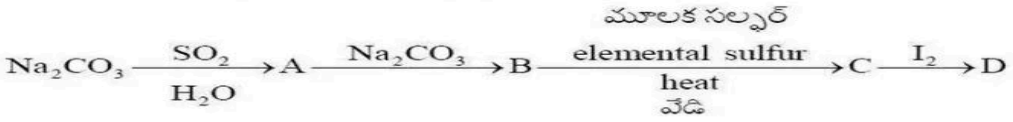
Question Number : 135 Question Id : 719650455 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The product D in the following reaction sequence is

ఈ క్రింది వరుస చర్యలలో ఏర్పడే ఉత్పన్నం D ఏది?



Options :

1. $Na_2S_2O_3$

2. Na_2SO_3

3. $Na_2S_4O_6$

4. $NaHCO_3$

(A) $Na_2S_2O_3$
(B) Na_2SO_3
(C) $Na_2S_4O_6$
(D) $NaHCO_3$

Answer: (C) $Na_2S_4O_6$ · Official TGCHE final key

Q423 TS EAMCET 2020 · 9 Sep · Shift 2 MCQ

Hybridization of boron in diborane is

(A) sp
(B) sp^2
(C) sp^3
(D) sp^3d

Answer: (C) sp^3 · Official TGCHE final key

Q424 TS EAMCET 2020 · 9 Sep · Shift 2 MCQ

Which one of the following statements about allotropes of carbon is incorrect?

(A) Graphite is an electrical conductor but the conductivity is direction dependent
(B) Diamond is more dense than graphite
(C) Diamond is metastable
(D) Graphite is thermodynamically less stable allotrope of carbon

Answer: (D) Graphite is thermodynamically less stable allotrope of carbon · Official TGCHE final key

Q425 TS EAMCET 2020 · 9 Sep · Shift 2 MCQ

Mixture of concentrated HCl and HNO_3 made in 3:1 ratio contains

(A) ClO_2
(B) NOCl
(C) NCl_3
(D) N_2O_4

Answer: (B) NOCl · Official TGCHE final key

Q426 TS EAMCET 2020 · 9 Sep · Shift 2 MCQ

In the following reaction, products x and y respectively, are $P_4 + 10\ SO_2Cl_2 \rightarrow x + y$

(A) PCl_3 and S_2Cl_2
(B) PCl_5 and SO_3
(C) PCl_5 and SO_2
(D) PCl_5 and S_2Cl_2

Answer: (C) PCl_5 **and** SO_2 · Official TGCHE final key

Q427 TS EAMCET 2019 · 6 May · Shift 1 MCQ

What is the order of relative basis strength of $ClO_2^-, ClO_3^-, ClO_4^-$?

(A) $ClO_2^- > ClO_3^- > ClO_4^-$
(B) $ClO_3^- > ClO_2^- > ClO_4^-$
(C) $ClO_4^- > ClO_2^- > ClO_3^-$
(D) $ClO_2^- > ClO_4^- > ClO_3^-$

Answer: (A) $ClO_2^- > ClO_3^- > ClO_4^-$ · Official TGCHE final key

Q428 TS EAMCET 2019 · 6 May · Shift 1 MCQ

A and B are formed when borax is dissolved in water. C and B are formed when borax is reacted with aqueous HCl solution. What are A and C respectively?

(A) $NaCl, NaOH$
(B) $NaOH, NaCl$
(C) $NaBO_2, NaCl$
(D) $NaOH, NaBO_2$

Answer: (B) $NaOH, NaCl$ · Official TGCHE final key

Q429 TS EAMCET 2019 · 6 May · Shift 1 MCQ

How many nearest neighbours are there for Si and O atoms in quartz crystals?

(A) 4 (Si) ; 2 (O)
(B) 4 (Si) ; 4 (O)
(C) 2 (Si) ; 2 (O)
(D) 3 (Si) ; 2 (O)

Answer: (A) 4 (Si) ; 2 (O) · Official TGCHE final key

Q430 TS EAMCET 2019 · 6 May · Shift 1 MCQ

Statement (A) : Among the oxides of nitrogen, NO and NO_2 are paramagnetic.
Statement (B) : NO is paramagnetic in the gaseous state and diamagnetic in liquid state.
The correct answer is

(A) (A) is correct, (B) is not correct
(B) Both (A) and (B) are not correct
(C) (A) is not correct, (B) is correct
(D) Both (A) and (B) are correct

Answer: (D) Both (A) and (B) are correct · Official TGCHE final key

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Q431 TS EAMCET 2019 · 6 May · Shift 1 MCQ

The products formed during the reaction of Carbon with Conc. H_2SO_4 are
$C + H_2SO_4 \xrightarrow{\Delta}$ products

(A) CO, SO_2, H_2O
(B) CO_2, SO_2, H_2O
(C) CO, CO_2, H_2O
(D) SO_2, H_2O

Answer: (B) CO_2, SO_2, H_2O · Official TGCHE final key

Q432 TS EAMCET 2019 · 4 May · Shift 1 MCQ

Which of the following statements is/are correct for group 13 elements?
a. Al reacts with dil HCl to liberate H_2 gas
b. Al reacts with conc HNO_3 to liberate H_2 gas
c. Boron reacts with only acids to liberate H_2 gas
d. Anhydrous $AlCl_3$ reacts with moisture to liberate H_2 gas

(A) b, c, d
(B) a, b, d
(C) a, c
(D) a

Answer: (D) a · Official TGCHE final key

Q433 TS EAMCET 2019 · 4 May · Shift 1 MCQ

Match the following

List - I

Acid

A) H_3PO_2

B) $H_4P_2O_5$

C) H_3PO_4

D) $H_4P_2O_7$

List - II

Reagents used for preparation

I) Red P_4 + alkali

II) White P_4 + alkali

III) PCl_3 ; H_3PO_3

IV) P_2O_5 ; H_2O

V) H_3PO_4 , Δ

The correct answer is

(A) A-I, B-II, C-III, D-IV

(B) A-II, B-IV, C-III, D-I

(C) A-I, B-IV, C-III, D-V

(D) A-II, B-III, C-IV, D-V

Answer: (D) A-II, B-III, C-IV, D-V · Official TGCHE final key

Q434 TS EAMCET 2019 · 4 May · Shift 1 MCQ

XeF_4 is square planar while XeF_6 has a distorted octahedral structure. What is the correct explanation for this observation?

(A) Both molecules have one lone pair of electrons.

(B) Both molecules have two lone pairs of electrons.

(C) XeF_4 does not have any lone pair of electrons; XeF_6 has one lone pair of electrons on Xe.

(D) XeF_4 has two lone pairs of electrons on Xe; XeF_6 has one lone pair of electrons on Xe.

Answer: (D) XeF_4 has two lone pairs of electrons on Xe; XeF_6 has one lone pair of electrons on Xe. · Official TGCHE final key

Q435 TS EAMCET 2019 · 4 May · Shift 2 MCQ

Which one of the following is correct relating to diborane (B_2H_6)?

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(A) Colourless liquid
(B) Colourless solid
(C) Colourless gas
(D) Colourless gel

Answer: (C) Colourless gas · Official TGCHE final key

Q436 TS EAMCET 2019 · 4 May · Shift 2 MCQ

Identify the correct statement(s) from the following:
i) The catenation property of group 14 elements decreases from carbon to tin.
ii) Fullerene (C_{60}) has 20 five-membered carbon rings and 12 six-membered carbon rings.
iii) SiO_2 is soluble in Conc. NaOH.

(A) Only ii
(B) i, iii
(C) i, ii
(D) ii, iii

Answer: (B) i, iii · Official TGCHE final key

Q437 TS EAMCET 2019 · 4 May · Shift 2 MCQ

Identify all the products formed when XeF_4 is completely hydrolysed.

(A) Xe, XeO_3, O_2, HF
(B) Xe, O_2, HF
(C) XeO_3, O_2
(D) XeO_3

Answer: (A) Xe, XeO_3, O_2, HF · Official TGCHE final key

Q438 TS EAMCET 2019 · 4 May · Shift 2 MCQ

What are the compounds formed when white Phosphorous is dissolved in boiling NaOH solution in an inert atmosphere?

(A) PH_3, $NaPO_4$
(B) NaH_2PO_4, $P(OH)_3$
(C) PH_3, NaH_2PO_2
(D) P_4O_{10}, Na

Answer: (C) PH_3, NaH_2PO_2 · Official TGCHE final key

Q439 TS EAMCET 2019 · 3 May · Shift 1 MCQ

The oxidation state (n) and coordination number (C.N.) of Al and number of valence electrons around Al (N) in Al_2Cl_6 are respectively

(A) 3, 3, 6
(B) 3, 4, 8
(C) 4, 4, 8
(D) 3, 4, 6

Answer: (B) 3, 4, 8 · Official TGCHE final key

Q440 TS EAMCET 2019 · 3 May · Shift 1 MCQ

Statement (A): Sulphur vapour is paramagnetic.
Statement (B): Reaction of dil. HCl with finely divided iron forms $FeCl_3$ and H_2 gas.
The correct answer is

(A) Statement (A) is correct, but (B) is wrong.
(B) Both the statements are correct.
(C) Statement (A) is wrong, but (B) is correct.
(D) Both the statements are wrong.

Answer: (A) Statement (A) is correct, but (B) is wrong. · Official TGCHE final key

Q441 TS EAMCET 2019 · 3 May · Shift 1 MCQ

The reason for the noble gases to have low boiling and low melting point is

(A) Atoms of the noble gases have weak covalent interaction
(B) Atoms of the noble gases have weak dipole interaction
(C) Atoms of the noble gases have weak van der Waals interaction
(D) Atoms of the noble gases have weak dispersion forces

Options (3) or (4) were accepted. More than one answer was accepted. · Official TGCHE final key

Q442 TS EAMCET 2019 · 3 May · Shift 2 MCQ

Which one among the following statements is correct about a solution of borax in water?

(A) It is acidic because it contains H_3BO_3 and $NaOH$
(B) It dissociates into $NaBO_2$ and B_2O_3
(C) It is neutral because it contains $NaOH$ and H_3BO_3
(D) It is alkaline because it contains $NaOH$ and H_3BO_3

Answer: (D) It is alkaline because it contains $NaOH$ and H_3BO_3 · Official TGCHE final key

Q443 TS EAMCET 2019 · 3 May · Shift 2 MCQ

Identify the correct statements from the following.
i) Quartz is a piezoelectric material
ii) All group 14 tetrachlorides except CCl_4 are easily hydrolyzed by water

iii) The C−C bond distance within the layer of graphite is 154 pm
iv) SiO_2 is soluble in aqueous HCl solution

(A) i, iii
(B) i, ii
(C) iii, iv
(D) ii, iv

Answer: (B) i, ii · Official TGCHE final key

Q444 AP EAMCET 2019 · 23 Apr · Shift 1 MCQ

Identify correct statements from the following.
i. H_3BO_3 is a monobasic acid.
ii. The correct formula of borax is $Na_2[B_4O_5(OH)_3]\ 8H_2O$
iii. $NaBH_4$ is a reducing agent.

(A) i, ii, iii
(B) i, ii only
(C) ii, iii only
(D) i, iii only

Answer: (D) i, iii only · Official APSCHE final key

Q445 AP EAMCET 2019 · 23 Apr · Shift 1 MCQ

Observe the following statements regarding C_{60}.
i. All carbons are sp^2 hybridised
ii. It contains 12 rings of five carbons each and 20 rings of six carbons each
iii. It is a non-aromatic compound
iv. It is pure form of carbon
v. C-C bond lengths in it are 143.5 and 138.3 pm
vi. It is prepared by heating graphite in an electric arc in the presence of oxygen
The correct statements are

(A) i, ii, iii, iv, v
(B) i, ii, iv, v only
(C) i, ii, iv, vi only
(D) i, ii, iii only

Answer: (B) i, ii, iv, v only · Official APSCHE final key

Q446 AP EAMCET 2019 · 23 Apr · Shift 1 MCQ

White phosphorous reacts with sulphuryl chloride to form PCl_5 and X. Chlorine reacts with X in the presence of wood charcoal to form Y. X and Y are respectively

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(A) SO_2, SO_2Cl_2
(B) SO_2, SCl_4
(C) SO_3, SO_2Cl_2
(D) SO_3, SCl_4

Answer: (A) SO_2, SO_2Cl_2 · Official APSCHE final key

Q447 AP EAMCET 2019 · 23 Apr · Shift 1 MCQ

Identify the correct statements from the following:
i. Sulphuric acid is manufactured by contact process.
ii. SO_3 dissolves in H_2SO_4 to form pyrosulphuric acid.
iii. H_2SO_4 is used in the manufacture of fertilizers such as ammonium sulphate and super phosphate.
iv. In the reaction $S + 2H_2SO_4(Conc.) \rightarrow 3SO_2 + 2H_2O$, H_2SO_4 is oxidized to SO_2.

(A) i, ii, iii, iv
(B) i, ii, iv only
(C) i, iii, iv only
(D) i, ii, iii only

Answer: (D) i, ii, iii only · Official APSCHE final key

Q448 AP EAMCET 2019 · 23 Apr · Shift 1 MCQ

Assertion (A) : Helium has lowest boiling point (4.2 K)
Reason (R) : The forces that exist between Helium atoms are weak dispersion forces.
The correct answer is

(A) Both (A) and (R) are correct and (R) is the correct explanation of (A).
(B) Both (A) and (R) are correct and (R) is not the correct explanation of (A).
(C) (A) is correct but (R) is not correct.
(D) (A) is not correct but (R) is correct.

Answer: (A) Both (A) and (R) are correct and (R) is the correct explanation of (A). · Official APSCHE final key

Q449 AP EAMCET 2019 · 22 Apr · Shift 1 MCQ

What is X in the following reaction?
$NaH + B_2H_6 \xrightarrow{diethylether} X$

(A) $Na[BH_4]$
(B) $NaBO_2$
(C) H_3BO_3
(D) $(C_2H_5OC_2H_4)^+(BH_4)^-$

Answer: (A) $Na[BH_4]$ · Official APSCHE final key

Q450 AP EAMCET 2019 · 22 Apr · Shift 1 MCQ

Which one of the following is used as refrigerant for icecream and frozen foods?

(A) Dry CO
(B) Liquid CH_4
(C) Dry ice
(D) Liquid H_2

Answer: (C) Dry ice · Official APSCHE final key

Q451 AP EAMCET 2019 · 22 Apr · Shift 1 MCQ

X_2 is used in the refining of Ti metal by van-Arkel method. Y_2 does not liberate O_2 from water and does not form HY and HOY with water. X_2 and Y_2 are respectively

(A) I_2, Cl_2
(B) Cl_2, I_2
(C) I_2, I_2
(D) Cl_2, Cl_2

Answer: (C) I_2, I_2 · Official APSCHE final key

Q452 AP EAMCET 2019 · 22 Apr · Shift 1 MCQ

Which one of the following statements is **not** correct regarding phosphine?

(A) It is a weak base
(B) It reacts with $CuSO_4$ solution to form $CuHPO_4$
(C) It is formed by the reaction of Ca_3P_2 with HCl
(D) It is used in smoke screens.

Answer: (B) It reacts with $CuSO_4$ **solution to form** $CuHPO_4$ · Official APSCHE final key

Q453 AP EAMCET 2019 · 22 Apr · Shift 1 MCQ

Aqueous sulphite reacts with dilute sulphuric acid to form $X(g)$. The liberated $X(g)$ is passed into acidified $KMnO_4$ solution. What is the oxidation state of Mn in the product formed?

(A) +6
(B) +4
(C) +2
(D) +3

Answer: (C) +2 · Official APSCHE final key

Q454 AP EAMCET 2019 · 22 Apr · Shift 1 MCQ

Phosphorous reacts with SO_2Cl_2 to form PCl_5 and X. At $723K$, HCl gas reacts with O_2 in the presence of $CuCl_2$ to form water and Y. Y reacts with X in water to form two acids A and B. What are A and B respectively?

(A) H_2SO_4, HCl
(B) H_2SO_4, HNO_3
(C) HCl, HNO_3
(D) H_2SO_4, H_3PO_4

Answer: (A) H_2SO_4, HCl · Official APSCHE final key

Q455 AP EAMCET 2019 · 22 Apr · Shift 2 MCQ

The product/s formed when borax dissolves in water is/are :

(A) $NaOH, H_3BO_3$
(B) $Na_2[B_4O_5(OH)_4]$
(C) NaH, B_2O_3
(D) $B_2H_6, NaOH$

Answer: (A) $NaOH, H_3BO_3$ · Official APSCHE final key

Q456 AP EAMCET 2019 · 22 Apr · Shift 2 MCQ

Identify the correct statement.

(A) Non-directional covalent bonds are present throughout the crystal lattice of diamond.
(B) Fullerenes are the pure forms of carbon
(C) C–C bond length in the layer of graphite is 154 pm
(D) Carbon monoxide is a water soluble gas

Answer: (B) Fullerenes are the pure forms of carbon · Official APSCHE final key

Q457 AP EAMCET 2019 · 22 Apr · Shift 2 MCQ

In which of the following oxyacids of phosphorous, one P=O, two P–H and one P–OH bonds are present.

(A) Phosphonic acid
(B) Phosphinic acid
(C) Orthophosphoric acid
(D) Pyrophosphoric acid

Answer: (B) Phosphinic acid · Official APSCHE final key

Q458 AP EAMCET 2019 · 22 Apr · Shift 2 MCQ

Identify the reaction in which SO_2 is **not** formed?

(A) $Na_2SO_3(aq) + \text{dil } H_2SO_4 \longrightarrow$

(B) $S + O_2 \text{ (or) air} \xrightarrow{\text{burnt}}$

(C) $S + \text{conc. } H_2SO_4 \longrightarrow$

(D) $2NaCl + H_2SO_4 \longrightarrow$

Answer: (D) $2NaCl + H_2SO_4 \longrightarrow$ · Official APSCHE final key

Q459 AP EAMCET 2019 · 22 Apr · Shift 2 MCQ

In which of the following reactions oxygen gas is not formed?

(A) $XeF_4 + O_2F_2 \longrightarrow$

(B) $XeF_4 + H_2O \longrightarrow$

(C) $XeF_6 + H_2O \longrightarrow$

(D) $XeF_2 + H_2O \longrightarrow$

Answer: (C) $XeF_6 + H_2O \longrightarrow$ · Official APSCHE final key

Q460 AP EAMCET 2019 · 21 Apr · Shift 1 MCQ

Identify the correct statements from the following :

I) Ga_2O_3 is an amphoteric oxide.

II) The dimer of aluminium chloride has three Al-Cl-Al bridge bonds.

III) Boron is very hard refractory solid of high melting temperature.

(A) I, II only

(B) I, III only

(C) II, III only

(D) I, II, III

Answer: (B) I, III only · Official APSCHE final key

Q461 AP EAMCET 2019 · 21 Apr · Shift 1 MCQ

Which one of the following methods is used to prepare carbon monoxide on commercial scale?

(A) dehydration of formic acid with conc. H_2SO_4

(B) direct oxidation of C in limited supply of oxygen

(C) passing steam over hot coke

(D) heating lime stone

Answer: (C) passing steam over hot coke · Official APSCHE final key

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Q462 AP EAMCET 2019 · 21 Apr · Shift 1 MCQ

Which of the following reactions are correct with respect to the formation of products?

I) $2NaOH + SO_2 \longrightarrow Na_2SO_4 + H_2$

II) $2XeF_4 + 3O_2F_2 \xrightarrow{143\,K} 2XeO_3 + 7F_2$

III) $PCl_5 + 4H_2O \longrightarrow H_3PO_4 + 5HCl$

IV) $2NaNO_2 + 2HCl \longrightarrow 2NaCl + NO + NO_2 + H_2O$

(A) II, IV

(B) III, IV

(C) I, III

(D) II, III

Answer: (B) III, IV · Official APSCHE final key

Q463 AP EAMCET 2019 · 21 Apr · Shift 1 MCQ

Chlorine oxidises sulphurdioxide in the presence of water to give an oxyacid A. Chlorine also oxidises iodine in the presence of water to give an oxyacid B. The oxidation states of S and I in A and B are respectively

(A) +4, +5

(B) +6, +3

(C) +6, +5

(D) +4, +7

Answer: (C) +6, +5 · Official APSCHE final key

Q464 AP EAMCET 2019 · 21 Apr · Shift 1 MCQ

White phosphorous is heated with concentrated NaOH in CO_2 atmosphere to form a gas A and compound B. When A is bubbled into aqueous $CuSO_4$ solution copper phosphide and C are formed. B and C are respectively

(A) PH_3, H_2SO_4

(B) NaH_2PO_2, H_2SO_4

(C) $NaHPO_2$, CuS

(D) NaH_2PO_2, Cu_2S

Answer: (B) NaH_2PO_2, H_2SO_4 · Official APSCHE final key

Q465 AP EAMCET 2019 · 21 Apr · Shift 2 MCQ

Magnesium is burnt in air to form A and B. When B is hydrolyzed, C and D are formed. D is the reactant in the manufacture of nitric acid by Ostwald's process. What is C?

(A) NH_3
(B) $Mg(OH)_2$
(C) MgO
(D) NO

Answer: (B) $Mg(OH)_2$ · Official APSCHE final key

Q466 AP EAMCET 2019 · 21 Apr · Shift 2 MCQ

Which of the following reactions can be used to prepare diborane?
I) $BF_3 + LiAlH_4 \xrightarrow{ether}$
II) $BF_3 + NaH \xrightarrow{450K}$
III) $Na_2B_4O_7 + H_2O \longrightarrow$
IV) $NaBH_4 + I_2 \longrightarrow$

(A) I, II, III
(B) II, III only
(C) III, IV only
(D) I, II, IV

Answer: (D) I, II, IV · Official APSCHE final key

Q467 AP EAMCET 2019 · 21 Apr · Shift 2 MCQ

Identify the correct statements
I) Germanium exists only in traces.
II) The order of electronegativity of Si, Ge, Sn is Sn > Ge > Si
III) All group 14 elements are available in solid state

(A) I, II only
(B) II, III only
(C) I, III only
(D) I, II, III

Answer: (C) I, III only · Official APSCHE final key

Q468 AP EAMCET 2019 · 21 Apr · Shift 2 MCQ

White phosphorus, when heated with conc. NaOH solution in an inert atmosphere of CO_2, forms phosphine and a sodium salt of oxoacid of phosphorus, 'X'. The oxidation state of phosphorus in 'X' is

(A) +3
(B) +4
(C) +1
(D) +5

Answer: (C) +1 · Official APSCHE final key

Q469 AP EAMCET 2019 · 21 Apr · Shift 2 MCQ

The number of P – OH bonds present in pyrophosphoric acid and hypophosphoric acid is respectively

(A) 4, 3
(B) 2, 4
(C) 3, 4
(D) 4, 4

Answer: (D) 4, 4 · Official APSCHE final key

Q470 AP EAMCET 2019 · 21 Apr · Shift 2 MCQ

Sodium nitrite is reacted with H_2SO_4 to form $NaHSO_4$, HNO_3, water and X. Gold is dissolved in aqua regia to form water, $AuCl_4^-$ and Y. X and Y are respectively

(A) NO, NO_2
(B) NO_2, NO
(C) NO, NO
(D) N_2O, NO

Answer: (C) NO, NO · Official APSCHE final key

Q471 AP EAMCET 2019 · 20 Apr · Shift 1 MCQ

Which of the following metals exist in liquid state during summer season?

(A) Ga
(B) Al
(C) Pb
(D) Sn

Answer: (A) Ga · Official APSCHE final key

Q472 AP EAMCET 2019 · 20 Apr · Shift 1 MCQ

Formic acid is heated with conc. H_2SO_4 at $100\ ^\circ C$ to form A and B. When Fe_2O_3 is heated strongly with B, the products formed are C and D. C can also be obtained by reacting $CaCO_3$ with dil HCl. What is D?

(A) Fe
(B) CO
(C) CO_2
(D) Fe_3O_4

Answer: (A) Fe · Official APSCHE final key

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Q473 AP EAMCET 2019 · 20 Apr · Shift 1 MCQ

Which of the following statements is **not** correct?

(A) From SO_2 to TeO_2 reducing power decreases

(B) The order of boiling points of hydrides of 16th group elements is $H_2S < H_2Se < H_2Te < H_2O$

(C) Rhombic sulphur has S_8 molecules while monoclinic sulphur has S_6 molecules.

(D) The bond angle in Ozone molecule is 117°.

Answer: (C) Rhombic sulphur has S_8 molecules while monoclinic sulphur has S_6 molecules. · Official APSCHE final key

Q474 AP EAMCET 2019 · 20 Apr · Shift 1 MCQ

Noble metals like gold and platinum are soluble in which of the following mixtures?

(A) 1:1 mixture of conc. HNO_3 and conc. H_2SO_4

(B) 1:3 mixture of conc. HCl and conc. HNO_3

(C) 1:3 mixture of conc. HNO_3 and conc. HCl

(D) 1:3 mixture of conc. H_2SO_4 and conc. HCl

Answer: (C) 1:3 mixture of conc. HNO_3 and conc. HCl · Official APSCHE final key

Q475 AP EAMCET 2019 · 20 Apr · Shift 2 MCQ

In the following reactions

$B_2H_6 + NH_3(\text{excess}) \xrightarrow{\Delta} X + H_2$

$NaH + BF_3 \xrightarrow{450K} Y + NaF$

$B_2H_6 + H_2O \longrightarrow Z + H_2$

X, Y and Z are respectively.

(A) $B_2H_6, LiBH_2, H_3BO_3$

(B) $B_3N_3H_6, B_2H_6, H_3BO_3$

(C) $(BN)_n, LiBH_4, HBO_2$

(D) B_2H_6, B_2H_6, HBO_2

Answer: (B) $B_3N_3H_6, B_2H_6, H_3BO_3$ · Official APSCHE final key

Q476 AP EAMCET 2019 · 20 Apr · Shift 2 MCQ

Consider the following statements

I) In diamond, each carbon atom is sp^3 hybridised

II) Graphite has planar hexagonal layers of carbon atoms

III) Silicones being surrounded by non polar alkyl groups are water repelling in nature

IV) The order of catenation in group 14 elements is Si > C > Sn > Ge > Pb

The correct statements are

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(A) I, II, III
(B) II, III, IV
(C) I, II, IV
(D) I, III, IV

Answer: (A) I, II, III · Official APSCHE final key

Q477 AP EAMCET 2019 · 20 Apr · Shift 2 MCQ

Assertion (A) : P_4O_{10} cannot be used to remove moisture from ammonia gas
Reason (R) : P_4O_{10} reacts with NH_3 gas
The correct answer is

(A) Both (A) and (R) are correct and (R) is the correct explanation of (A)
(B) Both (A) and (R) are correct and (R) is not the correct explanation of (A)
(C) (A) is correct but (R) is not correct
(D) (A) is not correct but (R) is correct

Answer: (A) Both (A) and (R) are correct and (R) is the correct explanation of (A) · Official APSCHE final key

Q478 AP EAMCET 2019 · 20 Apr · Shift 2 MCQ

Which one of the following reactions does **not** occur?

(A) $Cl_2 + 2Br^- \rightarrow Br_2 + 2Cl^-$
(B) $ClF_3 + H_2O \rightarrow HCl + HOF + F_2$
(C) Cold & Dil $2NaOH + Cl_2 \rightarrow NaCl + NaOCl + H_2O$
(D) $Na_2SO_3 + 2HCl \rightarrow 2NaCl + SO_2 + H_2O$

Answer: (B) $ClF_3 + H_2O \rightarrow HCl + HOF + F_2$ · Official APSCHE final key

Q479 AP EAMCET 2019 · 20 Apr · Shift 2 MCQ

Which one of the following statements regarding helium is **not** correct?

(A) It is used to fill gas balloons instead of hydrogen because it is lighter and not flammable
(B) It is used in gas cooled nuclear reactors
(C) It is used to produce and sustain powerful super conducting magnets
(D) It is not used as a cryogenic agent

Answer: (D) It is not used as a cryogenic agent · Official APSCHE final key

Q480 TS EAMCET 2018 · 7 May · Shift 1 MCQ

Diborane reacts with ammonia to form X, which on heating gives H_2 and borazine. X is

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(A) $[BH_2(NH_3)_2]^+[BH_4]^-$
(B) $B_3N_3H_6$
(C) $BH_3 \cdot NH_3$
(D) $[BH(NH_3)_3]^+[BH_4]^-$

Answer: (A) $[BH_2(NH_3)_2]^+[BH_4]^-$ · The council's preliminary key

Q481 TS EAMCET 2018 · 7 May · Shift 1 MCQ

The stability of dihalides of Si, Ge, Sn and Pb follows the sequence

(A) $SiX_2 < GeX_2 < PbX_2 < SnX_2$
(B) $SiX_2 < GeX_2 < SnX_2 < PbX_2$
(C) $PbX_2 < SnX_2 < GeX_2 < SiX_2$
(D) $GeX_2 < SiX_2 < SnX_2 < PbX_2$

Answer: (B) $SiX_2 < GeX_2 < SnX_2 < PbX_2$ · The council's preliminary key

Q482 TS EAMCET 2018 · 7 May · Shift 1 MCQ

The equatorial and axial P-Cl bond lengths (in pm) respectively in PCl_5 are

(A) 202, 240
(B) 240, 202
(C) 200, 400
(D) 200, 410

Answer: (A) 202, 240 · The council's preliminary key

Q483 TS EAMCET 2018 · 7 May · Shift 1 MCQ

In reaction (1), XeF_6 hydrolysis to form HF and X. In reaction (2), XeF_6 on partial hydrolysis form HF, Y and Z. The products X, Y, Z respectively, are

(A) XeO_3, Xe, XeO_2F_2
(B) XeO_3, $XeOF_4$, XeO_2F_2
(C) Xe, $XeOF_4$, XeO_2F_2
(D) XeO_3, O_2, XeO_2F_2

Answer: (B) XeO_3, $XeOF_4$, XeO_2F_2 · The council's preliminary key

Q484 TS EAMCET 2018 · 5 May · Shift 1 MCQ

Which of the following statements about BF_4^- and AlF_6^{3-} are correct?
a) B and Al differ in their oxidation states.
b) B and Al differ in their covalency.
c) B obeys the octet rule.
d) B and Al are in diagonal relationship.

(A) a, b
(B) b, c, d
(C) a, b, c
(D) b, c

Answer: (D) b, c · The council's preliminary key

Q485 TS EAMCET 2018 · 5 May · Shift 1 MCQ

$AlCl_3$ in water at pH < 7 forms

(A) tetrahedral $Al(OH)_4^-$ ions
(B) Octahedral $Al(OH)_6^{3-}$ ions
(C) Square planar $Al(OH)_4^-$ ions
(D) Octahedral $Al(OH_2)_6^{3+}$ ions

Answer: (D) Octahedral $Al(OH_2)_6^{3+}$ ions · The council's preliminary key

Q486 TS EAMCET 2018 · 5 May · Shift 1 MCQ

Which of the following is known as silicone?

(A) Polymer of $\left(\begin{matrix}R\\|\\Si-Cl\\|\\R\end{matrix}\right)$ (a Si atom carrying two R groups, one above and one below, and a Cl)
(B) Polymer of $\left(\begin{matrix}R\\|\\Si-O\\|\\R\end{matrix}\right)$ (a Si atom carrying two R groups, one above and one below, and an O; repeat unit in brackets)
(C) Polymer of SiO_2
(D) Polymer of $[SiO_4]^{4-}$

Answer: (B) Polymer of $\left(\begin{matrix}R\\|\\Si-O\\|\\R\end{matrix}\right)$ (a Si atom carrying two R groups, one above and one below, and an O; repeat unit in brackets) · The council's preliminary key

Q487 TS EAMCET 2018 · 5 May · Shift 1 MCQ

What is the chemical formula of hypophosphorous acid?

(A) H_3PO_3
(B) H_3PO_2
(C) H_3PO_4
(D) $H_4P_2O_6$

Answer: (B) H_3PO_2 · The council's preliminary key

Q488 TS EAMCET 2018 · 5 May · Shift 1 MCQ

Which of the following ions possesses S-O-S bond?

(A) $S_2O_3^{2-}$
(B) SO_4^{2-}
(C) $S_2O_8^{2-}$
(D) $S_2O_7^{2-}$

Answer: (D) $S_2O_7^{2-}$ · The council's preliminary key

Q489 TS EAMCET 2018 · 5 May · Shift 2 MCQ

When borax is dissolved in water, the product formed is

(A) H_3BO_3
(B) H_2BO_3
(C) B_2H_6
(D) B_2O_3

Answer: (A) H_3BO_3 · The council's preliminary key

Q490 TS EAMCET 2018 · 5 May · Shift 2 MCQ

SiO_2 reacts with

(A) H_2SO_4, HF
(B) $HF, NaOH$
(C) $Na_2CO_3, NaOH$
(D) Na_2CO_3, H_2SO_4

Answer: (B) $HF, NaOH$ · The council's preliminary key

Q491 TS EAMCET 2018 · 5 May · Shift 2 MCQ

The most acidic among the following compounds is

(A) NO_2
(B) N_2O_4
(C) N_2O_5
(D) N_2O_3

Answer: (C) N_2O_5 · The council's preliminary key

Q492 TS EAMCET 2018 · 5 May · Shift 2 MCQ

Oxidation states of S in $H_2S_2O_7$ are

(A) IV, IV
(B) VI, VI
(C) II, VI
(D) I, VII

Answer: (B) VI, VI · The council's preliminary key

Q493 TS EAMCET 2018 · 4 May · Shift 1 MCQ

Match the reactants in List-I with the products in List-II
List - I
a) $H_2O + H_2S$
b) $H_2O + N^{3-}$
c) $H_2O + SiCl_4$
d) $H_2O + F_2$
List - II
i) (H_3O^+, HS^-)
ii) (NH_3, OH^-)
iii) (OH^-, H_3S^+)
iv) (SiO_2, HCl)
v) (SiO_4^{4-}, Cl_2)
vi) (O_2, F^-)
vii) (HF, OH^-)
viii) (OH^-, HN_3)
The correct answer is

(A) a-i, b-viii, c-v, d-vi
(B) a-iii, b-ii, c-v, d-vii
(C) a-iii, b-viii, c-iv, d-vii
(D) a-i, b-ii, c-iv, d-vi

Answer: (D) a-i, b-ii, c-iv, d-vi · The council's preliminary key

Q494 TS EAMCET 2018 · 4 May · Shift 1 MCQ

Identify the correct statements from the following
a) In orthoboric acid, boron is in planar geometry
b) In $BCl_3.NH_3$, boron has tetrahedral geometry
c) Aqueous solution of borax is acidic

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(A) a, b
(B) b, c
(C) a, c
(D) a, b, c

Answer: (A) a, b · The council's preliminary key

Q495 TS EAMCET 2018 · 4 May · Shift 1 MCQ

Si reacts with CH_3Cl at 573 K in the presence of Cu powder to form methyl substituted chlorosilanes. Among the given methyl substituted chlorosilanes, whose yield is minimum?

(A) CH_3SiCl_3
(B) $(CH_3)_2SiCl_2$
(C) $(CH_3)_3SiCl$
(D) $(CH_3)_4Si$

Answer: (D) $(CH_3)_4Si$ · The council's preliminary key

Q496 TS EAMCET 2018 · 4 May · Shift 1 MCQ

Identify the reactions in which N_2 is liberated
a) $(NH_4)_2SO_4 + NaOH \longrightarrow$
b) NH_3 (excess) $+Cl_2 \longrightarrow$
c) $(NH_4)_2Cr_2O_7 \xrightarrow{\Delta}$
d) $NH_4NO_3 \xrightarrow{\Delta}$
e) $NH_4Cl_{(aq)} + NaNO_{2(aq)} \longrightarrow$

(A) a, b, c
(B) c, d, e
(C) b, c, e
(D) a, c, d

Answer: (C) b, c, e · The council's preliminary key

Q497 TS EAMCET 2018 · 4 May · Shift 1 MCQ

What are X and Y, respectively in the following reactions?
$Au + \text{aqua regia} \longrightarrow AuCl_4^- + H_2O + X$
$Pt + \text{aqua regia} \longrightarrow PtCl_6^{2-} + H_2O + Y$

(A) N_2O, NO
(B) N_2O, N_2O
(C) NO, NO
(D) NO, NO_2

Answer: (C) NO, NO · The council's preliminary key

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Q498 TS EAMCET 2018 · 4 May · Shift 2 MCQ

The formula of Borax is

(A) $Na_2B_4O_7 \cdot 5H_2O$
(B) $Na_2B_4O_7 \cdot 7H_2O$
(C) $Na_2B_4O_7 \cdot 10H_2O$
(D) $Na_2B_4O_7 \cdot 2H_2O$

Answer: (C) $Na_2B_4O_7 \cdot 10H_2O$ · The council's preliminary key

Q499 TS EAMCET 2018 · 4 May · Shift 2 MCQ

In which allotrope of carbon does each carbon atom form four bonds with other carbon atoms?

(A) Graphite
(B) Graphite and C_{60}
(C) Diamond
(D) Diamond and C_{60}

Answer: (C) Diamond · The council's preliminary key

Q500 TS EAMCET 2018 · 4 May · Shift 2 MCQ

What is the final chemical form of Gold (Au) when it is dissolved in aqua regia?

(A) Au
(B) AuCl
(C) $AuCl_2$
(D) $[AuCl_4]^-$

Answer: (D) $[AuCl_4]^-$ · The council's preliminary key

Q501 AP EAMCET 2018 · 24 Apr · Shift 1 MCQ

A few grams of borax is dissolved in distilled water. The pH range of resultant solution is

(A) 1 - 4
(B) 4 - 7
(C) 2 - 5
(D) 7 - 14

Answer: (D) 7 - 14 · The council's preliminary key

Q502 AP EAMCET 2018 · 24 Apr · Shift 1 MCQ

An element (X) when burnt in oxygen forms neutral XO and acidic XO_2. The element X is

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(A) Sn
(B) C
(C) Ge
(D) Pb

Answer: (B) C · The council's preliminary key

Q503 AP EAMCET 2018 · 24 Apr · Shift 1 MCQ

Nitrous acid was disproportionated to form water, HNO_3 and X. In another reaction, sodium nitrite was reacted with H_2SO_4 to form $NaHSO_4$, HNO_3, water and Y. What are X and Y respectively?

(A) $NO,\ N_2O_3$
(B) $NO,\ NO$
(C) $N_2O,\ NO_2$
(D) $NO_2,\ N_2O_5$

Answer: (B) $NO,\ NO$ · The council's preliminary key

Q504 AP EAMCET 2018 · 24 Apr · Shift 1 MCQ

Identify the correct statements from the following
i. Oxygen shows $-2, -1, +1, +2$ oxidation states.
ii. The thermal stability of H_2O, H_2Se, H_2S follows the order $H_2O < H_2S < H_2Se$.
iii. The reducing nature of H_2Se, H_2S, H_2Te follows the order $H_2S < H_2Se < H_2Te$.

(A) i, ii, iii
(B) i, ii
(C) i, iii
(D) ii, iii

Answer: (C) i, iii · The council's preliminary key

Q505 AP EAMCET 2018 · 24 Apr · Shift 1 MCQ

Which one of the following reactions does not take place ?

(A) $F_2 + 2Br^- \rightarrow 2F^- + Br_2$
(B) $Br_2 + 2I^- \rightarrow 2Br^- + I_2$
(C) $Cl_2 + 2Br^- \rightarrow 2Cl^- + Br_2$
(D) $Br_2 + 2Cl^- \rightarrow 2Br^- + Cl_2$

Answer: (D) $Br_2 + 2Cl^- \rightarrow 2Br^- + Cl_2$ · The council's preliminary key

Q506 AP EAMCET 2018 · 24 Apr · Shift 2 MCQ

In which of the following reactions, H_2 is liberated ?
i. $Al\,(s) + HCl(aq) \rightarrow$

ii. $\mathrm{Al(s) + NaOH(aq) \rightarrow}$
iii. $\mathrm{B_2H_6(g) + H_2O(l) \rightarrow}$
iv. $\mathrm{F_2(g) + H_2O(l) \rightarrow}$

(A) i, ii, iii, iv
(B) i, ii, iv
(C) i, ii, iii
(D) ii, iii, iv

Answer: (C) i, ii, iii · The council's preliminary key

Q507 AP EAMCET 2018 · 24 Apr · Shift 2 MCQ

Identify the element whose monoxide and dioxide are acidic in nature.

(A) Sn
(B) C
(C) Ge
(D) Pb

Answer: (C) Ge · The council's preliminary key

Q508 AP EAMCET 2018 · 24 Apr · Shift 2 MCQ

Which one of the following is used to remove moisture from ammonia gas ?

(A) $\mathrm{P_4O_{10}}$
(B) Anhydrous $\mathrm{CaCl_2}$
(C) Quick lime
(D) Conc $\mathrm{H_2SO_4}$

Answer: (C) Quick lime · The council's preliminary key

Q509 AP EAMCET 2018 · 24 Apr · Shift 2 MCQ

In the reaction $\mathrm{2I^-(aq) + H_2O(\mathit{l}) + O_3(g) \rightarrow 2OH^-(aq) + I_2(s) + O_2(g)}$, ozone acts as

(A) an oxidizing agent
(B) a reducing agent
(C) a dehydrating agent
(D) a hydrating reagent

Answer: (A) an oxidizing agent · The council's preliminary key

Q510 AP EAMCET 2018 · 24 Apr · Shift 2 MCQ

$\mathrm{X_2}$ reacts with water to form HX(aq) and HOX(aq). $\mathrm{Y_2}$ reacts with water to form $\mathrm{O_2(g)}$, $\mathrm{Y^-(aq)}$ and $\mathrm{H^+(aq)}$. $\mathrm{Z_2}$ does not react with water. $\mathrm{X_2}$, $\mathrm{Y_2}$, $\mathrm{Z_2}$ are respectively

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(A) I_2, Cl_2, F_2
(B) Cl_2, F_2, I_2
(C) F_2, Cl_2, I_2
(D) Cl_2, Br_2, I_2

Answer: (B) Cl_2, F_2, I_2 · The council's preliminary key

Q511 AP EAMCET 2018 · 23 Apr · Shift 1 MCQ

In the structure of B_2H_6, the number of BH_2 groups present in one plane, and the number of B-H bonds, B-B bonds, B-H-B bridge bonds are respectively

(A) 2, 0, 3, 2
(B) 3, 2, 2, 2
(C) 2, 4, 0, 2
(D) 2, 4, 2, 0

Answer: (C) 2, 4, 0, 2 · The council's preliminary key

Q512 AP EAMCET 2018 · 23 Apr · Shift 1 MCQ

Identify the incorrect statements from the following
I. Tin in +2 state acts as reducing agent while lead in +4 state acts as strong oxidising agent.
II. Silicon exists as both $[SiF_6]^{2-}$ and $[SiCl_6]^{2-}$ forms
III. The hybridisation of carbon in fullerene is sp^3
IV. Among Ge, Sn and Pb lowest melting point is for Sn

(A) I, IV
(B) II, IV
(C) II, III
(D) III, IV

Answer: (C) II, III · The council's preliminary key

Q513 AP EAMCET 2018 · 23 Apr · Shift 1 MCQ

Hot concentrated sulphuric acid on reaction with which one of the following elements, produces two gaseous products?

(A) C
(B) S
(C) Cu
(D) Zn

Answer: (A) C · The council's preliminary key

Q514 AP EAMCET 2018 · 23 Apr · Shift 1 MCQ

The pair of xenon compounds which have same number of lone pairs of electrons on the central atom is

(A) XeO_3, XeF_6
(B) XeF_2, XeF_4
(C) XeF_4, XeO_3
(D) XeF_4, $XeOF_4$

Answer: (A) XeO_3, XeF_6 · The council's preliminary key

Q515 AP EAMCET 2018 · 23 Apr · Shift 1 MCQ

Which of the following statements are correct?
I) P_4 molecule is very reactive because of angular strain
II) The basicity of H_3PO_3 is 3
III) In gas phase, all P-Cl bonds of PCl_5 have same bond length
IV) In solid state, PCl_5 exists as an ionic solid, in which anion $[PCl_6]^-$ has octahedral and cation $[PCl_4]^+$ has tetrahedral shape.

(A) I & II
(B) II & IV
(C) I & IV
(D) I & III

Answer: (C) I & IV · The council's preliminary key

Q516 AP EAMCET 2018 · 23 Apr · Shift 2 MCQ

Identify the correct statements from the following
i. The atomic radius of Al is lower than the atomic radius of Ga.
ii. Boron exists in many allotropic forms.
iii. The melting point of Ga is lowest among the group 13 elements.

(A) i, ii, iii
(B) ii, iii
(C) i, ii
(D) i, iii

Answer: (B) ii, iii · The council's preliminary key

Q517 AP EAMCET 2018 · 23 Apr · Shift 2 MCQ

Which of the following is **not** correct corresponding to chemistry of group 14 elements?

(A) Lead has no reaction with water due to formation of protective oxide layer
(B) GeX_2 is more stable than GeX_4
(C) PbX_2 is more stable than PbX_4
(D) Tin on reaction with steam liberates hydrogen

Answer: (B) GeX_2 **is more stable than** GeX_4 · The council's preliminary key

Q518 AP EAMCET 2018 · 23 Apr · Shift 2 MCQ

Calcium phosphide reacts with water to form $Ca(OH)_2$ and X. When X is passed into $CuSO_4$ solution, Y and H_2SO_4 are formed. What is Y?

(A) $[Cu(PH_3)_4]^{2+}$
(B) $[Cu(PH_3)_6]^{2+}$
(C) Cu_3P_2
(D) $CuHPO_4$

Answer: (C) Cu_3P_2 · The council's preliminary key

Q519 AP EAMCET 2018 · 23 Apr · Shift 2 MCQ

Which one of the following liberates oxygen immediately when passed into water?

(A) F_2
(B) Cl_2
(C) Br_2
(D) I_2

Answer: (A) F_2 · The council's preliminary key

Q520 AP EAMCET 2018 · 22 Apr · Shift 1 MCQ

BF_3 reacts with NaH at 450K to form NaF and X. When X reacts with LiH in diethyl ether, Y is formed. What is Y?

(A) $LiBO_2$
(B) $Li_2B_4O_7$
(C) $LiBH_4$
(D) $B_2H_6.LiH$

Answer: (C) $LiBH_4$ · The council's preliminary key

Q521 AP EAMCET 2018 · 22 Apr · Shift 1 MCQ

Assertion (A) : $[SiF_6]^{2-}$ is formed but $[SiCl_6]^{2-}$ is not
Reason (R) : Electronegativity (EN) of F is higher than EN of Cl

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(A) Both (A) and (R) are correct and (R) is the correct explanation of (A)
(B) Both (A) and (R) are correct but (R) is not the correct explanation of (A)
(C) (A) is correct but (R) is not correct
(D) (A) is not correct but (R) is correct

Answer: (B) Both (A) and (R) are correct but (R) is not the correct explanation of (A) · The council's preliminary key

Q522 AP EAMCET 2018 · 22 Apr · Shift 1 MCQ

Identify the reaction which does **not** liberate N_2

(A) $NaN_3 \xrightarrow{\Delta} ?$
(B) $(NH_4)_2Cr_2O_7 \xrightarrow{\Delta} ?$
(C) $NH_4Cl + Ca(OH)_2 \longrightarrow ?$
(D) $Ba(N_3)_2 \xrightarrow{\Delta} ?$

Answer: (C) $NH_4Cl + Ca(OH)_2 \longrightarrow ?$ · The council's preliminary key

Q523 AP EAMCET 2018 · 22 Apr · Shift 1 MCQ

Identify the molecule which contains lone pair of electrons on the sulphur atom

(A) H_2SO_5
(B) $H_2S_2O_8$
(C) $H_2S_2O_7$
(D) H_2SO_3

Answer: (D) H_2SO_3 · The council's preliminary key

Q524 AP EAMCET 2018 · 22 Apr · Shift 1 MCQ

Which statement about noble gases is **not** correct?

(A) 'Xe' forms XeF_6 under suitable conditions
(B) 'Ar' is used in electric bulbs
(C) The number of lone pair of electrons present on Xe in XeF_2 is 3.
(D) 'He' has the highest boiling point among all the noble gases

Answer: (D) 'He' has the highest boiling point among all the noble gases · The council's preliminary key

Q525 AP EAMCET 2018 · 22 Apr · Shift 2 MCQ

Identify the correct set of 13th group elements which do not form amphoteric oxides

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(A) B, In, Tl
(B) B, Al, Ga
(C) Al, Ga, Tl
(D) Al, Tl, In

Answer: (A) B, In, Tl · The council's preliminary key

Q526 AP EAMCET 2018 · 22 Apr · Shift 2 MCQ

Identify X, Y and Z in the following reaction
$2CH_3Cl + X \xrightarrow[570\,K]{Y} Z$
Options give X, Y, Z in order:

(A) X = C, Y = Ni, Z = $(CH_3)_2Si(OH)_2$
(B) X = Si, Y = Zn, Z = $(CH_3)_2SiCl_2$
(C) X = Si, Y = Cu, Z = $(CH_3)_2SiCl_2$
(D) X = H_2O, Y = Si, Z = $(CH_3)_2Si(OH)_2$

Answer: (C) X = Si, Y = Cu, Z = $(CH_3)_2SiCl_2$ · The council's preliminary key

Q527 AP EAMCET 2018 · 22 Apr · Shift 2 MCQ

The element X on reaction with conc. HNO_3 forms two acidic oxides A and B of different shapes. Element Z on reaction with conc. H_2SO_4 forms two acidic oxides A and D of different shapes. What are X and Z?

(A) C, C
(B) S, Cu
(C) C, S
(D) C, Cu

Answer: (A) C, C · The council's preliminary key

Q528 AP EAMCET 2018 · 22 Apr · Shift 2 MCQ

Identify the correct statement from the following

(A) O_3, SO_2 molecules have different shapes
(B) The molecular formula of pyrosulphuric acid is $H_2S_2O_8$
(C) In the presence of moisture, SO_2 acts as an oxidizing agent
(D) V_2O_5 acts as catalyst in contact process

Answer: (D) V_2O_5 acts as catalyst in contact process · The council's preliminary key

Q529 AP EAMCET 2018 · 22 Apr · Shift 2 MCQ

Identify the reaction in which monobasic and dibasic acids are formed

(A) $FeSO_4 + H_2SO_4 + Cl_2 \longrightarrow$

(B) $Na_2S_2O_3 + Cl_2 + H_2O \longrightarrow$

(C) $Na_2SO_3 + H_2O + Cl_2 \longrightarrow$

(D) $SO_2 + 2H_2O + Cl_2 \longrightarrow$

Answer: (D) $SO_2 + 2H_2O + Cl_2 \longrightarrow$ · The council's preliminary key

Q530 TS EAMCET 2017 · 12 May · Offline MCQ

The element that forms stable compounds in low oxidation state is

(A) Mg

(B) Al

(C) Ga

(D) Tl

Answer: (D) Tl · The council's preliminary key

Q531 TS EAMCET 2017 · 12 May · Offline MCQ

Which of the following elements has the lowest melting point?

(A) Sn

(B) Pb

(C) Si

(D) Ge

Answer: (A) Sn · The council's preliminary key

Q532 TS EAMCET 2017 · 12 May · Offline MCQ

Which among the following is the strongest acid?

(A) HF

(B) HCl

(C) HBr

(D) HI

Answer: (D) HI · The council's preliminary key

Q533 TS EAMCET 2017 · 12 May · Offline MCQ

The bonding in diborane (B_2H_6) can be described by -

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(A) 4 two centre - two electron bonds & 2 three - centre - two electron bonds
(B) 3 two centre - two electron bonds & 3 three centre - two electron bonds
(C) 2 two centre - two electron bonds and 4 three centre - two electron bonds
(D) 4 two centre - two electron bonds and 4 two centre - two electron bonds

Answer: (A) 4 two centre - two electron bonds & 2 three - centre - two electron bonds · The council's preliminary key

Q534 AP EAMCET 2017 · 26 Apr · Shift 1 MCQ

In which of the following reactions, hydrogen is liberated ?
(a) $\mathrm{Al_{(s)} + HCl_{(aq)} \longrightarrow}$
(b) $\mathrm{Al_{(s)} + NaOH_{(aq)} \longrightarrow}$
(c) $\mathrm{NaBH_4 + I_2 \longrightarrow}$

(A) a, c
(B) a, b
(C) b, c
(D) a, b, c

Answer: (D) a, b, c · The council's preliminary key

Q535 AP EAMCET 2017 · 26 Apr · Shift 1 MCQ

Which one of the following statements is **not** correct?

(A) In CO molecule, there are one 'sigma' (σ) and two "Pi" (π) bonds.
(B) Both $[\mathrm{SiF_6}]^{2-}$ and $[\mathrm{SiCl_6}]^{2-}$ ions are known
(C) In $\mathrm{CO_2}$ molecule, carbon hybridisation is sp
(D) Fullerenes are made by heating graphite in an electric arc in the presence of argon gas.

Answer: (B) Both $[\mathrm{SiF_6}]^{2-}$ and $[\mathrm{SiCl_6}]^{2-}$ ions are known · The council's preliminary key

Q536 AP EAMCET 2017 · 26 Apr · Shift 1 MCQ

$\mathrm{S + Conc.\ H_2SO_4 \rightarrow X + Y}$
Here X is a gas and Y is a liquid and both are triatomic molecules. The number of electron lone pairs present on the central atoms of X and Y are respectively.

(A) $2,\ 1$
(B) $2,\ 2$
(C) $1,\ 2$
(D) $1,\ 0$

Answer: (C) $1,\ 2$ · The council's preliminary key

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Q537 AP EAMCET 2017 · 26 Apr · Shift 1 MCQ

Which of the following is used in the estimation of carbon monoxide?

(A) Cl_2O_7
(B) BrO_3
(C) I_2O_4
(D) I_2O_5

Answer: (D) I_2O_5 · The council's preliminary key

Q538 AP EAMCET 2017 · 26 Apr · Shift 1 MCQ

To prepare XeF_6, Xe and F_2 are mixed at 573 K and 60-70 bar in the ratio of

(A) $1:20$
(B) $20:1$
(C) $1:5$
(D) $5:1$

Answer: (A) $1:20$ · The council's preliminary key

Q539 AP EAMCET 2017 · 26 Apr · Shift 2 MCQ

Which of the following is **not** correct regarding Orthoboric acid ?

(A) Orthoboric acid can be prepared by the reaction of HCl with $Na_2B_4O_7$
(B) Orthoboric acid contains planar BO_3 units.
(C) Orthoboric acid releases three H^+ ions in water.
(D) Orthoboric acid when heated above 370 K, forms HBO_2 which on further heating forms B_2O_3.

Answer: (C) Orthoboric acid releases three H^+ ions in water. · The council's preliminary key

Q540 AP EAMCET 2017 · 26 Apr · Shift 2 MCQ

Which one of the following statements is **not** correct?

(A) Hydrolysis of $(CH_3)_2SiCl_2$ gives product which undergoes condensation polymerisation to form long chain silicones.
(B) SiO_2 is soluble in HF.
(C) Hydrated zeolites are used as ion exchangers to reduce the hardness of hard water.
(D) Water gas contains about 40% of CO_2.

Answer: (D) Water gas contains about 40% of CO_2. · The council's preliminary key

Q541 AP EAMCET 2017 · 26 Apr · Shift 2 MCQ

Which one of the following phosphorous halide has tetrahedral and octahedral shaped ions

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(A) liquid PCl_3
(B) liquid PCl_5
(C) gaseous PCl_5
(D) solid PCl_5

Answer: (D) solid PCl_5 · The council's preliminary key

Q542 AP EAMCET 2017 · 26 Apr · Shift 2 MCQ

The hydrolysis products of BrF_5 molecule are

(A) HBr, HOF
(B) HF, $HBrO_3$
(C) HF, $HBrO_4$
(D) HF, $HBrO_2$

Answer: (B) HF, $HBrO_3$ · The council's preliminary key

Q543 AP EAMCET 2017 · 25 Apr · Shift 1 MCQ

Identify the amphoteric and neutral oxide pair among the following

(A) SnO_2, N_2O
(B) Al_2O_3, ZnO
(C) CO_2, SnO
(D) Na_2O, N_2O

Answer: (A) SnO_2, N_2O · The council's preliminary key

Q544 AP EAMCET 2017 · 25 Apr · Shift 1 MCQ

In diborane, the number of 2-centre-2-electron bonds and 3 centre-2-electron bonds respectively are :

(A) 2, 4
(B) 3, 3
(C) 4, 2
(D) 4, 0

Answer: (C) 4, 2 · The council's preliminary key

Q545 AP EAMCET 2017 · 25 Apr · Shift 1 MCQ

Assertion(A) : The maximum covalency of Si and Ge is 6 but that of carbon is 4.
Reason (R): Due to the presence of d-orbitals in Si and Ge, both these elements can undergo sp^3d^2 hybridisation and covalency of 6 is possible. Carbon has no d-orbitals in it and hence its covalency is 4.
The correct answer is:

(A) (A) and (R) are correct and (R) is the correct explanation of (A)
(B) (A) and (R) are correct but (R) is not the correct explanation of (A)
(C) (A) is correct but (R) is not correct
(D) (A) is not correct but (R) is correct

Answer: (A) (A) and (R) are correct and (R) is the correct explanation of (A) · The council's preliminary key

Q546 AP EAMCET 2017 · 25 Apr · Shift 1 MCQ

White phosphorous reacts with thionyl chloride to form PCl_3 along with A and B. A and B respectively are

(A) SO_2, S_2Cl_2
(B) SO_3, S_2Cl_2
(C) SO_2, SCl_4
(D) SO_2, SCl_6

Answer: (A) SO_2, S_2Cl_2 · The council's preliminary key

Q547 AP EAMCET 2017 · 25 Apr · Shift 1 MCQ

Which noble gas has the lowest boiling point?

(A) Helium
(B) Neon
(C) Argon
(D) Krypton

Answer: (A) Helium · The council's preliminary key

Q548 AP EAMCET 2017 · 25 Apr · Shift 2 MCQ

The material used in nuclear industry as protective shields and control rods is

(A) Borax
(B) Metal boride
(C) Boric acid
(D) Boric oxide

Answer: (B) Metal boride · The council's preliminary key

Q549 AP EAMCET 2017 · 25 Apr · Shift 2 MCQ

Identify the correct statements among the following
a) C_{60} molecule has 12 six-membered rings and 20 five-membered rings
b) H_2CO_3/HCO_3^- buffer system helps to maintain pH of blood between 7.26 and 7.42
c) Graphite is used as a dry lubricant in machines running at high temperatures

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(A) a, b, c
(B) a, b
(C) b, c
(D) a, c

Answer: (C) b, c · The council's preliminary key

Q550 AP EAMCET 2017 · 25 Apr · Shift 2 MCQ

In which of the following reactions, NO_2 is **not** liberated?

(A) $Zn + (dil)HNO_3 \rightarrow$
(B) $I_2 + (conc.)HNO_3 \rightarrow$
(C) $Cu + (conc.)HNO_3 \rightarrow$
(D) $C + (conc.)HNO_3 \rightarrow$

Answer: (A) $Zn + (dil)HNO_3 \rightarrow$ · The council's preliminary key

Q551 AP EAMCET 2017 · 25 Apr · Shift 2 MCQ

Which of the following statements is **not** correct?

(A) Both rhombic and monoclinic sulphur are soluble in CS_2
(B) Both rhombic and monoclinic sulphur contain S_8 rings
(C) SO_2 is soluble in water
(D) S_2 in vapour state is diamagnetic

Answer: (D) S_2 **in vapour state is diamagnetic** · The council's preliminary key

Q552 AP EAMCET 2017 · 25 Apr · Shift 2 MCQ

Xe (g) and F_2 (g) reacted in the ratio 1 : 20 at 573 K, 60-70 bar, to form A. When A is completely hydrolyzed, B and HF are formed. A and B are respectively

(A) XeF_2, O_2
(B) XeF_6, XeO_3
(C) $XeF_4, XeOF_4$
(D) XeF_4, XeO_2F_2

Answer: (B) XeF_6, XeO_3 · The council's preliminary key

Q553 AP EAMCET 2017 · 24 Apr · Shift 1 MCQ

Identify the incorrect statement

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(A) CO is used in the manufacture of Urea
(B) Quartz is used as a piezoelectric material
(C) Silicones are used as electrical insulators
(D) ZSM-5 is used to convert alcohols directly into gasoline

Answer: (A) CO is used in the manufacture of Urea · The council's preliminary key

Q554 AP EAMCET 2017 · 24 Apr · Shift 1 MCQ

The correct order of boiling points of hydrides of 15th group elements is

(A) $PH_3 < AsH_3 < NH_3 < SbH_3 < BiH_3$
(B) $PH_3 < AsH_3 < SbH_3 < NH_3 < BiH_3$
(C) $PH_3 < AsH_3 < SbH_3 < BiH_3 < NH_3$
(D) $BiH_3 < SbH_3 < AsH_3 < PH_3 < NH_3$

Answer: (A) $PH_3 < AsH_3 < NH_3 < SbH_3 < BiH_3$ · The council's preliminary key

Q555 AP EAMCET 2017 · 24 Apr · Shift 1 MCQ

Among the oxyacids of chlorine, the order of acidic character is

(A) $HClO_4 < HClO_3 < HClO_2 < HOCl$
(B) $HOCl < HClO_2 < HClO_3 < HClO_4$
(C) $HClO_2 < HClO < HClO_3 < HClO_4$
(D) $HClO_3 < HClO_2 < HOCl < HClO_4$

Answer: (B) $HOCl < HClO_2 < HClO_3 < HClO_4$ · The council's preliminary key

Q556 AP EAMCET 2017 · 24 Apr · Shift 2 MCQ

Identify the correct statements from the following
a) Borax gives blue coloured $Co(BO_2)_2$ when heated with Co^{2+} salt.
b) The correct formula of Borax is $Na_2[B_4O_5(OH)_4]\,8H_2O$
c) Trihalides of boron are Lewis bases.

(A) a, b, c
(B) a, c
(C) a, b
(D) b, c

Answer: (C) a, b · The council's preliminary key

Q557 AP EAMCET 2017 · 24 Apr · Shift 2 MCQ

Which of the following is not correct ?

(A) CO is a powerful reducing agent.
(B) CO forms stable complex with haemoglobin, which is 300 times more stable than oxygen-haemoglobin complex.
(C) CO reduces alkali metal oxides to alkali metals.
(D) CO is a neutral oxide.

Answer: (C) CO reduces alkali metal oxides to alkali metals. · The council's preliminary key

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Q558 AP EAMCET 2017 · 24 Apr · Shift 2 MCQ

Which one of the following is used to convert sunlight into electricity in photovoltaic material?

(A) crystalline boron
(B) amorphous silicon
(C) crystalline iodine
(D) amorphous radium

Answer: (B) amorphous silicon · The council's preliminary key

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Q559 AP EAMCET 2017 · 24 Apr · Shift 2 MCQ

The products formed, when gaseous HCl is passed into aqueous Na_2SO_3 solution are

(A) Na_2SO_4, S, H_2O
(B) $NaCl, SO_2, H_2O$
(C) Na_2SO_4, SO_2, H_2O
(D) $NaCl, S, H_2O$

Answer: (B) $NaCl, SO_2, H_2O$ · The council's preliminary key

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Q560 AP EAMCET 2017 · 24 Apr · Shift 2 MCQ

Observe the following statements :
a. The thermal stability of hydrides of group 16 elements follow the order :
$H_2O > H_2S > H_2Se > H_2Te$
b. Acidic nature of hydrides of group 16 elements follow the order : $H_2O > H_2S > H_2Se > H_2Te$
c. The reducing nature of H_2S, H_2Se and H_2Te follow the order : $H_2S < H_2Se < H_2Te$
The correct statements are:

(A) a, b, c
(B) a, b
(C) b, c
(D) a, c

Answer: (D) a, c · The council's preliminary key

Q561 AP EAMCET 2017 · 24 Apr · Shift 2 MCQ

XeF_2 is hydrolyzed in the presence of small amount of water. What are the gaseous products formed?

(A) Xe, O_2
(B) F_2, O_2
(C) Xe, O_3
(D) O_2F_2, Xe

Answer: (A) Xe, O_2 · The council's preliminary key

Q562 TS EAMCET 2016 · 15 May · Offline MCQ

Which one of the following forms a basic oxide ?

(A) B
(B) Tl
(C) Al
(D) Ga

Answer: (B) Tl · Official TGCHE final key

Q563 TS EAMCET 2016 · 15 May · Offline MCQ

The gas produced by the passage of air over hot coke is

(A) Carbon monoxide
(B) Carbon dioxide
(C) Producer gas
(D) Water gas

Answer: (C) Producer gas · Official TGCHE final key

Q564 TS EAMCET 2016 · 15 May · Offline MCQ

X reacts with dilute nitric acid to form 'laughing gas'. What is X ?

(A) Cu
(B) P_4
(C) S_8
(D) Zn

Answer: (D) Zn · Official TGCHE final key

Q565 TS EAMCET 2016 · 15 May · Offline MCQ

Xenon reacts with fluorine at 873 K and 7 bar to form XeF_4. In this reaction the ratio of Xenon and fluorine required is :

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(A) 1 : 5
(B) 10 : 1
(C) 1 : 3
(D) 5 : 1

Answer: (A) 1 : 5 · Official TGCHE final key

Q566 AP EAMCET 2016 · 29 Apr · Offline MCQ

Assertion (A) : $AlCl_3$ exists as a dimer through halogen bridged bonds.
Reason (R) : $AlCl_3$ gets stability by accepting electrons from the bridged halogen.

(A) Both (A) and (R) are true and (R) is the correct explanation of (A)
(B) Both (A) and (R) are true but (R) is not the correct explanation of (A)
(C) (A) is true, but (R) is not true
(D) (A) is not true, but (R) is true

Answer: (A) Both (A) and (R) are true and (R) is the correct explanation of (A) · The council's preliminary key

Q567 AP EAMCET 2016 · 29 Apr · Offline MCQ

Which one of the following statements is <u>not</u> correct?

(A) O_3 is used as germicide
(B) In O_3, O−O bond length is identical with that of molecular oxygen
(C) O_3 is an oxidising agent
(D) The shape of O_3 molecule is angular

Answer: (B) In O_3, O−O bond length is identical with that of molecular oxygen · The council's preliminary key

Q568 AP EAMCET 2016 · 29 Apr · Offline MCQ

Which of the following reactions <u>does not</u> take place?

(A) $F_2 + 2Cl^- \rightarrow 2F^- + Cl_2$
(B) $Br_2 + 2I^- \rightarrow 2Br^- + I_2$
(C) $Cl_2 + 2Br^- \rightarrow 2Cl^- + Br_2$
(D) $Cl_2 + 2F^- \rightarrow 2Cl^- + F_2$

Answer: (D) $Cl_2 + 2F^- \rightarrow 2Cl^- + F_2$ · The council's preliminary key

Q569 AP EAMCET 2016 · 29 Apr · Offline MCQ

Which of the following statements regarding sulphur is <u>not</u> correct?

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(A) At about 1000K, it mainly consists of S_2 molecules
(B) The oxidation state of sulphur is never less than +4 in its compounds
(C) S_2 molecule is paramagnetic
(D) Rhombic sulphur is readily soluble in CS_2

Answer: (B) The oxidation state of sulphur is never less than +4 in its compounds · The council's preliminary key

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Q570 AP EAMCET 2016 · 29 Apr · Offline MCQ

Which of the following reactions <u>does not</u> involve, liberation of oxygen?

(A) $XeF_4 + H_2O \rightarrow$
(B) $XeF_4 + O_2F_2 \rightarrow$
(C) $XeF_2 + H_2O \rightarrow$
(D) $XeF_6 + H_2O \rightarrow$

Answer: (D) $XeF_6 + H_2O \rightarrow$ · The council's preliminary key

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Q571 AP EAMCET 2014 · 22 May · Offline MCQ

The charring of sugar takes place when treated with concentrated H_2SO_4. What is the type of reaction involved in it ?

(A) Dehydration reaction
(B) Hydrolysis reaction
(C) Addition reaction
(D) Disproportionation reaction

Answer: (A) Dehydration reaction · The council's preliminary key

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Q572 AP EAMCET 2014 · 22 May · Offline MCQ

Which one of the following correctly represents the variation of electronegativity (EN) with atomic number (Z) of group 13 elements ?
(see the figure above)

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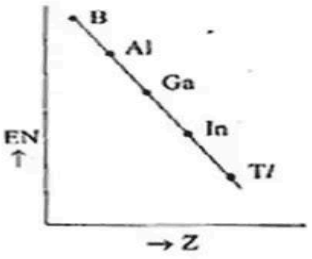
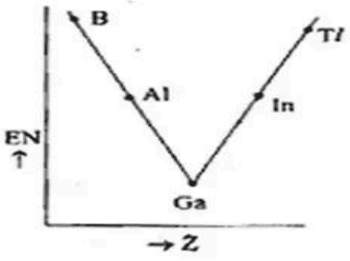
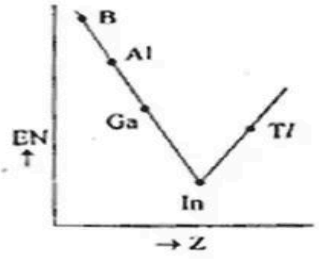
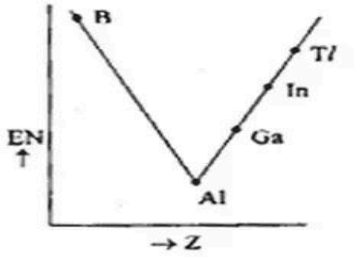
149. Which one of the following correctly represents the variation of electronegativity (EN) with atomic number (Z) of group 13 elements ?

గ్రూపు 13 మూలకాల పరమాణు సంఖ్య (Z)తో ఋణవిద్యుదాత్మకత (EN) మార్పును తెలిపే సరియైనది ఏది?

(1) 

(2) 

(3) 

(4) 

(A) *see figure*
(B) *see figure*
(C) *see figure*
(D) *see figure*

Answer: (D) · The council's preliminary key

Q573 AP EAMCET 2014 · 22 May · Offline MCQ

Which one of the following elements reacts with steam ?

(A) C
(B) Ge
(C) Si
(D) Sn

Answer: (D) Sn · The council's preliminary key

Q574 AP EAMCET 2013 · 10 May · Offline MCQ

Diborane reacts with HCl in the presence of $AlCl_3$ and liberates :

(A) H_2
(B) Cl_2
(C) BCl_3
(D) Cl_2 & BCl_3

Answer: (A) H_2 · The council's preliminary key

Q575 AP EAMCET 2013 · 10 May · Offline MCQ

How many corners of SiO_4 unit are shared in the formation of three dimensional silicates ?

(A) 3
(B) 2
(C) 4
(D) 1

Answer: (C) 4 · The council's preliminary key

Q576 AP EAMCET 2013 · 10 May · Offline MCQ

Which one of the following is not correct ?

(A) Pyrophosphoric acid is a tetrabasic acid
(B) Pyrophosphoric acid contains P-O-P linkage
(C) Pyrophosphoric acid contains two P-H bonds
(D) Orthophosphoric acid can be prepared by dissolving P_4O_{10} in water

Answer: (C) Pyrophosphoric acid contains two P-H bonds · The council's preliminary key

Q577 AP EAMCET 2013 · 10 May · Offline MCQ

$Na_2S_2O_3$ reacts with moist Cl_2 to form Na_2SO_4, HCl and $\underline{X}$. Which one of the following is $\underline{X}$?

(A) H_2S
(B) SO_2
(C) SO_3
(D) S

Answer: (D) S · The council's preliminary key

Q578 AP EAMCET 2013 · 10 May · Offline MCQ

The role of copper diaphragm in Whytlaw-Gray's method is :

(A) preventing the corrosion of electrolytic cell
(B) preventing the mixing of H_2 and F_2
(C) as anode
(D) as cathode

Answer: (B) preventing the mixing of H_2 and F_2 · The council's preliminary key

Q579 AP EAMCET 2013 · 10 May · Offline MCQ

Liquid $\underline{X}$ is used in Bubble chamber to detect neutral mesons and gamma photons. Then, $\underline{X}$ =

(A) He
(B) Ne
(C) Kr
(D) Xe

Answer: (D) Xe · The council's preliminary key

Q580 AP EAMCET 2012 · 12 May · Offline MCQ

What is Z in the following reactions ?

$$BCl_3 + H_2 \xrightarrow[450^\circ C]{\text{Cu-Al}} X + HCl$$
$$X \xrightarrow{\text{methylation}} Z$$

(A) $(CH_3)BH_2$
(B) $(CH_3)_4B_2H_2$
(C) $(CH_3)_3B_2H_3$
(D) $(CH_3)_6B_2$

Answer: (B) $(CH_3)_4B_2H_2$ · Official APSCHE final key

Q581 AP EAMCET 2012 · 12 May · Offline MCQ

Which one of the following elements reduces NaOH to Na ?

(A) Si
(B) Pb
(C) C
(D) Sn

Answer: (C) C · Official APSCHE final key

Q582 AP EAMCET 2012 · 12 May · Offline MCQ

The oxoacid of sulphur which contains two sulphur atoms in different oxidation states is

(A) Pyrosulphurous acid
(B) Hyposulphurous acid
(C) Pyrosulphuric acid
(D) Persulphuric acid

Answer: (A) Pyrosulphurous acid · Official APSCHE final key

Q583 AP EAMCET 2012 · 12 May · Offline MCQ

Bond energy of Cl_2, Br_2 and I_2 follow the order

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(A) $Cl_2 > Br_2 > I_2$
(B) $Br_2 > Cl_2 > I_2$
(C) $I_2 > Br_2 > Cl_2$
(D) $I_2 > Cl_2 > Br_2$

Answer: (A) $Cl_2 > Br_2 > I_2$ · Official APSCHE final key

Q584 AP EAMCET 2012 · 12 May · Offline MCQ

Assertion (A) : The boiling points of noble gases increases from He to Xe.
Reason (R) : The interatomic van der Waals attractive forces increase from He to Xe.
The correct answer is

(A) Both (A) and (R) are true, and (R) is the correct explanation of (A)
(B) Both (A) and (R) are true, and (R) is not the correct explanation of (A)
(C) (A) is true but (R) is not true
(D) (A) is not true but (R) is true

Answer: (A) Both (A) and (R) are true, and (R) is the correct explanation of (A) · Official APSCHE final key

Q585 AP EAMCET 2011 · 8 May · Offline MCQ

What is the empirical formula of sheet silicates ?

(A) $(Si_2O_5)_n^{2n-}$
(B) $(SiO_3)_n^{2n-}$
(C) $(SiO_3)_n^{n-}$
(D) $(Si_2O_7)_n^{3n-}$

Answer: (A) $(Si_2O_5)_n^{2n-}$ · The council's preliminary key

Q586 AP EAMCET 2011 · 8 May · Offline MCQ

The gases evolved in the decomposition of lead nitrate are :

(A) N_2O_3, NO
(B) NO_2, O_2
(C) N_2O_3, O_2
(D) N_2O, O_2

Answer: (B) NO_2, O_2 · The council's preliminary key

Q587 AP EAMCET 2011 · 8 May · Offline MCQ

Which of the following statements are correct ?
(I) Monoclinic sulphur contains S_8 molecules.
(II) Sulphur forms SF_6, SF_4, SF_2 and S_2F_2.
(III) Peroxo group is present in $H_2S_2O_6$.

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(A) II, III
(B) I, II
(C) I, III
(D) I, II, III

Answer: (B) I, II · The council's preliminary key

Q588 AP EAMCET 2011 · 8 May · Offline MCQ

Bond energy of F_2, Cl_2 and Br_2 follow the order :

(A) F — F > Cl — Cl > Br — Br
(B) Cl — Cl > Br — Br > F — F
(C) Br — Br > Cl — Cl > F — F
(D) Cl — Cl > F — F > Br — Br

Answer: (B) Cl — Cl > Br — Br > F — F · The council's preliminary key

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Q589 AP EAMCET 2011 · 8 May · Offline MCQ

A mixture of He, Ne, Kr and Xe is cooled. Which one of them condenses first ?

(A) Xe
(B) Ne
(C) Kr
(D) He

Answer: (A) Xe · The council's preliminary key

Q590 AP EAMCET 2010 · 30 May · Offline MCQ

Diborane reacts with ammonia under different conditions to give a variety of products. Which one among the following is not formed in these reactions ?

(A) $B_2H_6 \cdot 2NH_3$
(B) $B_{12}H_{12}$
(C) $B_3N_3H_6$
(D) $(BN)_n$

Answer: (B) $B_{12}H_{12}$ · Official APSCHE final key

Q591 AP EAMCET 2010 · 30 May · Offline MCQ

The oxide of nitrogen formed by thermal decomposition of NH_4NO_3 is :

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(A) NO
(B) N_2O
(C) N_2O_5
(D) NO_2

Answer: (B) N_2O · Official APSCHE final key

Q592 AP EAMCET 2010 · 30 May · Offline MCQ

Which one of the following is most acidic ?

(A) H_2O
(B) H_2S
(C) H_2Te
(D) H_2Se

Answer: (C) H_2Te · Official APSCHE final key

Q593 AP EAMCET 2010 · 30 May · Offline MCQ

Which one of the following is formed apart from sodium chloride when chlorine reacts with hot concentrated sodium hydroxide ?

(A) $NaOCl$
(B) $NaClO_3$
(C) $NaClO_2$
(D) $NaClO_4$

Answer: (B) $NaClO_3$ · Official APSCHE final key

Q594 AP EAMCET 2010 · 30 May · Offline MCQ

Helium mixed with oxygen is used in the treatment of :

(A) Beri beri
(B) Burning feet
(C) Joints burning
(D) Asthma

Answer: (D) Asthma · Official APSCHE final key

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