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CHEMISTRY · EAPCET (EAMCET)

Chemical Bonding & Molecular Structure

Previous Year Questions with answers

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

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What is in this PDF: every Chemical Bonding & Molecular Structure 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

5.9%
of Chemistry questions, 2022–2026

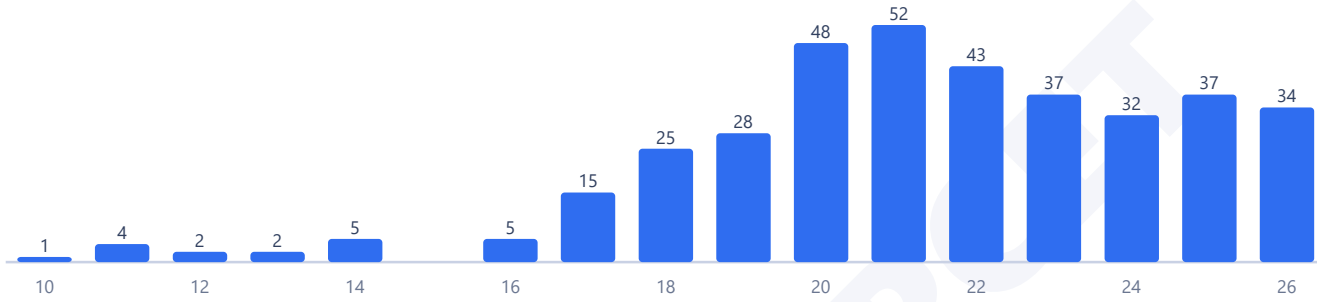
370
questions, 2010–2026

77 of 77
papers asked it, 2022–2026

370 / 0
MCQ / numerical, 2010–2026

Trend. Steady: 2.2 questions per paper in 2024–2026 against 2.6 in 2022–2023.

Questions per year



Counts are the questions we hold: 370 in 149 papers. No question in this chapter was found repeated across papers.

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

VSEPR & Molecular Shapes	94
Covalent Bonding & Lewis Structures	75
Valence Bond Theory & Hybridisation	73
Molecular Orbital Theory	69
Ionic Bonding	32

How often it comes up

Chemical Bonding & Molecular Structure is one of the heaviest pillars in the state engineering entrance exam, sitting at rank 3 among all 31 chemistry chapters between 2022 and 2026. Across our entire archive spanning 2010 through 2026, the chapter contributed 370 questions across 149 papers, representing 6.2 percent of the chemistry section with an overall rate of 2.5 questions per paper. In the modern window from 2022 to 2026, it provided 183 questions over 77 sittings, sustaining 2.4 questions per paper and 5.9 percent subject share.

Every candidate sitting for an engineering shift encounters this chapter. It holds a perfect record, appearing in every paper between 2022 and 2026. Looking at individual state streams during this period, AP papers carried 103 questions across 48 sittings (2.1 questions per paper, 5.4 percent share), while TS papers gathered 80 questions over 29 sittings (2.8 questions per paper, 6.9 percent share).

Earlier examinations from 2010 through 2021 featured 187 questions across 72 papers, which worked out to 2.6 per sitting and 6.5 percent of the subject. In the recent three-year stretch between 2024 and 2026, examiners set 103 questions across 46 papers, averaging 2.2 questions per test and 5.6 percent share. Comparing the early era with the last three years shows a share trend that is down, whereas comparing the five-year recent window with the last three years shows the share is about the same. With two or three questions appearing in every shift, mastering this chapter is mandatory for building early momentum.

Most-asked topics

Every core model in chemical bonding is systematically tested across the state question banks:

- **VSEPR & Molecular Shapes** leads the chapter with 94 total questions and 48 in the recent window up to 2026. Problems ask you to deduce geometries, loan pairs, and bond angles for p-block halides and noble gas species.
- **Covalent Bonding & Lewis Structures** contributed 75 questions overall (39 recent, active through 2026). Questions test formal charges, resonance, dipole moments, and relative bond parameters like length and strength.
- **Valence Bond Theory & Hybridisation** accounts for 73 questions (35 recent, asked up to 2026). Typical items evaluate central atom hybridisation states, d-orbital participation, and adduct formation geometry.
- **Molecular Orbital Theory** provided 69 questions (33 recent, active in 2026). Questions focus on homonuclear and heteronuclear diatomics, valence electron counts up to twenty, bond order determination, and magnetic characteristics.
- **Ionic Bonding** accounts for 32 questions (14 recent, last asked in 2026), focusing on lattice enthalpy, Born-Haber thermochemical cycles, and polarization via Fajans rules.
- **Hydrogen Bonding & Intermolecular Forces** rounds out the syllabus with 27 questions (14 recent, asked in 2026), covering boiling point anomalies, ortho-para isomer separations, and intramolecular versus intermolecular bridges.

What the questions look like

Exam questions are conceptual and rapid to solve once structural rules are clear. A major family of problems presents four to six chemical formulas and asks you to count how many species share a specific property, such as having a nonzero dipole moment, having identical hybridisation, or having an integer bond order.

Another standard pattern tests comparative trends: sorting molecules in ascending bond angles (such as comparing water and sulphur dioxide where lone pair repulsions differ), ranking halides by covalent character using cationic charge density, or selecting the incorrect statement among listed physical properties. Molecular orbital theory items frequently ask you to evaluate paramagnetic species or determine whether a molecule or ion has a bond order of one, two, or fractional values.

How to practise it

Begin by building clean structural drafting habits. Draw the correct Lewis dot structures for common central atoms from groups 14, 15, 16, 17, and 18. Count sigma bonds and lone pairs to quickly deduce steric numbers without hesitation. Memorise the standard shapes and deviations caused by lone pair lone pair repulsions.

Next, master molecular orbital diagrams for diatomics. Know the inversion of pi and sigma levels between species with fourteen or fewer electrons and those with more than fourteen electrons. Practise rapid counting of bonding and antibonding electrons so that bond orders and unpaired electron counts take under forty seconds. Finally, review Fajans principles regarding polarisability and the influence of intramolecular hydrogen bonding on physical constants like volatility and melting points.

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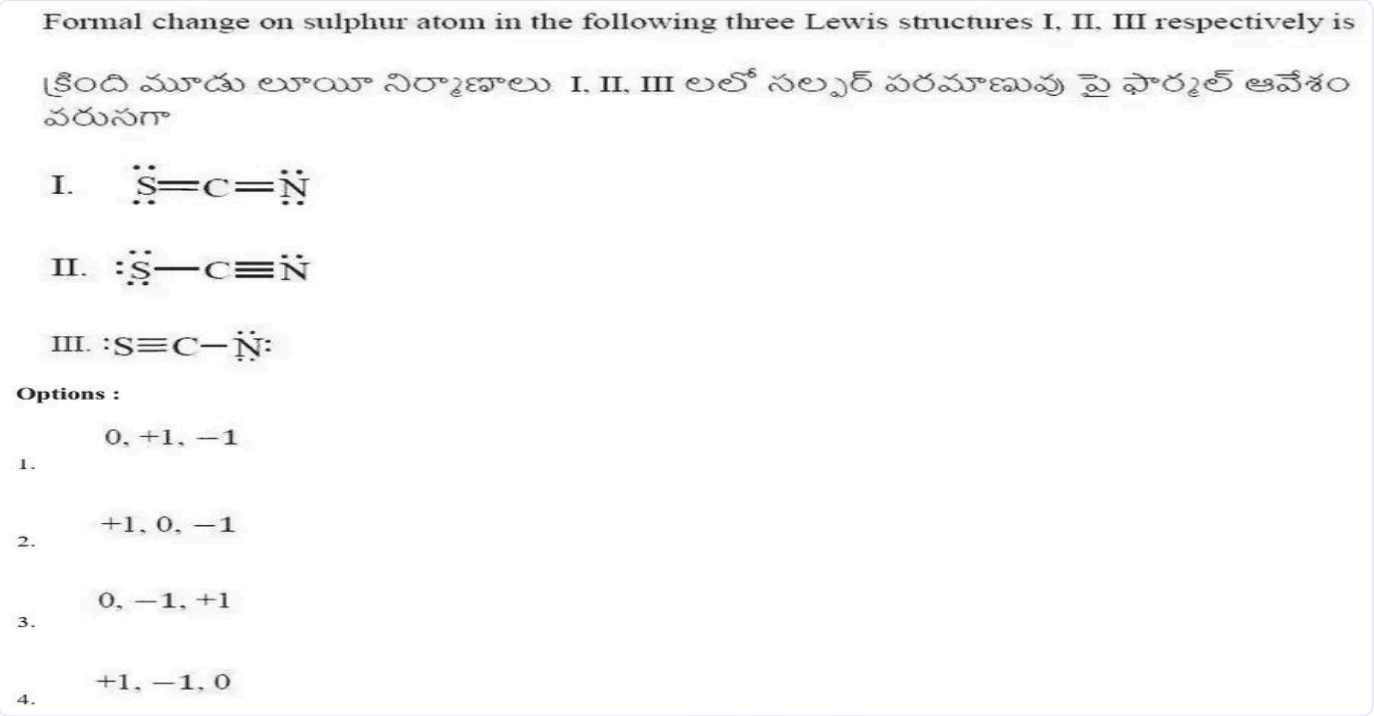
Q1 AP EAPCET 2026 · 18 May · Shift 1 MCQ

Formal change on sulphur atom in the following three Lewis structures I, II, III respectively is

(see the figure above)



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

Answer: (C) $0, -1, +1$ · The council's preliminary key

Q2 AP EAPCET 2026 · 18 May · Shift 1 MCQ

Which of the following sets contain isostructural molecules?

I. $H_2O,\ OF_2,\ SCl_2$

II. $CO_2,\ BeCl_2,\ HgCl_2$

III. $SiCl_4,\ SF_4,\ XeF_4$

Correct answer is

(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

Q3 AP EAPCET 2026 · 18 May · Shift 2 MCQ

In which of the following sets, molecules are correctly arranged in the decreasing order of covalent character?

I. $AlCl_3 > MgCl_2 > NaCl$

II. $BeCl_2 > MgCl_2 > CaCl_2$

III. $CaI_2 > CaBr_2 > CaCl_2$

Correct answer is

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

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

Q4 AP EAPCET 2026 · 18 May · Shift 2 MCQ

Observe the following statements

Statement – I: The correct order of $O-O$ bond length in O_2, H_2O_2 and O_3 is $H_2O_2 > O_3 > O_2$

Statement – II: Hybridisation of carbon in graphite and pyridine is same

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

Q5 AP EAPCET 2026 · 15 May · Shift 1 MCQ

Which of the following sets of molecules / ions represent isoelectronic species?

I. NO^+, CN^-, CO, O_2^{2+}

II. NH_3, Al^{3+}, Ne, F^-

III. O_2^+, NO, N_2^-, H_2O

The correct answer is

(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

Q6 AP EAPCET 2026 · 15 May · Shift 1 MCQ

Given below are two statements

Statement – I: London forces between two particles are proportional to r^{-6}, where 'r' is the distance between two particles

Statement – II: The dipole-dipole interaction energy in a solid is proportional to r^{-3}, where r is the distance between two polar molecules

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

Q7 AP EAPCET 2026 · 15 May · Shift 2 MCQ

Identify the correct set of molecules / ions in which hybridization of central atom is not same

(A) H_2O, NH_3, CH_4
(B) H_3O^+, NH_4^+, ClO_4^-
(C) CH_3^+, BF_3, SO_2
(D) SF_4, XeF_4, SO_3

Answer: (D) SF_4, XeF_4, SO_3 · The council's preliminary key

Q8 AP EAPCET 2026 · 15 May · Shift 2 MCQ

Match the following

List – I (molecule / Ion)		List – II (Bond order and magnetic property)
A O_2^-	I	1.5 – Paramagnetic
B O_2	II	2.0 – Paramagnetic
C C_2^{2-}	III	3.0 – Diamagnetic
D B_2	IV	1.0 – Paramagnetic

The correct answer is

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

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

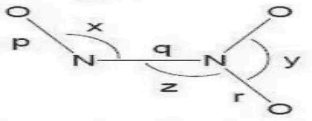
Q9 AP EAPCET 2026 · 14 May · Shift 1 MCQ

Following is the structural representation of N_2O_3 molecule in which x, y, z are bond angles and p, q, r are bond lengths

(see the figure above)

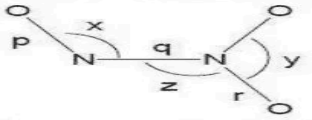
The correct orders of bond angles and bond lengths respectively are

Following is the structural representation of N_2O_3 molecule in which x, y, z are bond angles and p, q, r are bond lengths



The correct orders of bond angles and bond lengths respectively are

N_2O_3 యొక్క నిర్మాణాత్మక ప్రాతినిధ్యం (representation) క్రింది విధంగా ఉంది. దీనిలో x, y, z లు బంధ కోణాలు మరియు p, q, r లు బంధ దైర్ఘ్యాలు



బంధ కోణాల మరియు బంధ దైర్ఘ్యాల సరైన క్రమాలు వరుసగా

Options :

1. $x < z < y$ & $p < q < r$
2. $x < y < z$ & $p < r < q$
3. $x < z < y$ & $p < r < q$
4. $x < y < z$ & $p < q < r$

(A) $x < z < y$ & $p < q < r$
(B) $x < y < z$ & $p < r < q$
(C) $x < z < y$ & $p < r < q$
(D) $x < y < z$ & $p < q < r$

Answer: (C) $x < z < y$ & $p < r < q$ · The council's preliminary key

Q10 AP EAPCET 2026 · 14 May · Shift 1 MCQ

How many of the following molecules are linear with no lone pairs of electrons on the central atom?

$BeCl_2$, O_3, SCl_2, XeF_2, $SnCl_2$, $PbCl_2$, $HgCl_2$

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

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

Q11 AP EAPCET 2026 · 14 May · Shift 2 MCQ

Which of the following statements are correct about CO_3^{2-} ion?

I. The hybridisation of central atom is sp^3

II. The average formal charge on each oxygen atom is 0.67

III. The resonance hybrid structure has one C−O single bond and two C=O double bonds

IV. All C−O bond lengths are equal

(only)

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

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

Q12 AP EAPCET 2026 · 14 May · Shift 2 MCQ

In which of the following, the number of valence electrons is maximum?

(A) PO_4^{3-}
(B) SO_3^{2-}
(C) CO_3^{2-}
(D) CNO^-

Answer: (A) PO_4^{3-} · The council's preliminary key

Q13 AP EAPCET 2026 · 13 May · Shift 1 MCQ

Identify the correct pair of species having same number of valency electrons

(A) SF_4, ClO_3^-
(B) PO_4^{3-}, SF_4
(C) ClF_3, SO_4^{2-}
(D) CCl_4, PO_4^{3-}

Answer: (D) CCl_4, PO_4^{3-} · The council's preliminary key

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Q14 AP EAPCET 2026 · 13 May · Shift 1 MCQ

Which of the following orders is not correct for the property mentioned against them?

(A) $H_2O > HF > NH_3 > H_2S$ — boiling point
(B) $H_2O > NH_3 > NF_3 > CF_4$ — dipole moment
(C) $C-C > N-O > C-O > C-H$ — bond length
(D) $O_2^+ > O_2 > O_2^- > O_2^{2-}$ — bond order

Answer: (C) $C-C > N-O > C-O > C-H$ **— bond length** · The council's preliminary key

Q15 AP EAPCET 2026 · 13 May · Shift 2 MCQ

Which one of the following orders is not correctly matched with the property mentioned against it?

(A) $HCl < O_2 < N_2$ – Bond dissociation energy
(B) $H_2O < O_3 < SO_2$ – Bond angle
(C) $CHCl_3 < NF_3 < NH_3$ – Dipole moment
(D) $KF < NaF < LiF$ – Covalent character

Answer: (C) $CHCl_3 < NF_3 < NH_3$ **– Dipole moment** · The council's preliminary key

Q16 AP EAPCET 2026 · 13 May · Shift 2 MCQ

Which of the following statements is not correct?

(A) CO, N_2, O_2^{2+} have same bond order
(B) The bond between third element of 1st group and second element of 17th group is ionic in nature
(C) The total number of sp^2 hybrid orbitals in benzene is 12
(D) o-Nitro phenol has intramolecular H-bonding

Answer: (C) The total number of sp^2 hybrid orbitals in benzene is 12 · The council's preliminary key

Q17 AP EAPCET 2026 · 13 May · Shift 2 MCQ

The conjugate base of hydrogen carbonate ion is X. The hybridization of central atom in X is

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

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

Q18 AP EAPCET 2026 · 12 May · Shift 1 MCQ

Observe the following sets of molecules and identify the set in which all molecules have dipole moment

(A) H_2S, C_6H_6, CO_2
(B) H_2O, NH_3, HCl
(C) $BeCl_2$, CS_2, BBr_3
(D) $PbCl_2$, $SnCl_2$, $HgCl_2$

Answer: (B) H_2O, NH_3, HCl · The council's preliminary key

Q19 AP EAPCET 2026 · 12 May · Shift 2 MCQ

The number of species having bond order ≥ 2 from the following is

$N_2, O_2^{2-}, NO^-, O_2^+, NO^+, NO$

(A) 4
(B) 6
(C) 5
(D) 3

Answer: (C) 5 · The council's preliminary key

Q20 AP EAPCET 2026 · 12 May · Shift 2 MCQ

The pair of molecules with same type of hybridisation is

(A) H_3BO_3, H_3PO_3
(B) NO_2, SO_3
(C) XeO_3, BF_3
(D) PCl_3, ClF_3

Answer: (B) NO_2, SO_3 · The council's preliminary key

Q21 TS EAPCET 2026 · 11 May · Shift 1 MCQ

Identify the correct orders of covalent character of given molecules

I. $KI > KBr > KCl > KF$

II. $LiCl > NaCl > KCl > RbCl$

III. $CsCl > CaCl_2 > MgCl_2 > AlCl_3$

The correct answer is

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

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

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Q22 TS EAPCET 2026 · 11 May · Shift 1 MCQ

Match the following

List-1 (Molecule)	List-2 (Geometry)
A BrF_5	I T-Shape
B XeF_4	II See-Saw
C ClF_3	III Square planar
D SF_4	IV Square pyramid

The correct answer is

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

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

Q23 TS EAPCET 2026 · 11 May · Shift 2 MCQ

Consider the following

$HF, H_2O, BeCl_2, CO_2, BF_3, NF_3, CCl_4, CHCl_3$

The number of polar molecules is

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

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

Q24 TS EAPCET 2026 · 11 May · Shift 2 MCQ

How many of the following molecules / ions are paramagnetic in nature?

N_2, O_2, F_2, NO, CO, O_2^+, O_2^-, O_2^{2-}, N_2^+, NO^+, NO^-, H_2

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

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

Q25 TS EAPCET 2026 · 10 May · Shift 1 MCQ

Which of the following sets are correctly matched?

Sl. No.	Molecules	Number of lone pairs of electrons on central atom
I	SO_2, $PbCl_2$, SF_4	1
II	XeF_4, H_2O, BrF_3	2
III	CCl_4, XeF_6, IF_7	0

The correct answer is

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

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

Q26 TS EAPCET 2026 · 10 May · Shift 1 MCQ

In which of the following hydrogen bond does not exist?

(A) Salicylaldehyde
(B) Catechol
(C) Salicylic acid
(D) Acetophenone

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

Q27 TS EAPCET 2026 · 10 May · Shift 1 MCQ

In which of the following, carbon uses sp^3 hybrid orbital for bond formation with oxygen?

(A) Formic acid
(B) Urea
(C) t-Butylalcohol
(D) Acetaldehyde

Answer: (C) t-Butylalcohol · The council's preliminary key

Q28 TS EAPCET 2026 · 10 May · Shift 2 MCQ

The set of molecules with different geometry and same type of hybridization is

(A) CH_4, PCl_5, SF_6
(B) H_2O, BeF_2, PCl_3
(C) CH_4, NH_3, H_2O
(D) CO_2, SO_2, SO_3

Answer: (C) CH_4, NH_3, H_2O · The council's preliminary key

Q29 TS EAPCET 2026 · 10 May · Shift 2 MCQ

Given below are two statements

Statement-I: In the conversion of O_2^+ to O_2^{2+} bond length increases

Statement-II: In the conversion of O_2^+ to O_2^{2+} magnetic property changes

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

Q30 TS EAPCET 2026 · 10 May · Shift 2 MCQ

Consider the reactions (not balanced)

$$BF_3 + NaH \xrightarrow{450\ K} A + NaF$$
$$LiH + A \longrightarrow Li^+[X]^-$$

The hybridisation involved in $[X]^-$ is

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

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

Q31 TS EAPCET 2026 · 9 May · Shift 1 MCQ

Identify the correct orders for the given property

I. $C-H < N-O < C-O < C-C$ - bond length

II. $H_2S < O_3 < NO_2 < CO_2$ - bond angle

III. $He_2^+ < B_2 < C_2 < N_2$ - bond order

The correct answer is
(only)

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

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

Q32 TS EAPCET 2026 · 9 May · Shift 1 MCQ

Consider the following

$Li_2, B_2, Be_2, C_2, O_2, O_2^-, O_2^{2-}, F_2$

The number of species with bond order value 1 is

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

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

Q33 TS EAPCET 2026 · 9 May · Shift 2 MCQ

The difference in bond angles between SO_2 and H_2O is

(A) 12.5°
(B) 17.5°
(C) 15.0°
(D) 13.0°

Answer: (C) 15.0° · The council's preliminary key

Q34 TS EAPCET 2026 · 9 May · Shift 2 MCQ

BF_3 reacts with NH_3 in 1:1 ratio and gives 'X'. The hybridization and geometry around B and N atoms in 'X' respectively are

(tetrahedral, trigonal planar, pyramidal)

(A) sp^3, tetrahedral ; sp^3, tetrahedral
(B) sp^2, trigonal planar ; sp^3, tetrahedral
(C) sp^2, trigonal planar ; sp^3, pyramidal
(D) sp^3, tetrahedral ; sp^2, trigonal planar

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

Q35 AP EAPCET 2025 · 27 May · Shift 1 MCQ

Which of the following sets are correctly matched ?

	Molecule	Hybridization	Geometry
I.	BrF_5	sp^3d^2	square pyramidal
II.	XeF_6	sp^3d^3	Distorted octahedral
III.	SF_4	dsp^2	square planar
IV.	$PbCl_2$	sp	linear

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

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

Q36 AP EAPCET 2025 · 27 May · Shift 1 MCQ

The order of dipole moments of H_2O (A), $CHCl_3$ (B) and NH_3 (C) is

(A) $B < A < C$
(B) $B < C < A$
(C) $C < B < A$
(D) $C < A < B$

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

Q37 AP EAPCET 2025 · 26 May · Shift 1 MCQ

The correct order of increasing bond lengths of $C-H$, $O-H$, $C-C$ and $H-H$ is

(A) $O-H < H-H < C-C < C-H$
(B) $C-C < C-H < H-H < O-H$
(C) $C-C < O-H < H-H < C-H$
(D) $H-H < O-H < C-H < C-C$

Answer: (D) $H-H < O-H < C-H < C-C$ · The council's preliminary key

Q38 AP EAPCET 2025 · 26 May · Shift 1 MCQ

The sum of the bond orders of O_2^{2+}, O_2^{2-}, O_2^{+}, O_2^{-}, O_2 and sum of the unpaired electrons present in them respectively are

(A) 10, 4
(B) 10, 6
(C) 8, 4
(D) 8, 6

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

Q39 AP EAPCET 2025 · 26 May · Shift 2 MCQ

Match the following

List-I (Molecule)	List-II (Dipole moment in D)
A) $HC\ell$	I) 1.85
B) NH_3	II) 1.07

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C) H_2O III) 0.23

D) NF_3 IV) 1.47

The correct answer is

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

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

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

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

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

Q40 AP EAPCET 2025 · 26 May · Shift 2 MCQ

Which of the following sets are correctly matched ?

Molecule	Number of lone pairs of electrons on central atom	Hybridization
I) PCl_3	1	sp^3
II) SO_2	2	sp^3
III) SF_4	2	sp^3d^2
IV) ClF_3	2	sp^3d

(A) I & II

(B) II & III

(C) II & IV

(D) I & IV

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

Q41 AP EAPCET 2025 · 26 May · Shift 2 MCQ

Observe the following (Products)

$P_4 + SOCl_2 \longrightarrow Products$

$P_4 + SO_2Cl_2 \longrightarrow Products$

In both the reactions, a common product 'x' is obtained. The number of lone pair of elecrons on the central atom of x is

(A) 1

(B) 2

(C) 3

(D) zero

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

Q42 AP EAPCET 2025 · 24 May · Shift 1 MCQ

The number of molecules having lone pair of electrons on central atom in the following is

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$BF_3, SF_4, SiCl_4, XeF_4, NCl_3, XeF_6, PCl_5, HgCl_2, SnCl_2$

(A) 6
(B) 3
(C) 4
(D) 5

Answer: (D) 5 · The council's preliminary key

Q43 AP EAPCET 2025 · 24 May · Shift 1 MCQ

Observe the following substances.

Ethanol, acetic acid, ethylamine, trimethylamine, salicylic acid, ethanal.

In the above list, the number of substances with H-bonding is

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

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

Q44 AP EAPCET 2025 · 23 May · Shift 1 MCQ

A molecule has T-shape. The total number of electron pairs in the valence shell of central atom of it is

(A) 4
(B) 5
(C) 6
(D) 3

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

Q45 AP EAPCET 2025 · 23 May · Shift 1 MCQ

The sum of bond order values of C_2 and O_2^{2+} is x, which is equal to sum of bond order values of a, b and c. What are a,b and c ?

(A) O_2^-, O_2^+, O_2
(B) B_2, N_2, F_2
(C) He_2^+, F_2, N_2
(D) O_2^{2-}, N_2, Be_2

Answer: (B) B_2, N_2, F_2 · The council's preliminary key

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Q46 AP EAPCET 2025 · 23 May · Shift 2 MCQ

Identify the pair of molecules which have same hybridisation as the hybridisation in Xenon (II) fluoride.

(A) XeO_3, SF_4
(B) BrF_5, PF_5
(C) ClF_3, SF_4
(D) PCl_3, NH_3

Answer: (C) ClF_3, SF_4 · The council's preliminary key

Q47 AP EAPCET 2025 · 22 May · Shift 1 MCQ

How many of the following molecules / ions have trigonal planar structure ?

BO_3^{3-}, NH_3, PCl_3, BCl_3, ClF_3, XeO_3

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

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

Q48 AP EAPCET 2025 · 22 May · Shift 1 MCQ

Consider the following

Assertion (A) : Dipole moment of NF_3 is lesser than NH_3

Reason (R) : In NF_3, the orbital dipole due to lone pair of electrons is in the opposite direction to the resultant dipole moment of the three N-F bonds

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 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) Both (A) and (R) are correct and (R) is the correct explanation of (A) · The council's preliminary key

Q49 AP EAPCET 2025 · 22 May · Shift 2 MCQ

How many of the following molecules have two lone pairs of electrons on central atom ?

SF_6, BF_3, ClF_3, PCl_5, BrF_5, XeF_4, H_2O, SF_4

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

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

Q50 AP EAPCET 2025 · 22 May · Shift 2 MCQ

The pair of molecules / ions with the same bond order value is

(A) B_2, C_2
(B) O_2, C_2
(C) O_2^+, O_2^-
(D) H_2^+, Li_2

Answer: (B) O_2, C_2 · The council's preliminary key

Q51 AP EAPCET 2025 · 21 May · Shift 1 MCQ

In which of the following intramolecular H-bonding is absent ?

(A) Salicylic acid
(B) Salicylaldehyde
(C) Quinol
(D) Catechol

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

Q52 AP EAPCET 2025 · 21 May · Shift 1 MCQ

Identify the correct set of molecules with zero dipole moment.

(A) CO_2, NH_3, H_2O
(B) NH_3, NF_3, BF_3
(C) PF_3, NH_3, CH_4
(D) CH_4, BF_3, CO_2

Answer: (D) CH_4, BF_3, CO_2 · The council's preliminary key

Q53 AP EAPCET 2025 · 21 May · Shift 2 MCQ

Consider the following changes I and II

$$O_2^- \xleftarrow{II} O_2 \xrightarrow{I} O_2^+$$

The correct statements about these changes (I) and (II) in accordance with MO theory are

(only = మాత్రమే)

A) In (I) bond order increases by 0.5 from the existing value

B) In (II) bond order decreases by 1.0 from the existing value

C) In both (I) and (II) magnetic property is not changed

D) In both (I) and (II) magnetic property is changed

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

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

Q54 AP EAPCET 2025 · 21 May · Shift 2 MCQ

The increasing order of number of lone pair of electrons on the central atom of the following molecules is

I) ClF_3 II) XeF_2 III) SF_4 IV) SiH_4

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

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

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Q55 TS EAPCET 2025 · 4 May · Shift 1 MCQ

In which of the following options, the molecules are correctly arranged in the increasing order of their bond angles?

(A) $NH_3 < O_3 < H_2O < SO_2$
(B) $H_2O < O_3 < NH_3 < SO_2$
(C) $H_2O < NH_3 < SO_2 < O_3$
(D) $H_2O < NH_3 < O_3 < SO_2$

Answer: (D) $H_2O < NH_3 < O_3 < SO_2$ · The council's preliminary key

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Q56 TS EAPCET 2025 · 4 May · Shift 1 MCQ

In which of the following, the compounds are correctly arranged in the decreasing order of boiling points?

(A) $HF > H_2O > NH_3 > PH_3$
(B) $H_2O > HF > NH_3 > PH_3$
(C) $H_2O > HF > PH_3 > NH_3$
(D) $HF > NH_3 > H_2O > PH_3$

Answer: (B) $H_2O > HF > NH_3 > PH_3$ · The council's preliminary key

Q57 TS EAPCET 2025 · 4 May · Shift 1 MCQ

Arrange the following molecules in the correct order of their bond angles

S_8 P_4 S_6 O_3

A B C D

(A) A < C < D < B
(B) B < A < C < D
(C) C < B < A < D
(D) B < C < A < D

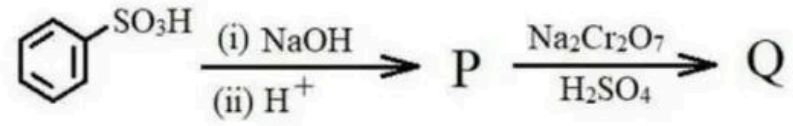
Answer: (D) B < C < A < D · The council's preliminary key

Q58 TS EAPCET 2025 · 4 May · Shift 1 MCQ

The ratio of σ bonds to π bonds in Q is

(see the figure above)

The ratio of σ bonds to π bonds in Q is
Q నందు σ బంధాలు మరియు π బంధాల నిష్పత్తి



Options :

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1. 3:1
2. 1:3
3. 4:1
4. 2:1

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

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

Q59 TS EAPCET 2025 · 4 May · Shift 2 MCQ

The atomic numbers of the elements X, Y, Z are a, a + 1, a + 2 respectively. Z is an alkali metal. The nature of bonding in the compound formed by X and Z is

(A) Covalent
(B) Metallic
(C) Ionic
(D) Coordinate covalent

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

Q60 TS EAPCET 2025 · 4 May · Shift 2 MCQ

The sets of molecules in which central atom has no lone pair of electrons are:

i. $SnCl_2$, NH_3, SF_4

ii. $HgCl_2$, SO_3, SF_6

iii. $BeCl_2$, BF_3, PCl_5

iv. ClF_3, BrF_5, XeF_6

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

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

Q61 TS EAPCET 2025 · 4 May · Shift 2 MCQ

The number of lone pairs of electrons on the central atom of XeO_3, $XeOF_4$ and XeF_6 respectively is

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

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

Q62 TS EAPCET 2025 · 3 May · Shift 1 MCQ

The sum of bond order of O_2^+, O_2^-, O_2 and O_2^{2+} is equal to

(A) 5
(B) 4
(C) 6
(D) 9

Answer: (D) 9 · The council's preliminary key

Q63 TS EAPCET 2025 · 3 May · Shift 1 MCQ

Observe the following statements

Statement – I: Hybridisation is not same in both SF_6 and BrF_5.

Statement – II: BrF_5 is Square pyramidal while SF_6 is octahedral in shape

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

Q64 TS EAPCET 2025 · 3 May · Shift 1 MCQ

In which of the following, intramolecular hydrogen bonding is present?

(A) Resorcinol
(B) Catechol
(C) Quinol
(D) o-Cresol

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

Q65 TS EAPCET 2025 · 3 May · Shift 2 MCQ

If the sum of bond orders of O_2^- and O_2^{2-} is x, then bond order of O_2^{2+} will be

(A) $1.20x$
(B) $1.33x$
(C) $1.50x$
(D) $2.50x$

Answer: (A) $1.20x$ · The council's preliminary key

Q66 TS EAPCET 2025 · 3 May · Shift 2 MCQ

Identify the molecule / ion in which the ratio of σ to π bonds is 3:2

(A) HCO_3^-
(B) $CH_2(CN)_2$
(C) $HClO_4$
(D) XeO_3

Answer: (B) $CH_2(CN)_2$ · The council's preliminary key

Q67 TS EAPCET 2025 · 2 May · Shift 1 MCQ

Identify the pair of molecules in which the hybridization of the central atom is sp^2 with bent geometry

(A) H_2O, SO_2
(B) SO_2, O_3
(C) H_2O, O_3
(D) N_2O, H_2O

Answer: (B) SO_2, O_3 · The council's preliminary key

Q68 TS EAPCET 2025 · 2 May · Shift 1 MCQ

Consider the following statements.

I. In the conversion of O_2 to O_2^{2+} bond order decreases.

II. In the conversion of O_2 to O_2^{2+} magnetic property is not changed.

III. In the conversion of O_2 to O_2^{2+} bond length decreases.

IV. O_2^{2-} and B_2 have same bond order.

Identify the correct statements

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

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

Q69 TS EAPCET 2025 · 2 May · Shift 1 MCQ

The increasing order of boiling points of the following is

CH_3-O-CH_3 CH_3CHO $CH_3CH_2CH_3$ CH_3CH_2OH

I II III IV

(A) $I < III < II < IV$
(B) $III < I < II < IV$
(C) $I < IV < III < II$
(D) $III < I < IV < II$

Answer: (B) $III < I < II < IV$ · The council's preliminary key

Q70 TS EAPCET 2025 · 2 May · Shift 2 MCQ

Observe the following list of molecules. Number of polar and non polar molecules are respectively

$$NH_3, BF_3, NF_3, H_2S, CO_2, CH_4, CHCl_3, H_2O$$

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(A) 4, 4
(B) 3, 5
(C) 5, 3
(D) 2, 6

Answer: (C) 5, 3 · The council's preliminary key

Q71 TS EAPCET 2025 · 2 May · Shift 2 MCQ

The molecule 'X' has see-saw shape with central atom in sp^3d hybridization. What is 'X'?

(A) ClF_3
(B) XeF_4
(C) SF_4
(D) BrF_5

Answer: (C) SF_4 · The council's preliminary key

Q72 AP EAPCET 2024 · 23 May · Shift 1 MCQ

Identify the set of molecules in which the central atom has only one lone pair of electrons in their valence shells

(A) $BrF_5, SF_4, SnCl_2$
(B) $BrF_5, XeF_4, SnCl_2$
(C) XeF_4, NH_3, ClF_3
(D) XeF_6, ClF_3, SF_4

Answer: (A) $BrF_5, SF_4, SnCl_2$ · The council's preliminary key

Q73 AP EAPCET 2024 · 23 May · Shift 1 MCQ

The bond order of which of the following two species is same?

(A) O_2, N_2
(B) C_2, O_2
(C) B_2, C_2
(D) F_2, C_2

Answer: (B) C_2, O_2 · The council's preliminary key

Q74 AP EAPCET 2024 · 22 May · Shift 1 MCQ

In which of the following, there is no change in hybridisation of the central atom?

(A) $NH_3 + H^+ \rightarrow NH_4^+$

(B) $BF_3 + F^- \rightarrow BF_4^-$

(C) $PCl_3 + Cl_2 \rightarrow PCl_5$

(D) $ClF_3 + F_2 \rightarrow ClF_5$

Answer: (A) $NH_3 + H^+ \rightarrow NH_4^+$ · The council's preliminary key

Q75 AP EAPCET 2024 · 22 May · Shift 1 MCQ

In which of the following sets the sum of bond orders of three species is maximum?

(A) B_2, CN^-, O_2^{2-}

(B) O_2, F_2, O_2^{2+}

(C) O_2^-, N_2, O_2^+

(D) C_2, O_2, He_2^{2+}

Answer: (C) O_2^-, N_2, O_2^+ · The council's preliminary key

Q76 AP EAPCET 2024 · 22 May · Shift 2 MCQ

The number of lone pairs of electrons on the central atom of BrF_5, XeO_3, SO_2 respectively are

(A) 1, 1, 2

(B) 1, 2, 2

(C) 2, 2, 1

(D) 1, 1, 1

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

Q77 AP EAPCET 2024 · 21 May · Shift 1 MCQ

Which of the following orders are correct regarding their covalent character?

i. $KF < KI$

ii. $LiF < KF$

iii. $SnCl_2 < SnCl_4$

iv. $NaCl < CuCl$

The correct option is

(A) i, ii, iii only

(B) ii, iii, iv only

(C) i, iii, iv only

(D) i, ii, iv only

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

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Q78 AP EAPCET 2024 · 21 May · Shift 1 MCQ

Observe the following sets

	Order	Property
i.	$NH_3 > H_2O > SO_2$	Bond angle
ii.	$H_2O > NH_3 > H_2S$	Dipole moment
iii.	$N_2 > O_2 > H_2$	Bond enthalpy
iv.	$NO^+ > O_2 > O_2^{2-}$	Bond order

Which of the above sets are correctly matched?

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

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

Q79 AP EAPCET 2024 · 21 May · Shift 2 MCQ

The correct order of covalent bond character of BCl_3, CCl_4, $BeCl_2$, $LiCl$ is

(A) $LiCl < BeCl_2 < BCl_3 < CCl_4$
(B) $CCl_4 < BeCl_2 < BCl_3 < LiCl$
(C) $CCl_4 < BCl_3 < BeCl_2 < LiCl$
(D) $LiCl < BCl_3 < BeCl_2 < CCl_4$

Answer: (A) $LiCl < BeCl_2 < BCl_3 < CCl_4$ · The council's preliminary key

Q80 AP EAPCET 2024 · 21 May · Shift 2 MCQ

In which of the following pairs, both molecules possess dipole moment?

(A) CO_2, BCl_3
(B) BCl_3, NF_3
(C) CO_2, SO_2
(D) SO_2, NF_3

Answer: (D) SO_2, NF_3 · The council's preliminary key

Q81 AP EAPCET 2024 · 20 May · Shift 1 MCQ

The correct order of bond angles of the molecules $SiCl_4$, SO_3, NH_3, $HgCl_2$ is

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(A) $SO_3 > SiCl_4 > NH_3 > HgCl_2$

(B) $SiCl_4 > NH_3 > HgCl_2 > SO_3$

(C) $HgCl_2 > SO_3 > NH_3 > SiCl_4$

(D) $HgCl_2 > SO_3 > SiCl_4 > NH_3$

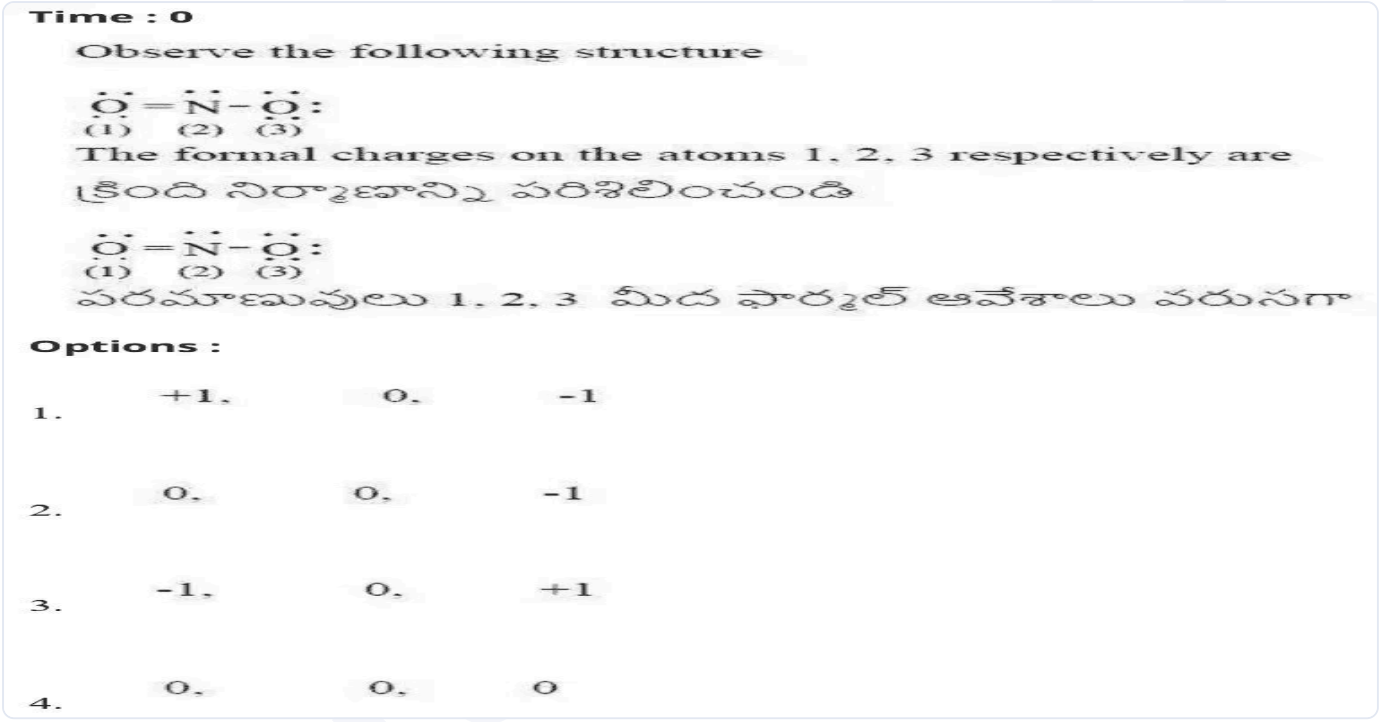
Answer: (D) $HgCl_2 > SO_3 > SiCl_4 > NH_3$ · The council's preliminary key

Q82 AP EAPCET 2024 · 20 May · Shift 1 MCQ

Observe the following structure

(see the figure above)

The formal charges on the atoms 1, 2, 3 respectively are



(A) +1, 0, -1

(B) 0, 0, -1

(C) -1, 0, +1

(D) 0, 0, 0

Answer: (B) 0, 0, -1 · The council's preliminary key

Q83 AP EAPCET 2024 · 20 May · Shift 2 MCQ

Observe the following reactions. Identify the reaction in which the hybridisation of underlined atom is changed

(A) $\underline{N}H_3 + H^+ \longrightarrow \underline{N}H_4^+$

(B) $\underline{P}Cl_3 + 3\,H_2O \longrightarrow H_3\underline{P}O_3 + 3\,HCl$

(C) $NaNO_3 + H_2\underline{S}O_4 \longrightarrow NaH\underline{S}O_4 + HNO_3$

(D) $\underline{Xe}F_6 + H_2O \longrightarrow \underline{Xe}OF_4 + 2\,HF$

Answer: (D) $\underline{Xe}F_6 + H_2O \longrightarrow \underline{Xe}OF_4 + 2\,HF$ · The council's preliminary key

Q84 AP EAPCET 2024 · 20 May · Shift 2 MCQ

Among the following species, correct set of isostructural pairs are

$XeO_3, CO_3^{2-}, SO_3, H_3O^+, ClF_3$

(A) (XeO_3, CO_3^{2-}) & (SO_3, H_3O^+)

(B) (XeO_3, SO_3) & (CO_3^{2-}, H_3O^+)

(C) (XeO_3, H_3O^+) & (SO_3, CO_3^{2-})

(D) (SO_3, ClF_3) & (XeO_3, CO_3^{2-})

Answer: (C) (XeO_3, H_3O^+) & (SO_3, CO_3^{2-}) · The council's preliminary key

Q85 AP EAPCET 2024 · 19 May · Shift 2 MCQ

In which of the following sets of molecules, the central atoms of molecules have same hybridisation?

(A) NH_3, ClF_3

(B) H_2O, SO_3

(C) SF_4, CH_4

(D) XeF_6, IF_7

Answer: (D) XeF_6, IF_7 · The council's preliminary key

Q86 AP EAPCET 2024 · 19 May · Shift 2 MCQ

The correct increasing order of number of lone pair of electrons on the central atom of $SnCl_2$, XeF_2, ClF_3 and SO_3 is

(A) $SO_3 < ClF_3 < SnCl_2 < XeF_2$

(B) $SO_3 < SnCl_2 < ClF_3 < XeF_2$

(C) $XeF_2 < SnCl_2 < ClF_3 < SO_3$

(D) $XeF_2 < ClF_3 < SnCl_2 < SO_3$

Answer: (B) $SO_3 < SnCl_2 < ClF_3 < XeF_2$ · The council's preliminary key

Q87 AP EAPCET 2024 · 18 May · Shift 1 MCQ

The bond lengths of diatomic molecules of elements X, Y and Z respectively are 143, 110 and 121 pm. The atomic numbers of X, Y and Z respectively are:

(A) 9, 7, 8
(B) 7, 8, 9
(C) 9, 8, 7
(D) 7, 9, 8

Answer: (A) 9, 7, 8 · The council's preliminary key

Q88 AP EAPCET 2024 · 18 May · Shift 1 MCQ

The correct formula used to determine the formal charge (Q_f) on an atom in the given Lewis structure of a molecule or ion is
(V = number of valence electrons in free atom, U = number of unshared electrons on the atom, B = number of bonds around the atom)

(A) $Q_f = V - \left(\frac{U}{B}\right)$
(B) $Q_f = V + (U - B)$
(C) $Q_f = V - (U + B)$
(D) $Q_f = V - \left(\frac{B}{U}\right)$

Answer: (C) $Q_f = V - (U + B)$ · The council's preliminary key

Q89 TS EAPCET 2024 · 11 May · Shift 1 MCQ

According to molecular orbital theory, which of the following statement is not correct?

(A) C_2 molecule is diamagnetic in nature
(B) Bond order of C_2 molecule is 2
(C) C_2^- ion is paramagnetic in nature
(D) C_2 consists of 1σ and 1π bond

Answer: (D) C_2 **consists of** 1σ **and** 1π **bond** · The council's preliminary key

Q90 TS EAPCET 2024 · 11 May · Shift 1 MCQ

The melting point of o-hydroxybenzaldehyde (A) is lower than that of p-hydroxybenzaldehyde (B). This is because

(A) (A) has intermolecular H-bonding and (B) has intramolecular H-bonding
(B) Both (A) and (B) have intermolecular H-bonding
(C) Both (A) and (B) have intramolecular H-bonding
(D) (A) has intramolecular H-bonding and (B) has intermolecular H-bonding

Answer: (D) (A) has intramolecular H-bonding and (B) has intermolecular H-bonding · The council's preliminary key

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Q91 TS EAPCET 2024 · 11 May · Shift 1 MCQ

Formic acid on heating with concentrated H_2SO_4 at 373 K gives X, a colourless substance and Y, a good reducing agent. The number of σ and π bonds in X, Y are respectively

(A) X = 2, 0; Y = 1, 2
(B) X = 1, 2; Y = 2, 2
(C) X = 2, 1; Y = 1, 1
(D) X = 1, 2; Y = 3, 3

Answer: (A) X = 2, 0; Y = 1, 2 · The council's preliminary key

Q92 TS EAPCET 2024 · 10 May · Shift 1 MCQ

Identify the set of molecules which are not in the correct order of their dipole moments

(A) $HF > HCl > HBr$
(B) $H_2O > H_2S > CO_2$
(C) $H_2S > HCl > HF$
(D) $NH_3 > NF_3 > BF_3$

Answer: (C) $H_2S > HCl > HF$ · The council's preliminary key

Q93 TS EAPCET 2024 · 10 May · Shift 1 MCQ

Match the following

List – I (Molecule)	List – II (Shape)
A SF_4	I T – shaped
B ClF_3	II Square planar
C BrF_5	III See-saw
D XeF_4	IV Square pyramidal

The correct answer is

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

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

Q94 TS EAPCET 2024 · 10 May · Shift 1 MCQ

$NH_2CONH_2 + 2H_2O \rightarrow [X] \rightleftharpoons 2NH_3 + H_2O + [Y]$

The hybridization of carbon in X and Y respectively are

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(A) $\mathrm{sp}^2, \mathrm{sp}$
(B) $\mathrm{sp}, \mathrm{sp}^2$
(C) $\mathrm{sp}^3, \mathrm{sp}^2$
(D) $\mathrm{sp}^2, \mathrm{sp}^3$

Answer: (A) $\mathrm{sp}^2, \mathrm{sp}$ · The council's preliminary key

Q95 TS EAPCET 2024 · 10 May · Shift 2 MCQ

The number of lone pairs of electrons on central atom of $\mathrm{ClF_3}$, $\mathrm{NF_3}$, $\mathrm{SF_4}$, $\mathrm{XeF_4}$ respectively are

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

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

Q96 TS EAPCET 2024 · 10 May · Shift 2 MCQ

The hybridisation of central atom of $\mathrm{BF_3}$, $\mathrm{SnCl_2}$, $\mathrm{HgCl_2}$ respectively is

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

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

Q97 TS EAPCET 2024 · 10 May · Shift 2 MCQ

The C–O–H bond angle in A is X and C–O–C bond angle in B is Y. What are X and Y?

(see the figure above)

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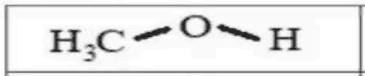
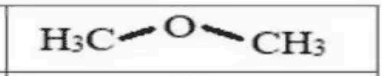
The C–O–H bond angle in A is X and C–O–C bond angle in B is Y. What are X and Y?

A లో C–O–H బంధకోణం X మరియు B లో C–O–C బంధకోణం Y. X మరియు Y లు ఏవి?

	
A	B

Options :

1. $X > 109°28', Y > 109°28'$
2. $X < 109°28', Y < 109°28'$
3. $X < 109°28', Y > 109°28'$
4. $X > 109°28', Y < 109°28'$

(A) $X > 109°28', Y > 109°28'$

(B) $X < 109°28', Y < 109°28'$

(C) $X < 109°28', Y > 109°28'$

(D) $X > 109°28', Y < 109°28'$

Answer: (C) $X < 109°28', Y > 109°28'$ · The council's preliminary key

Q98 TS EAPCET 2024 · 9 May · Shift 1 MCQ

According to Fajan's rules, which of the following is not correct about covalent character?

(A) $KF < KI$

(B) $LiF < KF$

(C) $SnCl_2 < SnCl_4$

(D) $NaCl < CuCl$

Answer: (B) $LiF < KF$ · The council's preliminary key

Q99 TS EAPCET 2024 · 9 May · Shift 1 MCQ

Consider the following pairs

	Order	Property
A)	$NO_2 > O_3 > H_2O$	Bond angle
B)	$HF > H_2O > NH_3$	Dipole moment
C)	$I_2 > F_2 > N_2$	Bond length

Which of the above pairs are correctly matched?

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

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

Q100 TS EAPCET 2024 · 9 May · Shift 2 MCQ

Identify the pair in which difference in bond order value is maximum

(A) O_2^-, O_2^+
(B) O_2^{2-}, O_2^{2+}
(C) O_2, O_2^{2+}
(D) O_2^+, O_2^{2+}

Answer: (B) O_2^{2-}, O_2^{2+} · The council's preliminary key

Q101 TS EAPCET 2024 · 9 May · Shift 2 MCQ

The pair of molecules/ions with same geometry but central atoms in them are in different states of hybridization is

(A) $SnCl_2, H_2O$
(B) SF_4, XeF_4
(C) NH_4^+, CO_3^{2-}
(D) PF_5, BrF_5

Answer: (A) $SnCl_2, H_2O$ · The council's preliminary key

Q102 TS EAPCET 2024 · 9 May · Shift 2 MCQ

Consider the following reactions

$X + O_2 \rightarrow Cu_2O + SO_2$

$Cu_2O + X \rightarrow Cu + Y\uparrow$

The shape of the molecule Y is

(A) Linear
(B) Tetrahedral
(C) Pyramidal
(D) Angular

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

Q103 TS EAPCET 2024 · 9 May · Shift 2 MCQ

Arrange the following in the correct order of their boiling points

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$(C_2H_5)_2O$	$CH_3(CH_2)_3OH$	CH_3CH-CH_2OH with CH_3 attached below the CH (i.e. $(CH_3)_2CHCH_2OH$)	$CH_3-(CH_2)_3-CH_3$
I	II	III	IV

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

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

Q104 AP EAPCET 2023 · 19 May · Shift 1 MCQ

Which of the following pairs of molecules is isostuctural?

(A) $HgCl_2$, SO_2
(B) $SnCl_2$, $PbCl_2$
(C) SF_4, XeF_4
(D) NH_3, SO_3

Answer: (B) $SnCl_2$, $PbCl_2$ · The council's preliminary key

Q105 AP EAPCET 2023 · 19 May · Shift 1 MCQ

What are the formal charges on terminal oxygens of ozone molecule?

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

Answer: (D) $0, -1$ · The council's preliminary key

Q106 AP EAPCET 2023 · 18 May · Shift 1 MCQ

Match the following

List – I (Molecules)	List – II (Dipolemoment μ, D)
A. H_2O	I. 0
B. BF_3	II. 0.23
C. NH_3	III. 1.47
D. NF_3	IV. 1.85

The correct answer is

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

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

Q107 AP EAPCET 2023 · 18 May · Shift 1 MCQ

Which of the following is the correct order of increasing number of lone pair of electrons on the central atom?

(A) $IF_5 < XeF_2 < IF_7 < ClF_3$
(B) $IF_7 < ClF_3 < XeF_2 < IF_5$
(C) $IF_7 < XeF_2 < ClF_2 < IF_5$
(D) $IF_7 < IF_5 < ClF_3 < XeF_2$

Answer: (D) $IF_7 < IF_5 < ClF_3 < XeF_2$ · The council's preliminary key

Q108 AP EAPCET 2023 · 18 May · Shift 2 MCQ

Match the following

List – I (Hybridisation)	List – II (Shape)
A. dsp^2	I. Square planar
B. sp^3	II. Tetrahedral
C. d^2sp^3	III. Octahedral
D. sp^3d	IV. Trigonal bipyramidal

The correct answer is

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

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

Q109 AP EAPCET 2023 · 18 May · Shift 2 MCQ

The hybridization of central atom of ClF_3, NH_3, SO_3 are respectively

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

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

Q110 AP EAPCET 2023 · 18 May · Shift 2 MCQ

Arrange the hydrides NH_3, HF, H_2O, HCl in the increasing order of their boiling points

(A) $HF < NH_3 < HCl < H_2O$
(B) $H_2O < HF < HCl < NH_3$
(C) $NH_3 < HCl < H_2O < HF$
(D) $HCl < NH_3 < HF < H_2O$

Answer: (D) $HCl < NH_3 < HF < H_2O$ · The council's preliminary key

Q111 AP EAPCET 2023 · 17 May · Shift 1 MCQ

The correct order of bond enthalpy of given molecules is

(A) $O_2 < N_2 < H_2$
(B) $N_2 < O_2 < H_2$
(C) $H_2 < N_2 < O_2$
(D) $H_2 < O_2 < N_2$

Answer: (D) $H_2 < O_2 < N_2$ · The council's preliminary key

Q112 AP EAPCET 2023 · 17 May · Shift 1 MCQ

The number of bond pairs of electrons and total number of lone pairs of electrons in $XeOF_4$ are respectively

(A) 6, 10
(B) 5, 15
(C) 5, 10
(D) 6, 15

Answer: (D) 6, 15 · The council's preliminary key

Q113 AP EAPCET 2023 · 17 May · Shift 1 MCQ

In which of the following, the molecules are arranged in the increasing order of their bond angles?

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(A) $P_4 < S_6 < O_3 < S_8$
(B) $S_6 < O_3 < S_8 < P_4$
(C) $O_3 < S_8 < P_4 < S_6$
(D) $P_4 < S_6 < S_8 < O_3$

Answer: (D) $P_4 < S_6 < S_8 < O_3$ · The council's preliminary key

Q114 AP EAPCET 2023 · 17 May · Shift 2 MCQ

Match the following

List – I (Molecule / Ion)	List – II (Shape)
A. I_3^-	1. T-shaped
B. ClF_3	2. See-Saw
C. H_2O	3. Angular
D. SF_4	4. Linear

(A) A - 4, B – 1, C – 3, D - 2
(B) A - 4, B – 1, C – 2, D – 3
(C) A - 2, B – 3, C – 4, D – 1
(D) A - 3, B – 2, C – 4, D – 1

Answer: (A) A - 4, B – 1, C – 3, D - 2 · The council's preliminary key

Q115 AP EAPCET 2023 · 17 May · Shift 2 MCQ

Given below are two statements

Assertion (A): Ionic compounds are formed by non-directional bonds

Reasoning (R): They are soluble in nonpolar solvents

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

Q116 AP EAPCET 2023 · 17 May · Shift 2 MCQ

Match the following

List-I (Molecule / ion)	List II (Number of lone pairs of electrons on the central atom)
A) XeF_2	I) 2
B) XeO_3	II) 0

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C) XeF_4 III) 3

D) PF_6^- IV) 1

The correct answer is

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

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

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

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

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

Q117 AP EAPCET 2023 · 16 May · Shift 1 MCQ

The correct order of bond angles of the following is

H_2O (I) NH_3 (II) CH_4 (III) SO_2 (IV)

(A) IV > III > II > I

(B) IV > III > I > II

(C) I > II > III > IV

(D) I > II > IV > III

Answer: (A) IV > III > II > I · The council's preliminary key

Q118 AP EAPCET 2023 · 16 May · Shift 1 MCQ

Hybridization of positively charged and negatively charged carbons of the following respectively are

(see the figure above)

Hybridization of positively charged and negatively charged carbons of the following respectively are

క్రింది వాటిలో ధనావేశ మరియు ఋణావేశ కార్బన్ల సంకరీకరణం వరుసగా



Options :

1. sp^2, sp

2. sp^2, sp^2

3. sp^3, sp^3

4. sp^3, sp^2

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

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

Q119 AP EAPCET 2023 · 16 May · Shift 2 MCQ

The correct order of C – O bond length in CO, CO_3^{2-}, CO_2 is

(A) $CO < CO_3^{2-} < CO_2$
(B) $CO_3^{2-} < CO_2 < CO$
(C) $CO < CO_2 < CO_3^{2-}$
(D) $CO_2 < CO_3^{2-} < CO$

Answer: (C) $CO < CO_2 < CO_3^{2-}$ · Checked by our team

Q120 AP EAPCET 2023 · 16 May · Shift 2 MCQ

The $P-P-P$ bond angle in P_4 and $S-S-S$ bond angle in cyclo S_8 molecule are respectively

(A) $107^0,\ 60^0$
(B) $60^0,\ 40^0$
(C) $60^0,\ 107^0$
(D) $40^0,\ 60^0$

Answer: (C) $60^0,\ 107^0$ · The council's preliminary key

Q121 AP EAPCET 2023 · 15 May · Shift 1 MCQ

If the bond order in C_2 is 'x' then the bond order in B_2 and O_2, respectively are

(A) $\frac{1}{2}x, 2x$
(B) x, x
(C) $\frac{1}{2}x, x$
(D) $x, 2x$

Answer: (C) $\frac{1}{2}x, x$ · The council's preliminary key

Q122 AP EAPCET 2023 · 15 May · Shift 1 MCQ

Identify incorrectly matched set from the following

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(A) Molecules with incomplete octet-BeH_2, BCl_3
(B) Polar molecules- BF_3, CCl_4
(C) Molecules with expanded octet- PCl_5, SF_6
(D) Odd electron molecules-NO, NO_2

Answer: (B) Polar molecules- BF_3, CCl_4 · The council's preliminary key

Q123 AP EAPCET 2023 · 15 May · Shift 1 MCQ

The O-H bond length in H_2O in gas phase is

(A) 95.7 pm
(B) 90.2 pm
(C) 104.5 pm
(D) 115.5 pm

Answer: (A) 95.7 pm · The council's preliminary key

Q124 AP EAPCET 2023 · 15 May · Shift 2 MCQ

Which of the following sets is correct?

	Molecule	Hybridization	Geometry	Number of lone pairs of electrons on central atom
I	SiH_4	sp^3	tetrahedral	0
II	$BeCl_2$	sp^2	linear	1
III	SF_4	dsp^3	square planar	1
IV	$SnCl_2$	sp	linear	0

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

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

Q125 AP EAPCET 2023 · 15 May · Shift 2 MCQ

Which of the following is not the property of covalent substances?

(A) have definite shape
(B) have low melting points
(C) good conductors of electricity
(D) soluble in non – polar solvents

Answer: (C) good conductors of electricity · The council's preliminary key

EdLoop EAPCET

Q126 TS EAMCET 2023 · 14 May · Shift 1 MCQ

According to MO theory, the molecule which contains only π- bonds between the atoms is

(A) C_2
(B) N_2
(C) O_2
(D) B_2

Answer: (A) C_2 · The council's preliminary key

Q127 TS EAMCET 2023 · 14 May · Shift 1 MCQ

In which of the following changes there is no change in hybridisation of the central atom?

(A) $C_2H_4 \xrightarrow{H_2/Ni} C_2H_6$
(B) $PCl_5 + Cl^- \longrightarrow PCl_6^-$
(C) $BF_3 + F^- \longrightarrow BF_4^-$
(D) $NH_3 + H^+ \longrightarrow NH_4^+$

Answer: (D) $NH_3 + H^+ \longrightarrow NH_4^+$ · The council's preliminary key

Q128 TS EAMCET 2023 · 14 May · Shift 1 MCQ

The ratio of lone pair of electrons to bond pair of electrons in ozone molecule is

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

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

Q129 TS EAMCET 2023 · 14 May · Shift 2 MCQ

In which of the following, molecules are arranged in the increasing order of their bond angles?

(A) $NH_3 < SO_2 < H_2O$
(B) $H_2O < NH_3 < SO_2$
(C) $SO_2 < NH_3 < H_2O$
(D) $SO_2 < H_2O < NH_3$

Answer: (B) $H_2O < NH_3 < SO_2$ · The council's preliminary key

Q130 TS EAMCET 2023 · 14 May · Shift 2 MCQ

Arrange the molecules B_2, He_2, N_2 and C_2 in the increasing order of their bond order values

(A) $C_2 < He_2 < B_2 < N_2$
(B) $N_2 < B_2 < C_2 < He_2$
(C) $He_2 < B_2 < C_2 < N_2$
(D) $He_2 < C_2 < N_2 < B_2$

Answer: (C) $He_2 < B_2 < C_2 < N_2$ · The council's preliminary key

Q131 TS EAMCET 2023 · 13 May · Shift 1 MCQ

From the following, identify the ions with same bond order

I. CN^-

II. N_2^+

III. O_2^{2-}

IV. NO^+

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

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

Q132 TS EAMCET 2023 · 13 May · Shift 1 MCQ

The hybridizations of the central atom in the molecules BF_3, BeF_2, BrF_3 are respectively

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

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

Q133 TS EAMCET 2023 · 13 May · Shift 1 MCQ

Which one of the following compounds is having maximum 'lone pair-lone pair' electron repulsions?

(A) ClF_3
(B) IF_5
(C) SF_4
(D) XeF_2

Answer: (D) XeF_2 · The council's preliminary key

Q134 TS EAMCET 2023 · 13 May · Shift 2 MCQ

Identify the number of molecules in which the central atom has one lone pair of electrons from the following list

$PbCl_2$, PH_3, ClF_3, SF_4, BF_3, $SnCl_2$

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

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

Q135 TS EAMCET 2023 · 13 May · Shift 2 MCQ

In which of the following molecules, the number of lone pairs of electrons on central atom and the number d-orbitals involved in the hybridisation of central atom, is same?

(A) ClF_3
(B) PCl_5
(C) BrF_5
(D) SF_4

Answer: (D) SF_4 · The council's preliminary key

Q136 TS EAMCET 2023 · 12 May · Shift 1 MCQ

Match the following

List –I (Molecule /ion)	List-II (Shape)
A) $SnCl_2$	I. Trigonal planar
B) NH_3	II. Linear
C) I_3^-	III. Angular
D) SO_3	IV. Trigonal pyramidal

The correct answer is

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

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

Q137 TS EAMCET 2023 · 12 May · Shift 1 MCQ

In which of the following set of molecules the hybridisation of central atoms is different?

(A) H_2O, NH_3, CH_4

(B) ClF_3, XeF_2, PCl_5

(C) CO_2, CO, BeF_2

(D) SF_4, XeF_4, CH_4

Answer: (D) SF_4, XeF_4, CH_4 · The council's preliminary key

Q138 TS EAMCET 2023 · 12 May · Shift 2 MCQ

Identify the option in which the molecules are arranged in the correct order of their dipole moments

(A) $CO_2 < H_2O < H_2S$

(B) $HF < HCl < HBr$

(C) $BF_3 < NF_3 < NH_3$

(D) $CH_4 < CHCl_3 < CCl_4$

Answer: (C) $BF_3 < NF_3 < NH_3$ · The council's preliminary key

Q139 TS EAMCET 2023 · 12 May · Shift 2 MCQ

The bond order of O_2^+ is x. The bond orders of O_2^- and O_2^{2+} are respectively

(A) $\frac{5}{3}x, \frac{5}{6}x$

(B) $\frac{3}{5}x, \frac{6}{5}x$

(C) $\frac{2}{5}x, \frac{3}{5}x$

(D) $\frac{5}{2}x, \frac{5}{3}x$

Answer: (B) $\frac{3}{5}x, \frac{6}{5}x$ · The council's preliminary key

Q140 TS EAMCET 2023 · 12 May · Shift 2 MCQ

In which of the following options, molecules are correctly arranged with respect to their bond angles.

(A) $S_6 < O_3 < S_8 < P_4$

(B) $P_4 < O_3 < S_6 < S_8$

(C) $P_4 < S_6 < S_8 < O_3$

(D) $S_6 < P_4 < S_8 < O_3$

Answer: (C) $P_4 < S_6 < S_8 < O_3$ · The council's preliminary key

Q141 TS EAMCET 2022 · 20 Jul · Shift 1 MCQ

The set of molecules among the following with zero dipole moment is CCl_4, BF_3, $CHCl_3$, CS_2, NH_3, 1, 4-dichlorobenzene, CO_2

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(A) CO_2, CS_2, BF_3, NH_3, $CHCl_3$ only
(B) CCl_4, BF_3, CO_2, CS_2, 1, 4-dichlorobenzene only
(C) CO_2, CS_2, 1, 4-dichlorobenzene only
(D) CO_2, CS_2 only

Answer: (B) CCl_4, BF_3, CO_2, CS_2, 1, 4-dichlorobenzene only · The council's preliminary key

Q142 TS EAMCET 2022 · 20 Jul · Shift 1 MCQ

The correct pair of species which are not isostructural is

(A) PF_6^- and SF_6
(B) IO_3^- and XeO_3
(C) BH_4^- and NH_4^+
(D) BrF_5 and XeF_4

Answer: (D) BrF_5 and XeF_4 · The council's preliminary key

Q143 TS EAMCET 2022 · 20 Jul · Shift 1 MCQ

Assertion (A) : Hydrogen fluoride has higher boiling point than other hydrogen halides.
Reason (R) : Hydrogen fluoride exhibits strong hydrogen bonding.
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

Q144 TS EAMCET 2022 · 20 Jul · Shift 1 MCQ

The intramolecular hydrogen bonding is present in

(A) phenol
(B) Benzoic acid
(C) para-Nitrophenol
(D) 2-Hydroxybenzoic Acid

Answer: (D) 2-Hydroxybenzoic Acid · The council's preliminary key

Q145 TS EAMCET 2022 · 20 Jul · Shift 2 MCQ

The compounds with sp^2 hybridized central atom among the following are
A) H_2CO_3 B) SiF_4
C) BF_3 D) $HClO_2$

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

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

Q146 TS EAMCET 2022 · 20 Jul · Shift 2 MCQ

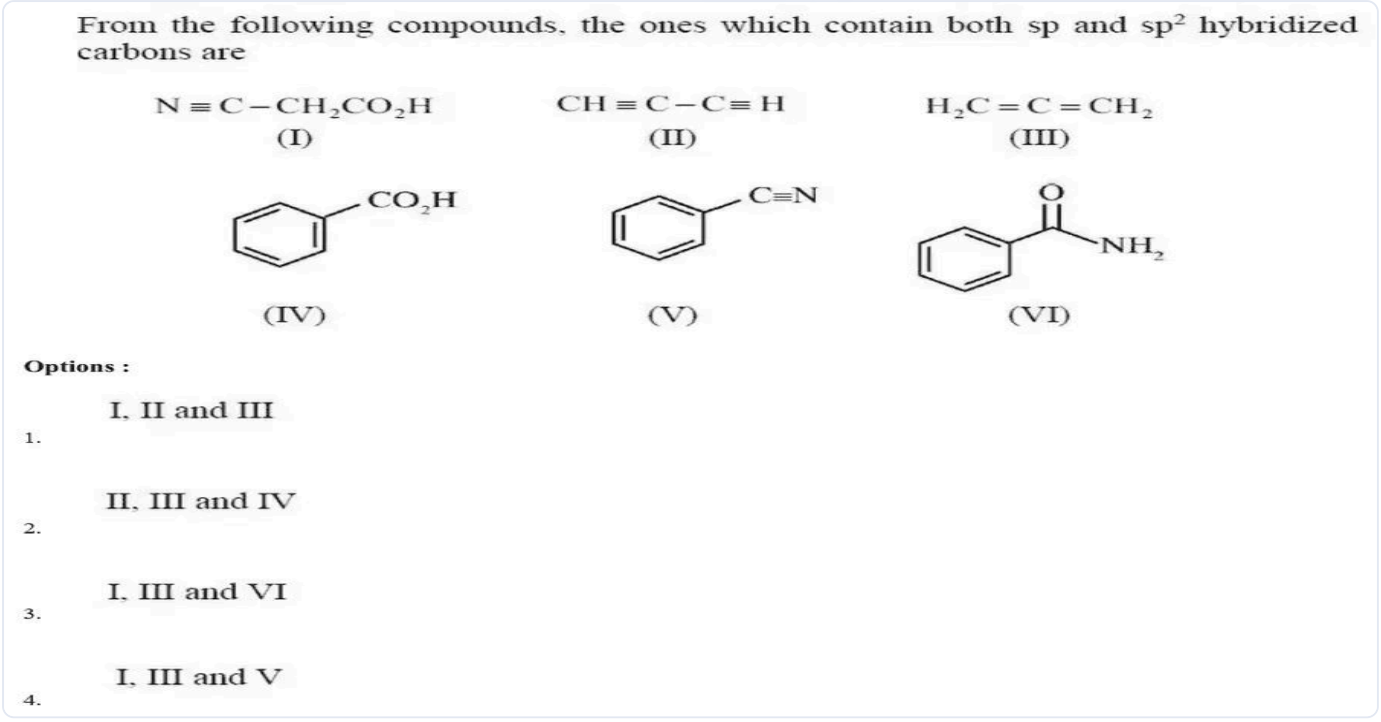
The hybridisation and shape of I_3^- ion, respectively, are

(A) sp^3d^2; distorted octahedral
(B) sp^3d; linear
(C) sp^3d; Trigonal bipyramid
(D) dsp^3; Square pyramidal

Answer: (B) sp^3d; linear · The council's preliminary key

Q147 TS EAMCET 2022 · 20 Jul · Shift 2 MCQ

From the following compounds, the ones which contain both sp and sp^2 hybridized carbons are *(see the figure above)*



(A) I, II and III
(B) II, III and IV
(C) I, III and VI
(D) I, III and V

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

Q148 TS EAMCET 2022 · 19 Jul · Shift 1 MCQ

The correct pair of species with (A) the highest bond order and (B) diamagnetic character is

(A) A: O_2; B: O_2^+
(B) A: O_2^+; B: O_2^{2-}
(C) A: O_2^-; B: O_2
(D) A: O_2^{2-}; B: O_2^+

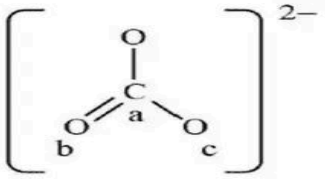
Answer: (B) A: O_2^+; B: O_2^{2-} · The council's preliminary key

Q149 TS EAMCET 2022 · 19 Jul · Shift 1 MCQ

The incomplete Lewis representation of CO_3^{2-} is given below. The formal charge on atoms marked as a, b, and c, respectively, are
(see the figure above)

0
Correct Marks : 1 Wrong Marks : 0

The incomplete Lewis representation of CO_3^{2-} is given below. The formal charge on atoms marked as a, b, and c, respectively, are



Options :

1. a : 0 b : 0 c : −1

2. a : 0 b : −2 c : 0

3. a : −2 b : 0 c : 0

4. a : 0 b : −1 c : −1

(A) a : 0 b : 0 c : -1
(B) a : 0 b : -2 c : 0
(C) a : -2 b : 0 c : 0
(D) a : 0 b : -1 c : -1

Answer: (A) a : 0 b : 0 c : -1 · The council's preliminary key

Q150 TS EAMCET 2022 · 19 Jul · Shift 2 MCQ

The correct order of the bond angles of the compounds $SiCl_4, BF_3, BeCl_2$ and SF_6 is

(A) $BF_3 > BeCl_2 > SF_6 > SiCl_4$

(B) $BeCl_2 > SF_6 > SiCl_4 > BF_3$

(C) $BeCl_2 > SiCl_4 > BF_3 > SF_6$

(D) $BeCl_2 > BF_3 > SiCl_4 > SF_6$

Answer: (D) $BeCl_2 > BF_3 > SiCl_4 > SF_6$ · The council's preliminary key

Q151 TS EAMCET 2022 · 19 Jul · Shift 2 MCQ

Identify all the species that do not exist

$H_2^+, He_2^{2+}, Li_2^{2-}, Ne_2, Be_2^-, He_2$

(A) He_2, Ne_2 only

(B) Li_2^{2-}, Ne_2, He_2 only

(C) Be_2^-, He_2, Ne_2 only

(D) H_2^+, Li_2^{2-} only

Answer: (B) Li_2^{2-}, Ne_2, He_2 **only** · The council's preliminary key

Q152 TS EAMCET 2022 · 19 Jul · Shift 2 MCQ

The correct order of melting points of the following salts is

LiCl LiF LiI

I II III

(A) I > II > III

(B) II > I > III

(C) III > II > I

(D) II > III > I

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

Q153 TS EAMCET 2022 · 18 Jul · Shift 1 MCQ

The correct order of C-O bond length is

(A) $CO_3^{2-} < CO_2 < CO$

(B) $CO_2 < CO_3^{2-} < CO$

(C) $CO < CO_3^{2-} < CO_2$

(D) $CO < CO_2 < CO_3^{2-}$

Answer: (D) $CO < CO_2 < CO_3^{2-}$ · The council's preliminary key

Q154 TS EAMCET 2022 · 18 Jul · Shift 1 MCQ

How many of the following species have the bond order 2 ?

$C_2, B_2^{2-}, N_2^{2+}, CN^+, NO^-, O_2, C_2^+$

(A) 3
(B) 4
(C) 6
(D) 5

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

Q155 TS EAMCET 2022 · 18 Jul · Shift 1 MCQ

The compound with more covalent character in the following is

(A) FeF_3
(B) VF_5
(C) VF_2
(D) TiF_2

Answer: (B) VF_5 · The council's preliminary key

Q156 TS EAMCET 2022 · 18 Jul · Shift 2 MCQ

The change in enthalpy [ΔH] in kJ mol^{-1} for the reaction is
Mg + 2F $\rightarrow$ Mg F_2
Given: EA of F = 328 kJ mol^{-1}, IE_1 of Mg = 737 kJ mol^{-1}, IE_2 of Mg = 1451 kJ mol^{-1}

(A) 3064
(B) 876
(C) 1860
(D) 1532

Answer: (D) 1532 · The council's preliminary key

Q157 TS EAMCET 2022 · 18 Jul · Shift 2 MCQ

Dipole – induced dipole interactions are present between which of the following pairs?

(A) H_2O and C_2H_5OH
(B) Cl_2 and CCl_4
(C) NH_3 and H_2
(D) SiF_4 and BF_3

Answer: (C) NH_3 and H_2 · The council's preliminary key

Q158 TS EAMCET 2022 · 18 Jul · Shift 2 MCQ

According to the Lewis formula of O_3, the correct option is

EdLoop EAPCET

(A) σ bonds: 2; π bonds: 1; lone pairs of electrons: 3
(B) σ bonds: 2; π bonds: 1; lone pairs of electrons: 4
(C) σ bonds: 1; π bonds: 2; lone pairs of electrons: 4
(D) σ bonds: 2; π bonds: 1; lone pairs of electrons: 6

Answer: (D) σ bonds: 2; π bonds: 1; lone pairs of electrons: 6 · The council's preliminary key

Q159 TS EAMCET 2022 · 18 Jul · Shift 2 MCQ

The linear molecule among the following is

(A) $SnCl_2$
(B) $PbCl_2$
(C) SO_2
(D) XeF_2

Answer: (D) XeF_2 · The council's preliminary key

Q160 AP EAPCET 2022 · 8 Jul · Shift 1 MCQ

If the bond order of CO is x, the bond order of O_2^{2-} ion is

(A) x
(B) $x/2$
(C) $x/3$
(D) $2x$

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

Q161 AP EAPCET 2022 · 8 Jul · Shift 1 MCQ

As per molecular orbital theory the pair of molecules which do not exist is

(A) $Li_2,\ B_2$
(B) $He_2,\ C_2$
(C) $Be_2,\ C_2$
(D) $Be_2,\ Ne_2$

Answer: (D) $Be_2,\ Ne_2$ · The council's preliminary key

Q162 AP EAPCET 2022 · 8 Jul · Shift 2 MCQ

The bond order of dioxygen is 'm'. The bond order values of N_2^+ and C_2^{2-} are respectively

EdLoop EAPCET

(A) $\frac{5m}{4}, \frac{3m}{2}$
(B) $\frac{3m}{2}, \frac{5m}{4}$
(C) $\frac{m}{2}, \frac{m}{3}$
(D) $\frac{2m}{3}, \frac{m}{2}$

Answer: (A) $\frac{5m}{4}, \frac{3m}{2}$ · The council's preliminary key

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Q163 AP EAPCET 2022 · 8 Jul · Shift 2 MCQ

Identify the correct statements from the following
(I) $SnCl_2$ is ionic, but $SnCl_4$ is covalent in nature
(II) All linear diatomic molecules have zero dipole moment
(III) Both NO and O_2 are paramagnetic

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

Answer: (B) (I) and (III) only · The council's preliminary key

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Q164 AP EAPCET 2022 · 7 Jul · Shift 1 MCQ

The molecule which has more number of lone pair of electrons than the bond pair of electrons in its central atom is

(A) XeF_2
(B) ClF_3
(C) XeF_4
(D) SF_4

Answer: (A) XeF_2 · The council's preliminary key

Q165 AP EAPCET 2022 · 7 Jul · Shift 1 MCQ

Arrange the following in the correct order of their bond orders.
N_2 (I), O_2 (II), O_2^+ (III), O_2^- (IV)

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

Answer: (C) I > III > II > IV · The council's preliminary key

EdLoop EAPCET

Q166 AP EAPCET 2022 · 7 Jul · Shift 1 MCQ

The bond order values of anions of sodium peroxide and potassium super oxide are respectively.

(A) $1, 1.5$
(B) $1, 0.5$
(C) $0.5, 1$
(D) $2, 0.5$

Answer: (A) $1, 1.5$ · The council's preliminary key

Q167 AP EAPCET 2022 · 7 Jul · Shift 1 MCQ

Which of the following compounds do not have sp^3 carbon atom(s)?
I. Acetone II. Acetic acid III. Buta-1, 3-diene IV. Propyne V. Naphthalene

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

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

Q168 AP EAPCET 2022 · 7 Jul · Shift 2 MCQ

Arrange the following species in the decreasing order of their bond orders.
NO (I) NO^+ (II) NO^- (III)

(A) (I) > (II) > (III)
(B) (II) > (I) > (III)
(C) (II) > (III) > (I)
(D) (III) > (II) > (I)

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

Q169 AP EAPCET 2022 · 7 Jul · Shift 2 MCQ

The standard molar enthalpy of vaporisation ($\Delta_{vap}H^\circ$) of A, B and C liquids is 23.3, 41 and 29 $kJ\,mol^{-1}$ respectively. The correct order of dipole-dipole attractive forces in these liquids is:

(A) B > C > A
(B) B > A > C
(C) A > C > B
(D) A > B > C

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

Q170 AP EAPCET 2022 · 7 Jul · Shift 2 MCQ

Aluminium chloride in acidified aqueous (printed "aqueons") solution gives a complex ion 'X'. The hybridization of central atom in X is

(A) $\mathrm{sp^3}$
(B) $\mathrm{sp^2d}$
(C) $\mathrm{d^2sp^3}$
(D) $\mathrm{sp^3d^2}$

Answer: (D) $\mathrm{sp^3d^2}$ · The council's preliminary key

Q171 AP EAPCET 2022 · 7 Jul · Shift 2 MCQ

Identify the molecules which have sp- hybridized carbon(s) from the list given under.
I. Ethane nitrile, II. Buta-1, 3 - diene, III. Propa-1, 2-diene, IV. Ethyne V. Benzene

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

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

Q172 AP EAPCET 2022 · 6 Jul · Shift 1 MCQ

Match the following
List - I (Molecule / ion): A) ICl_4^- B) NO_3^- C) PCl_4^+ D) SiF_6^{2-}
List - II (Hybridisation): a) sp^3 b) sp^3d c) sp^3d^2 d) sp^2 e) sp

(A) (A) – a, (B) – d, (C) – b, (D) – e
(B) (A) – b, (B) – e, (C) – a, (D) – d
(C) (A) – c, (B) – d, (C) – a, (D) – c
(D) (A) - d, (B) – b, (C) – c, (D) - a

Answer: (C) (A) – c, (B) – d, (C) – a, (D) – c · The council's preliminary key

Q173 AP EAPCET 2022 · 6 Jul · Shift 1 MCQ

Identify the pair of species with same geometries

(A) $\mathrm{XeF_4},\ \mathrm{PCl_4^+}$
(B) $\mathrm{NH_3},\ \mathrm{ClF_3}$
(C) $\mathrm{SF_4},\ \mathrm{NH_4^+}$
(D) $\mathrm{XeF_2},\ \mathrm{I_3^-}$

Answer: (D) $\mathrm{XeF_2},\ \mathrm{I_3^-}$ · The council's preliminary key

EdLoop EAPCET

Q174 AP EAPCET 2022 · 6 Jul · Shift 2 MCQ

The correct order of dipole moment of the molecules NH_3 (I), BF_3 (II), H_2O(III), NF_3(IV) is

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

Answer: (A) III > I > IV > II · The council's preliminary key

Q175 AP EAPCET 2022 · 6 Jul · Shift 2 MCQ

The number of sp^2, sp^3 hybridised carbons in cumene, respectively are:

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

Answer: (C) $6, 3$ · The council's preliminary key

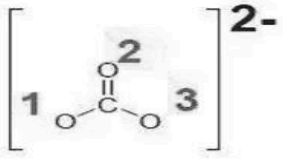
Q176 AP EAPCET 2022 · 5 Jul · Shift 1 MCQ

In the Lewis dot structure of carbonate ion shown under the formal charges on the oxygen atoms 1,2 & 3 are respectively:

(see the figure above)

In the Lewis dot structure of carbonate ion shown under the formal charges on the oxygen atoms 1,2 & 3 are respectively:

క్రింద చూపిన కార్బోనేట్ అయాన్ లూయి నిర్మాణంలో, 1, 2, మరియు 3 ఆక్సిజన్ పరమాణువుల ఫార్మల్ ఆవేశంలు వరుసగా



Options :

1. -2, 0, 0
2. -1, 0, -1
3. 0, -1, -1
4. -3, 0, +1

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

Answer: (B) -1, 0, -1 · The council's preliminary key

Q177 AP EAPCET 2022 · 5 Jul · Shift 1 MCQ

The set of species having only fractional bond order values is

(A) C_2^{2-}, N_2, O_2^{2-}
(B) O_2^+, O_2^-, N_2^+
(C) O_2^{2+}, O_2, C_2^{2-}
(D) Li_2, H_2^+, C_2

Answer: (B) O_2^+, O_2^-, N_2^+ · The council's preliminary key

Q178 AP EAPCET 2022 · 5 Jul · Shift 2 MCQ

The combination of which of the following gives an ionic compound with maximum covalent character.

(A) Mg^{2+} and Cl^-
(B) Mg^{2+} and O^{2-}
(C) Na^+ and Br^{-1}
(D) Na^+ and O^{2-}

Answer: (B) Mg^{2+} and O^{2-} · The council's preliminary key

Q179 AP EAPCET 2022 · 5 Jul · Shift 2 MCQ

The tetra atomic molecules/ions with different shapes are

(A) $\mathrm{TeCl_4}, \mathrm{SeF_4}$
(B) $\mathrm{CH_4}, \mathrm{PCl_4^+}$
(C) $\mathrm{SF_4}, \mathrm{NH_4^+}$
(D) $\mathrm{SiH_4}, \mathrm{CCl_4}$

Answer: (C) $\mathrm{SF_4}, \mathrm{NH_4^+}$ · The council's preliminary key

Q180 AP EAPCET 2022 · 4 Jul · Shift 1 MCQ

Choose the correct option from the following

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(A) KF is more covalent than KI

(B) $SnCl_4$ is less covalent than $SnCl_2$

(C) LiF is more covalent than KF

(D) $ZnCl_2$ is less covalent than NaCl

Answer: (C) LiF is more covalent than KF · The council's preliminary key

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Q181 AP EAPCET 2022 · 4 Jul · Shift 1 MCQ

The bond lengths of C_2, N_2 and B_2 molecules are X_1, X_2 and X_3 pm respectively. The correct order of their bond lengths is

(A) $X_3 > X_1 > X_2$

(B) $X_2 > X_3 > X_1$

(C) $X_1 > X_2 > X_3$

(D) $X_1 > X_3 > X_2$

Answer: (A) $X_3 > X_1 > X_2$ · The council's preliminary key

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Q182 AP EAPCET 2022 · 4 Jul · Shift 2 MCQ

The set of molecules in which the central atom is not obeying the octet rule is

(A) $CO_2, SiH_4, BeCl_2$

(B) H_2O, Cl_2O, CO_2

(C) CH_4, NH_3, OF_2

(D) SF_6, PCl_5, XeF_2

Answer: (D) SF_6, PCl_5, XeF_2 · The council's preliminary key

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Q183 AP EAPCET 2022 · 4 Jul · Shift 2 MCQ

The formal charges of atoms (1), (2) and (3) in the ion $\left[\underset{(1)}{O}=\underset{(2)}{N}=\underset{(3)}{O}\right]^+$ is

(A) $0, +2, -1$

(B) $0, +1, 0$

(C) $+2, 0, -1$

(D) $+1, 0, 0$

Answer: (B) $0, +1, 0$ · The council's preliminary key

Q184 AP EAPCET 2021 · 5 Oct · Shift 1 MCQ

Identify the correct arrangement of the given molecules, based on their dipole moments.

EdLoop EAPCET

(A) $NH_3 > BF_3 > NF_3$
(B) $NH_3 = NF_3 > BF_3$
(C) $NF_3 > BF_3 > NH_3$
(D) $NH_3 > NF_3 > BF_3$

Answer: (D) $NH_3 > NF_3 > BF_3$ · The council's preliminary key

Q185 AP EAPCET 2021 · 5 Oct · Shift 1 MCQ

When some ether is added to an aqueous solution of a mixture of $LiCl$, $NaCl$ and $AlCl_3$, which of these will be extracted into ether?

(A) $LiCl, NaCl, AlCl_3$
(B) $LiCl, AlCl_3$ only
(C) $LiCl, NaCl$ only
(D) $NaCl, AlCl_3$ only

Answer: (B) $LiCl, AlCl_3$ **only** · The council's preliminary key

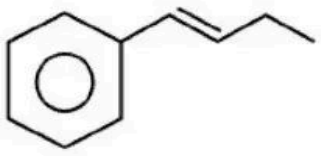
Q186 AP EAPCET 2021 · 5 Oct · Shift 1 MCQ

How many σ and π bonds are present in the given compound?
(see the figure above)

Mandatory : No

How many σ and π bonds are present in the given compound?

పటంలో చూపిన సమ్మేళనములో ఎన్ని σ మరియు π బంధాలు కలవు?



Options :

1. $18\sigma, 8\pi$
2. $18\sigma, 4\pi$
3. $22\sigma, 4\pi$
4. $10\sigma, 4\pi$

(A) $18\sigma, 8\pi$
(B) $18\sigma, 4\pi$
(C) $22\sigma, 4\pi$
(D) $10\sigma, 4\pi$

Answer: (C) $22\sigma, 4\pi$ · The council's preliminary key

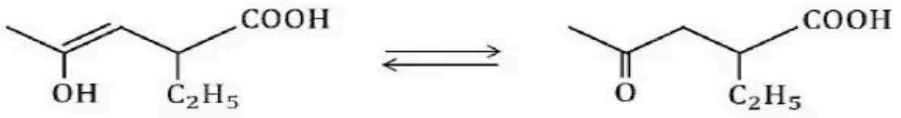
Q187 AP EAPCET 2021 · 5 Oct · Shift 1 MCQ

Find the number of σ and π bonds in the following enol form.
(see the figure above)

Mandatory : No

Find the number of σ and π bonds in the following enol form.

క్రింద ఇవ్వబడిన సమ్మేళనం యొక్క ఈనోల్ రూపంలో గల సిగ్మా మరియు పై బంధాల సంఖ్య _____



Options :

1. 6σ & 1π
2. 18σ & 1π
3. 21σ & 2π
4. 6σ & 2π

(A) 6σ & 1π
(B) 18σ & 1π
(C) 21σ & 2π
(D) 6σ & 2π

Answer: (C) 21σ & 2π · The council's preliminary key

Q188 AP EAPCET 2021 · 5 Oct · Shift 1 MCQ

The number of electron pairs shared by each nitrogen atom in the formation of N_2 molecule is _____

(A) 6
(B) 2
(C) 1
(D) 3

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

Q189 AP EAPCET 2021 · 25 Aug · Shift 1 MCQ

The dominant intermolecular force that must be overcome to convert liquid methanol to its vapour is _____

(A) Covalent Bonds
(B) Dipole-Dipole Interactions
(C) Hydrogen Bonds
(D) Coordinate Bonds

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

Q190 AP EAPCET 2021 · 25 Aug · Shift 1 MCQ

Match the following ions with the corresponding hybridization of their central atoms?
Ions
i) NO_3^-
ii) NH_2^-
iii) SCN^-
iv) ICl_2^-
Hybridization
a) sp^3
b) sp
c) sp^3d
d) sp^2

(A) i-d, ii-a, iii-b, iv-c
(B) i-c, ii-b, iii-a, iv-d
(C) i-a, ii-d, iii-c, iv-b
(D) i-b, ii-c, iii-d, iv-a

Answer: (A) i-d, ii-a, iii-b, iv-c · The council's preliminary key

Q191 AP EAPCET 2021 · 25 Aug · Shift 1 MCQ

If an element in group 2 formed a compound with an element in group 17 of the periodic table, the compound formed is likely to _____

(A) conduct electricity in the solid state
(B) have a low boiling point
(C) dissolve in non-polar solvents
(D) be a crystalline solid

Answer: (D) be a crystalline solid · The council's preliminary key

EdLoop EAPCET

Q192 AP EAPCET 2021 · 25 Aug · Shift 2 MCQ

Arrange the following species in the correct order of their stabilities.
$N_2^-,\ C_2,\ Ne_2,\ O_2^{2-}$

(A) $Ne_2 < O_2^{2-} < C_2 < N_2^-$
(B) $Ne_2 < C_2 < O_2^{2-} < N_2^-$
(C) $Ne_2 < N_2^- < O_2^{2-} < C_2$
(D) $Ne_2 < O_2^{2-} < N_2^- < C_2$

Answer: (A) $Ne_2 < O_2^{2-} < C_2 < N_2^-$ · The council's preliminary key

Q193 AP EAPCET 2021 · 24 Aug · Shift 1 MCQ

Which is the most covalent?

(A) $AlCl_3$
(B) AlI_3
(C) MgI_2
(D) NaI

Answer: (B) AlI_3 · The council's preliminary key

Q194 AP EAPCET 2021 · 24 Aug · Shift 1 MCQ

Addition an electron to an Antibonding molecular orbital _____

(A) increases bond - order
(B) decreases bond - order
(C) stabilizes the system
(D) decreases the inter-nuclear distance

Answer: (B) decreases bond - order · The council's preliminary key

Q195 AP EAPCET 2021 · 24 Aug · Shift 1 MCQ

In which of the following ionization processes the bond energy increases and the magnetic behavior changes from paramagnetic to diamagnetic?

(A) $O_2 \longrightarrow O_2^+$
(B) $C_2 \longrightarrow C_2^+$
(C) $NO \longrightarrow NO^+$
(D) $N_2 \longrightarrow N_2^+$

Answer: (C) $NO \longrightarrow NO^+$ · The council's preliminary key

Q196 AP EAPCET 2021 · 24 Aug · Shift 2 MCQ

Which among the following represents zero overlap?

Mandatory : No

Which among the following represents zero overlap?

కింది వాటిలో ఏది శూన్య అతివ్యాప్తిని సూచిస్తుంది?

Options :

1.

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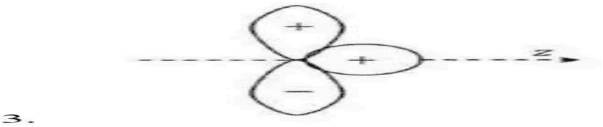
AP EAPCET 2021



2.



3.



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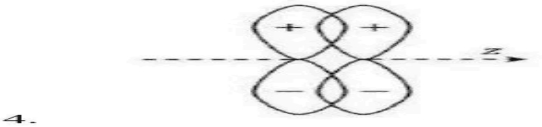

(A) *see figure*

(B) *see figure*

(C) *see figure*

(D) *see figure*

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

Q197 AP EAPCET 2021 · 24 Aug · Shift 2 MCQ

According to "Molecular orbital theory", which among the following diatomic molecules only has π-bonds?

(A) N_2

(B) H_2

(C) C_2

(D) Be_2

Answer: (C) C_2 · The council's preliminary key

Q198 AP EAPCET 2021 · 24 Aug · Shift 2 MCQ

Which among the following possesses a sp carbon in its structure?

(A) $\mathrm{CH_2 = CCl - CH = CHBr}$

(B) $\mathrm{CBr_4}$

(C) $\mathrm{CH_2 = C = CH_2}$

(D) $\mathrm{C_6H_5 - CCl_3}$

Answer: (C) $\mathrm{CH_2 = C = CH_2}$ · The council's preliminary key

Q199 AP EAPCET 2021 · 23 Aug · Shift 1 MCQ

Which among the following compound shows the highest lattice energy?

(A) LiF
(B) CsF
(C) NaF
(D) KF

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

Q200 AP EAPCET 2021 · 23 Aug · Shift 1 MCQ

The hybridizations of N-orbitals in $\mathrm{NO_3^-}$, $\mathrm{NO_2^-}$ and $\mathrm{NH_4^+}$ respectively are _____

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

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

Q201 AP EAPCET 2021 · 23 Aug · Shift 1 MCQ

Identify the correct sequence with respect to the strength of hydrogen bonding among the following.

(A) $\mathrm{H_2O_2} > \mathrm{H_2O} > \mathrm{HF} > \mathrm{H_2S}$
(B) $\mathrm{H_2O} > \mathrm{HF} > \mathrm{H_2O_2} > \mathrm{H_2S}$
(C) $\mathrm{H_2O} > \mathrm{HF} > \mathrm{H_2S} > \mathrm{H_2O_2}$
(D) $\mathrm{H_2O} > \mathrm{HF} > \mathrm{H_2O_2} > \mathrm{H_2S}$

Answer: (A) $\mathrm{H_2O_2} > \mathrm{H_2O} > \mathrm{HF} > \mathrm{H_2S}$ · The council's preliminary key

Q202 AP EAPCET 2021 · 23 Aug · Shift 1 MCQ

Which among the following is least covalent in nature?

(A) $\mathrm{NF_3}$
(B) $\mathrm{BiF_3}$
(C) $\mathrm{PF_3}$
(D) $\mathrm{SbF_3}$

Answer: (B) $\mathrm{BiF_3}$ · The council's preliminary key

Q203 AP EAPCET 2021 · 23 Aug · Shift 2 MCQ

Which pair among the following does not have the same bond order?

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(A) CN^- & NO^+
(B) CN^- & CO
(C) O_2^{2-} & B_2
(D) O_2^+ & NO^+

Answer: (D) O_2^+ & NO^+ · The council's preliminary key

Q204 AP EAPCET 2021 · 23 Aug · Shift 2 MCQ

Arrange the following molecules according to decreasing order of their O − O bond lengths.

(A) $O_3 > H_2O_2 > O_2$
(B) $H_2O_2 > O_3 > O_2$
(C) $O_2 > H_2O_2 > O_3$
(D) $O_2 > O_3 > H_2O_2$

Answer: (B) $H_2O_2 > O_3 > O_2$ · The council's preliminary key

Q205 AP EAPCET 2021 · 23 Aug · Shift 2 MCQ

Which of the following molecules has T-shaped geometry?

(A) PF_3
(B) BCl_3
(C) IF_3
(D) NH_3

Answer: (C) IF_3 · The council's preliminary key

Q206 AP EAPCET 2021 · 23 Aug · Shift 2 MCQ

Assertion (A): Covalent character follows: $NaCl < MgCl_2 < BeCl_2 < LiCl$.
Reason (R): According to Fajan's rules, covalent character of ionic compounds increases with decrease in size of cation.

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

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

Q207 AP EAPCET 2021 · 23 Aug · Shift 2 MCQ

The geometry and dipole moment of H_2S respectively are _____

(A) Angular and Non-zero
(B) Angular and Zero
(C) Linear and Zero
(D) Linear and Non-zero

Answer: (A) Angular and Non-zero · The council's preliminary key

Q208 AP EAPCET 2021 · 20 Aug · Shift 1 MCQ

Bond order is an inverse measure of _____

(A) bond- length
(B) bond - angle
(C) bond dissociation energy
(D) Stability

Answer: (A) bond- length · The council's preliminary key

Q209 AP EAPCET 2021 · 20 Aug · Shift 1 MCQ

Which of the following molecule has the maximum dipole moment?

(A) NH_3
(B) CS_2
(C) C_2H_6
(D) NCl_3

Answer: (A) NH_3 · The council's preliminary key

Q210 AP EAPCET 2021 · 20 Aug · Shift 1 MCQ

Which compound among the following will have a permanent dipole moment?
(i) *(see the figure above)* CH2Cl2 drawn as C with H, H, Cl, Cl
(ii) *(see the figure above)* Cl and H on one C, C=C, Cl and H on other (as drawn: Cl top-left and H top-right on the left/right carbons; H bottom-left, Cl bottom-right)
(iii) *(see the figure above)* CCl4
(iv) $Br - C \equiv C - Br$

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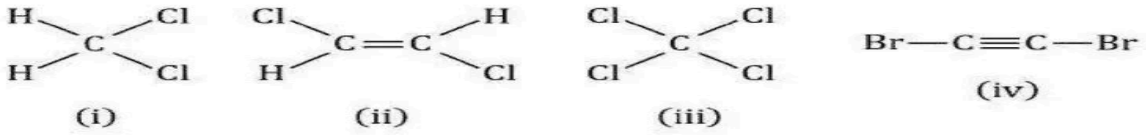
Mandatory : No

Which compound among the following will have a permanent dipole moment?

క్రింది సమ్మేళనాలలో శాశ్వత ద్విధ్రువభ్రామకం కలిగి ఉండేది ఏది?



Options :

1. (i) only
   (i) మాత్రమే
2. (ii) only
   (ii) మాత్రమే
3. (iii) only
   (iii) మాత్రమే
4. (iv) only
   (iv) మాత్రమే

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

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

Q211 AP EAPCET 2021 · 20 Aug · Shift 1 MCQ

The correct order of Sulphur oxygen bond order in SO_3, $S_2O_3^{2-}$ and SO_4^{2-} are

(A) $SO_4^{2-} < S_2O_3^{2-} < SO_3$
(B) $SO_4^{2-} < SO_3 < S_2O_3^{2-}$
(C) $S_2O_3^{2-} < SO_4^{2-} < SO_3$
(D) $S_2O_3^{2-} < SO_3 < SO_4^{2-}$

Options (1) or (3) were accepted. More than one answer was accepted. · The council's preliminary key

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Q212 AP EAPCET 2021 · 20 Aug · Shift 2 MCQ

A covalent molecule $X - Y$ is found to have a dipole moment of $1.5 \times 10^{-29}\ C.m$ and a bond length of $150\ pm$. The percent ionic character of the bond will be _____

(A) $50\ \%$
(B) $62.5\ \%$
(C) $75\ \%$
(D) $80\ \%$

Answer: (B) $62.5\ \%$ · The council's preliminary key

Q213 AP EAPCET 2021 · 20 Aug · Shift 2 MCQ

The hybridization of Se in SeF_4 and its geometry respectively are _____

(A) sp^3d, see-saw shaped
(B) sp^3d^2, octahedral
(C) sp^3d^3, trigonal planar
(D) sp^3d^2, square planar

Answer: (A) sp^3d, see-saw shaped · The council's preliminary key

Q214 AP EAPCET 2021 · 20 Aug · Shift 2 MCQ

Incorrect matching amongst the following is _____ (according to geometry of molecules)

(A) $H_2O,\ NH_3$
(B) $BeCl_2,\ CO_2$
(C) $SF_4,\ TeCl_4$
(D) $ClF_3,\ ICl_3$

Answer: (A) $H_2O,\ NH_3$ · The council's preliminary key

Q215 AP EAPCET 2021 · 19 Aug · Shift 1 MCQ

Which of the following will have maximum dipole moment?

(A) $\mathrm{NF_3}$
(B) $\mathrm{NCl_3}$
(C) $\mathrm{NBr_3}$
(D) $\mathrm{NH_3}$

Answer: (D) $\mathrm{NH_3}$ · The council's preliminary key

Q216 AP EAPCET 2021 · 19 Aug · Shift 1 MCQ

In which of the following molecules/ions, the central atom is sp^2 hybridized?
$\mathrm{BF_3}$, $\mathrm{NO_2^-}$, $\mathrm{NH_2^-}$, & $\mathrm{H_2O}$

(A) $\mathrm{NH_2^-}$, & $\mathrm{H_2O}$
(B) $\mathrm{NO_2^-}$ & $\mathrm{H_2O}$
(C) $\mathrm{BF_3}$ & $\mathrm{NO_2^-}$
(D) $\mathrm{NO_2^-}$, $\mathrm{NH_2^-}$

Answer: (C) $\mathrm{BF_3}$ & $\mathrm{NO_2^-}$ · The council's preliminary key

Q217 AP EAPCET 2021 · 19 Aug · Shift 1 MCQ

For which molecules among the following, the resultant dipole moment (μ) $\neq 0$?
(see the figure above)

Mandatory : No

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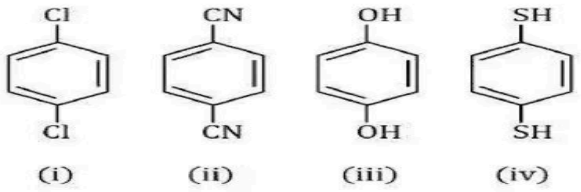
For which molecules among the following, the resultant dipole moment (μ) $\neq 0$?

క్రింది అణువులలో ఫలిత ద్విధ్రువఛ్రామకం (μ) $\neq 0$ అయ్యే అణువులను గుర్తించుము.



(i) (ii) (iii) (iv)

Options :

1. (iii) & (iv) only
(iii) & (iv) మాత్రమే

2. (i) & (ii) only
(i) & (ii) మాత్రమే

3. (ii) & (iii) only
(ii) & (iii) మాత్రమే

4. (iv) only
(iv) మాత్రమే

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

Answer: (A) (iii) & (iv) only · The council's preliminary key

Q218 AP EAPCET 2021 · 19 Aug · Shift 2 MCQ

Which compound among the following has the highest dipole moment?

(A) NH_3
(B) SO_2
(C) N_2O
(D) CO_2

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

Q219 AP EAPCET 2021 · 19 Aug · Shift 2 MCQ

How many among the given species have a bond order of 0.5?
H_2^+, He_2^+, He_2^-, B_2^+, F_2^-, Be_2^{2-}

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

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

Q220 AP EAPCET 2021 · 19 Aug · Shift 2 MCQ

Match the following?

Molecule

a) $SnCl_2$

b) XeF_4

c) ClF_3

d) IF_5

Geometry

i) Angular (or) Bent

ii) See-saw

iii) Square pyramidal

iv) T-shape

v) Square planar

(A) (a-i), (b-iii), (c-v), (d-v)

(B) (a-iv), (b-v), (c-i), (d-iii)

(C) (a-i), (b-v), (c-iv), (d-iii)

(D) (a-iv), (b-iii), (c-ii), (d-v)

Answer: (C) (a-i), (b-v), (c-iv), (d-iii) · The council's preliminary key

Q221 AP EAPCET 2021 · 19 Aug · Shift 2 MCQ

Identify the incorrect statements among the following?

(i) SF_6 does not react with water

(ii) SF_6 is sp^3d hybridized

(iii) $S_2O_3^{2-}$ is a linear ion

(iv) There is no π-bonding in SO_4^{2-} ion

(A) (ii), (iii) & (iv) only

(B) (i), (ii) & (iii) only

(C) (i) & (ii) only

(D) (iii) & (iv) only

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

Q222 TS EAMCET 2021 · 6 Aug · Shift 1 MCQ

The order of the average bond length of the given bonds is

(A) $C = O < C = N < C \equiv C < N - O$
(B) $C \equiv C < C = O < C = N < N - O$
(C) $C \equiv C < C = O < N - O < C = N$
(D) $C = N < C = O < N - O < C \equiv C$

Answer: (B) $C \equiv C < C = O < C = N < N - O$ · The council's preliminary key

Q223 TS EAMCET 2021 · 6 Aug · Shift 1 MCQ

The shapes of BrF_5 and XeF_4, respectively are

(A) square pyramid, square pyramid
(B) square planar, square planar
(C) square planar, square pyramid
(D) square pyramid, square planar

Answer: (D) square pyramid, square planar · The council's preliminary key

Q224 TS EAMCET 2021 · 6 Aug · Shift 2 MCQ

Match the following

List-I Molecule
A) HBr
B) H_2S
C) NH_3
D) $CHCl_3$

List-II Dipole moment (D)
I) 1.04
II) 0
III) 0.79
IV) 0.95
V) 1.47

The correct match is

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

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

Q225 TS EAMCET 2021 · 6 Aug · Shift 2 MCQ

Match the following

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List-I Species

A) CH_3COCH_3

B) $CH_3\overset{\oplus}{C}O$

C) $\overset{\oplus}{C}H_2CH_3$

List-II No. of lone pairs

I) 2

II) 0

III) 1

IV) 3

The correct match is

(A) A-I, B-I, C-III

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

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

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

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

Q226 TS EAMCET 2021 · 5 Aug · Shift 1 MCQ

One Debye is equal to how many coulomb meter?

(A) 3.33×10^{-30}

(B) 2.22×10^{-20}

(C) 1.11×10^{-10}

(D) 4.44×10^{-24}

Answer: (A) 3.33×10^{-30} · The council's preliminary key

Q227 TS EAMCET 2021 · 5 Aug · Shift 1 MCQ

The dipole-dipole interaction energy between stationary polar molecules and rotating polar molecules, respectively is proportional to [r is the distance between the polar molecules]

(A) $r^3; \frac{1}{r^2}$

(B) $\frac{1}{r^3}; \frac{1}{r^6}$

(C) $\frac{1}{r^2}; r^2$

(D) $\frac{1}{r^2}; \frac{1}{r^4}$

Answer: (B) $\frac{1}{r^3}; \frac{1}{r^6}$ · The council's preliminary key

Q228 TS EAMCET 2021 · 5 Aug · Shift 2 MCQ

A pair of molecules with see-saw shape and linear shape, respectively, is

(A) CH_4 and SO_3
(B) XeF_4 and CS_2
(C) SF_4 and C_2H_2
(D) CCl_4 and CO_2

Answer: (C) SF_4 and C_2H_2 · The council's preliminary key

Q229 TS EAMCET 2021 · 5 Aug · Shift 2 MCQ

Which of the following species is a radical?

(A) CO_2
(B) NO
(C) NO_2^-
(D) CN^-

Answer: (B) NO · The council's preliminary key

Q230 TS EAMCET 2021 · 4 Aug · Shift 1 MCQ

Highest covalent character is found in which of the following?

(A) CaF_2
(B) $CaCl_2$
(C) $CaBr_2$
(D) CaI_2

Answer: (D) CaI_2 · The council's preliminary key

Q231 TS EAMCET 2021 · 4 Aug · Shift 1 MCQ

The correct sequence of bond order is

(A) $O_2^+ > O_2^- > O_2 > O_2^{2-}$
(B) $O_2^+ > O_2 > O_2^- > O_2^{2-}$
(C) $O_2^+ > O_2 > O_2^{2-} > O_2^-$
(D) $O_2^+ > O_2^{2-} > O_2^- > O_2$

Answer: (B) $O_2^+ > O_2 > O_2^- > O_2^{2-}$ · The council's preliminary key

Q232 TS EAMCET 2021 · 4 Aug · Shift 1 MCQ

The number of sp and sp^2 carbon in Hepta–1, 3–dien–5–yne, respectively, are

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

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

Q233 TS EAMCET 2021 · 4 Aug · Shift 2 MCQ

The total number of dative bonds present in all the following CO, NH_4Cl, Al_2Cl_6, $Al(H_2O)_6$, HNO_3 and CO_2 is

(A) 11
(B) 10
(C) 9
(D) 12

Answer: (A) 11 · The council's preliminary key

Q234 TS EAMCET 2021 · 4 Aug · Shift 2 MCQ

Among the following compounds, the one with the highest lactice (sic) energy is

(A) LiF
(B) $NaCl$
(C) MgO
(D) $LiCl$

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

Q235 TS EAMCET 2021 · 4 Aug · Shift 2 MCQ

The hybridisation of central atom I of IF_7 is

(A) sp^2d^4
(B) sp^3d^2
(C) sp^3d^1
(D) sp^3d^3

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

Q236 AP EAMCET 2020 · 7 Oct · Shift 1 MCQ

Hybridizations of C_2, C_3 of $H_3C-CH=C=CH-CH_3$ respectively are

(A) sp, sp^3

(B) sp^2, sp

(C) sp^2, sp^2

(D) sp, sp

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

Q237 AP EAMCET 2020 · 23 Sep · Shift 1 MCQ

The geometry of SF_6 molecule is _____

(A) Tetrahedral

(B) Planar

(C) Octahedral

(D) Trigonal bipyramidal

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

Q238 AP EAMCET 2020 · 23 Sep · Shift 1 MCQ

Increasing order of boiling points in the following compounds is:
(i) CH_3COOH (ii) CH_3CH_2CHO (iii) $CH_3CH_2CH_2OH$ (iv) $CH_3\,COCH_3$

(A) (ii) < (iv) < (iii) < (i)

(B) (ii) < (iv) > (iii) < (i)

(C) (iv) < (ii) > (i) < (iii)

(D) (iv) < (iii) > (ii) < (i)

Answer: (A) (ii) < (iv) < (iii) < (i) · The council's preliminary key

Q239 AP EAMCET 2020 · 23 Sep · Shift 1 MCQ

The total number of σ and π bonds present in the following compound respectively are
(see the figure above)

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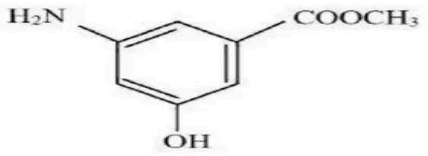
AP EAMCET 2020

Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

The total number of σ and π bonds present in the following compound respectively are

క్రింది సమ్మేళనములో గల σ మరియు π బంధాల సంఖ్యలు వరుసగా



Options :

1. σ 18, π 3
2. σ 21, π 4
3. σ 23, π 5
4. σ 16, π 4

(A) σ 18, π 3
(B) σ 21, π 4
(C) σ 23, π 5
(D) σ 16, π 4

Answer: (B) σ 21, π 4 · The council's preliminary key

Q240 AP EAMCET 2020 · 23 Sep · Shift 1 MCQ

The formation of molecular orbitals can be described by the linear combination of atomic orbitals. Which one of the following correctly represents the formation of bonding molecular orbital from the atomic orbitals having wave functions ψ_A and ψ_B?

(A) $\psi_A \times \psi_B$
(B) ψ_A / ψ_B
(C) $\psi_A + \psi_B$
(D) $\psi_A - \psi_B$

Answer: (C) $\psi_A + \psi_B$ · The council's preliminary key

Q241 AP EAMCET 2020 · 22 Sep · Shift 1 MCQ

Arrange $O_2, O_2[AsF_6], KO_2$ in the increasing order of bond length of $O - O$ bond.

(A) $O_2 < KO_2 < O_2[AsF_6]$
(B) $KO_2 < O_2 < O_2[AsF_6]$
(C) $O_2[AsF_6] < KO_2 < O_2$
(D) $O_2[AsF_6] < O_2 < KO_2$

Answer: (D) $O_2[AsF_6] < O_2 < KO_2$ · The council's preliminary key

Q242 AP EAMCET 2020 · 22 Sep · Shift 1 MCQ

The molecular geometry of PF_3 is _____

(A) Tetrahedral
(B) Pyramidal
(C) Trigonal planar
(D) Square planar

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

Q243 AP EAMCET 2020 · 22 Sep · Shift 1 MCQ

Which of the following can form intermolecular H-bond?

(A) Ethyl acetate
(B) Methyl formate
(C) Acetamide
(D) Acetic anhydride

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

Q244 AP EAMCET 2020 · 22 Sep · Shift 2 MCQ

The iso structural molecules among CO_2, SiO_2, SO_2, TeO_2, $[NO_2]^+$ are

(A) CO_2, SO_2, TeO_2
(B) CO_2, SiO_2, $[NO_2]^+$
(C) CO_2, $[NO_2]^+$
(D) SO_2, TeO_2

Answer: (C) CO_2, $[NO_2]^+$ · The council's preliminary key

Q245 AP EAMCET 2020 · 22 Sep · Shift 2 MCQ

The dipole-dipole interaction energy between polar molecules in the solid state will be proportional to _____ [if r denotes the distance between polar molecules]

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(A) $\frac{1}{r^6}$
(B) $\frac{1}{r^3}$
(C) $\frac{1}{r^2}$
(D) $\frac{1}{r}$

Answer: (B) $\frac{1}{r^3}$ · The council's preliminary key

Q246 AP EAMCET 2020 · 22 Sep · Shift 2 MCQ

What is the molecular geometry of H_3O^+ ?

(A) Trigonal pyramid
(B) Square planar
(C) Trigonal bipyramidal
(D) Trigonal planar

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

Q247 AP EAMCET 2020 · 22 Sep · Shift 2 MCQ

Which of the following species has tetrahedral geometry?

(A) BH_4^-
(B) NH_2^-
(C) CO_3^{2-}
(D) H_3O^+

Answer: (A) BH_4^- · The council's preliminary key

Q248 AP EAMCET 2020 · 21 Sep · Shift 1 MCQ

The linear shape of CO_2 is due to _____

(A) sp^3 hybridization of carbon
(B) sp hybridization of carbon
(C) $p\pi - d\pi$ bonding between carbon and oxygen
(D) sp^2 hybridization of carbon

Answer: (B) sp **hybridization of carbon** · The council's preliminary key

Q249 AP EAMCET 2020 · 21 Sep · Shift 1 MCQ

The number of hydrogen bonds formed by a water molecule at normal conditions is

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

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

Q250 AP EAMCET 2020 · 21 Sep · Shift 1 MCQ

The bond stability of N_2, N_2^- and N_2^{2-} varies as

(A) $N_2 < N_2^- < N_2^{2-}$
(B) $N_2^- < N_2 < N_2^{2-}$
(C) $N_2^{2-} < N_2^- < N_2$
(D) $N_2^- < N_2^{2-} < N_2$

Answer: (C) $N_2^{2-} < N_2^- < N_2$ · The council's preliminary key

Q251 AP EAMCET 2020 · 21 Sep · Shift 2 MCQ

Which among the following represents the correct order of variation of bond angles in the given molecules?

(A) $NH_3 > NF_3 > PCl_3 > BF_3$
(B) $BF_3 > PCl_3 > NH_3 > NF_3$
(C) $BF_3 > NH_3 > PCl_3 > NF_3$
(D) $BF_3 > NH_3 > NF_3 > PCl_3$

Answer: (D) $BF_3 > NH_3 > NF_3 > PCl_3$ · The council's preliminary key

Q252 AP EAMCET 2020 · 21 Sep · Shift 2 MCQ

Which of the following statements is correct about CO_3^{2-}
A) The hybridization of central atom is sp^3
B) Its resonance structure has one $C-O$ single bond and two $C=O$ double bonds
C) The average formal charge on each Carbon atom is 0.67 units
D) All $C-O$ bond lengths are equal

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

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

Q253 AP EAMCET 2020 · 18 Sep · Shift 1 MCQ

Which of the following molecules can be represented as AB_2E_2, where A- Central atom, B- Bond pairs of electrons, E- Lone pairs of electrons

(A) SO_2
(B) H_2O_2
(C) H_2O
(D) XeF_2

Answer: (C) H_2O · The council's preliminary key

Q254 AP EAMCET 2020 · 18 Sep · Shift 1 MCQ

The types of hybridization on the five carbon atoms from left to right in pent-1-en-4-yne are

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

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

Q255 AP EAMCET 2020 · 18 Sep · Shift 1 MCQ

What is the hybridization of Be in BeF_2 molecule?

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

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

Q256 AP EAMCET 2020 · 18 Sep · Shift 2 MCQ

The magnetic property of NO_2 is _____

(A) Ferro Magnetic
(B) Diamagnetic
(C) Non-Magnetic
(D) Paramagnetic

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

Q257 AP EAMCET 2020 · 18 Sep · Shift 2 MCQ

The number of 120°, $Cl-P-Cl$ angles in phosphorus pentachloride are

(A) 3
(B) 6
(C) 9
(D) 1

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

Q258 AP EAMCET 2020 · 18 Sep · Shift 2 MCQ

What sized ring is formed when two carboxylic acids form a dimeric structure through inter-molecular hydrogen bonding? (consider hydrogen bond as a bond)

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

Answer: (D) 8-membered · The council's preliminary key

Q259 AP EAMCET 2020 · 17 Sep · Shift 1 MCQ

Which of the following sets of species have similar bond order?

(A) N_2, O_2^{2-}, NO^+
(B) N_2, F_2, O_2^{2-}
(C) N_2, N_2^{2-}, O_2^-
(D) N_2, CO, NO^+

Answer: (D) N_2, CO, NO^+ · The council's preliminary key

Q260 AP EAMCET 2020 · 17 Sep · Shift 1 MCQ

In which of the following substances will hydrogen bonds be strongest?

(A) HCl
(B) H_2O
(C) HI
(D) H_2S

Answer: (B) H_2O · The council's preliminary key

Q261 AP EAMCET 2020 · 17 Sep · Shift 1 MCQ

How many lone pairs of electrons are present in a Hydroxyl ion?

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(A) Two pairs
(B) Three pairs
(C) One pair
(D) Four pairs

Answer: (B) Three pairs · Checked by our team

Q262 AP EAMCET 2020 · 17 Sep · Shift 2 MCQ

In which of the following molecule/ ion, all the bonds are not equal?

(A) XeF_4
(B) BF_4^-
(C) C_2H_4
(D) SiF_4

Answer: (C) C_2H_4 · The council's preliminary key

Q263 AP EAMCET 2020 · 17 Sep · Shift 2 MCQ

The types of hybrid orbitals of nitrogen in NO_2^+, NO_3^- and NH_4^+ respectively are

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

Answer: (B) sp, sp^2, sp^3 · Checked by our team

Q264 AP EAMCET 2020 · 17 Sep · Shift 2 MCQ

In NO_3^- ion, the number of bond pairs and lone pairs of electrons on nitrogen atom are

(A) 2,2
(B) 3,1
(C) 1,3
(D) 4,0

Answer: (D) 4,0 · The council's preliminary key

Q265 TS EAMCET 2020 · 14 Sep · Shift 1 MCQ

Which of the sulphur compound follows the octet rule?

(A) H_2SO_4
(B) SF_6
(C) SCl_2
(D) SF_4

Answer: (C) SCl_2 · Official TGCHE final key

Q266 TS EAMCET 2020 · 14 Sep · Shift 1 MCQ

$\Delta_r H$ of which reaction correctly represents the lattice enthalpy of NaCl (s)?

(A) $NaCl\,(s) \rightarrow Na\,(g) + Cl\,(g)$
(B) $NaCl\,(s) \rightarrow Na^+\,(g) + Cl^-\,(g)$
(C) $Na\,(g) + Cl\,(g) \rightarrow NaCl\,(s)$
(D) $Na^+\,(g) + Cl^-\,(g) \rightarrow NaCl\,(s)$

Answer: (B) $NaCl\,(s) \rightarrow Na^+\,(g) + Cl^-\,(g)$ · Official TGCHE final key

Q267 TS EAMCET 2020 · 14 Sep · Shift 2 MCQ

What is the correct order of bond lengths in the following molecules?
(i) O_2 (ii) O_2^+ (iii) O_2^- (iv) O_2^{2-}

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

Answer: (D) (iv) > (iii) > (i) > (ii) · Official TGCHE final key

Q268 TS EAMCET 2020 · 14 Sep · Shift 2 MCQ

Which one of the following compound is hypervalent?

(A) NO_3^-
(B) BF_3
(C) PCl_5
(D) CH_4

Answer: (C) PCl_5 · Official TGCHE final key

Q269 TS EAMCET 2020 · 11 Sep · Shift 1 MCQ

The correct order of H-N-H bond angles of ammonia, ammonium ion and amide are

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(A) $NH_2^- > NH_3 > NH_4^+$

(B) $NH_4^+ > NH_3 > NH_2^-$

(C) $NH_3 > NH_2^- > NH_4^+$

(D) $NH_3 > NH_4^+ > NH_2^-$

Answer: (B) $NH_4^+ > NH_3 > NH_2^-$ · Official TGCHE final key

Q270 TS EAMCET 2020 · 11 Sep · Shift 1 MCQ

Find out the correct hybridization of the central atom in BCl_3, PCl_5, NH_3 and SF_6

(A) (BCl_3: sp^3); (PCl_5: sp^3d^2); (NH_3: sp^2) and (SF_6: sp^3d)

(B) (BCl_3: sp^2); (PCl_5: sp^3d); (NH_3: sp^3) and (SF_6: sp^3d^2)

(C) (BCl_3: sp^2); (PCl_5: sp^3d^2); (NH_3: sp^3) and (SF_6: sp^3d)

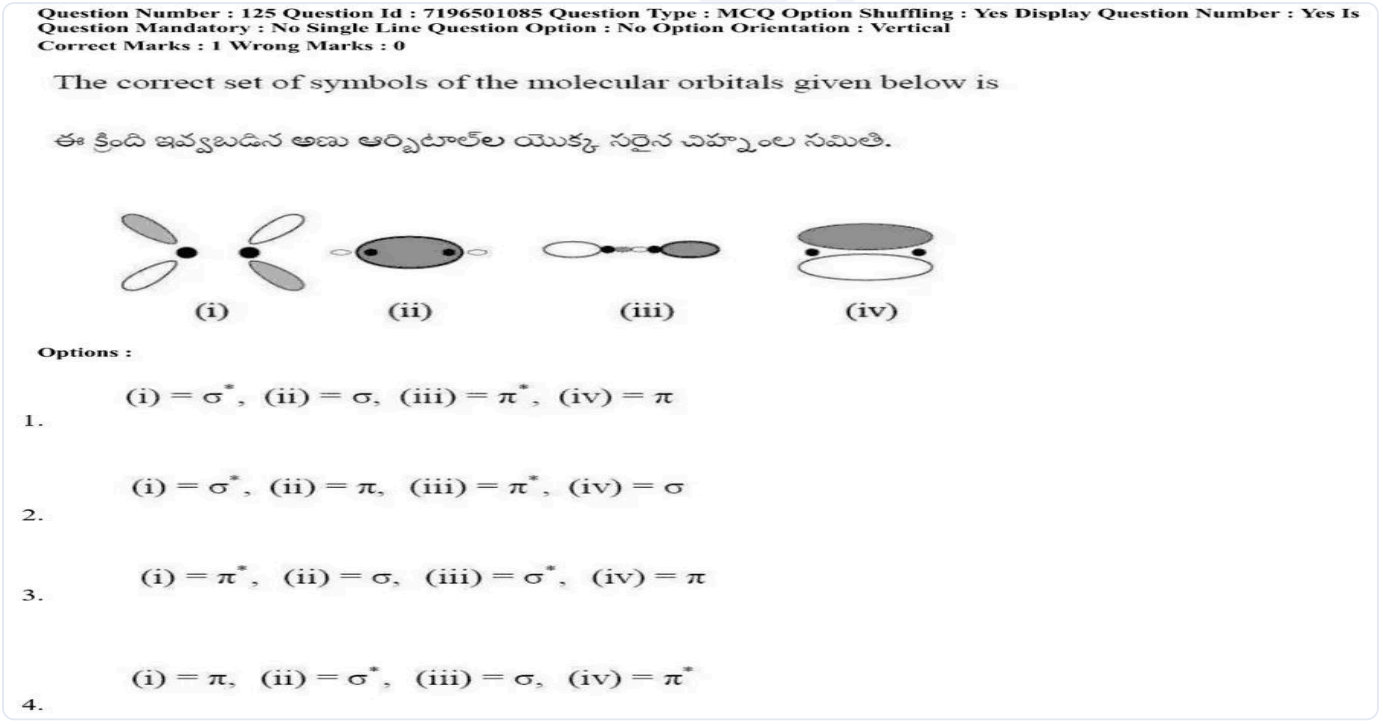
(D) (BCl_3: sp^3); (PCl_5: sp^3d); (NH_3: sp^2) and (SF_6: sp^3d^2)

Answer: (B) (BCl_3: sp^2); (PCl_5: sp^3d); (NH_3: sp^3) and (SF_6: sp^3d^2) · Official TGCHE final key

Q271 TS EAMCET 2020 · 11 Sep · Shift 2 MCQ

The correct set of symbols of the molecular orbitals given below is

(see the figure above)



(A) (i) = σ^*, (ii) = σ, (iii) = π^*, (iv) = π

(B) (i) = σ^*, (ii) = π, (iii) = π^*, (iv) = σ

(C) (i) = π^*, (ii) = σ, (iii) = σ^*, (iv) = π

(D) (i) = π, (ii) = σ^*, (iii) = σ, (iv) = π^*

Answer: (C) (i) = π^*, (ii) = σ, (iii) = σ^*, (iv) = π · Official TGCHE final key

Q272 TS EAMCET 2020 · 11 Sep · Shift 2 MCQ

Find out the correct order of repulsive interaction of electron pairs in the following systems

A) (i) lone pair – lone pair

B) (ii) lone pair – bond pair

C) (iii) bond pair – bond pair

(A) (i) > (ii) > (iii)

(B) (ii) > (i) > (iii)

(C) (iii) > (ii) > (i)

(D) (i) > (iii) > (ii)

Answer: (A) (i) > (ii) > (iii) · Official TGCHE final key

Q273 TS EAMCET 2020 · 10 Sep · Shift 1 MCQ

Match the following

A) BF_3

B) ClF_3

C) NH_3

D) NH_4^+

I) Tetrahedral

II) Trigonal planner

III) T-shape

IV) Trigonal pyramidal

The correct match is

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

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

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

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

Answer: (C) A-II, B-III, C-IV, D-I · Official TGCHE final key

Q274 TS EAMCET 2020 · 10 Sep · Shift 1 MCQ

Which of the following molecules does not exist according to molecular orbital theory?

(A) Li_2

(B) Be_2

(C) B_2

(D) C_2

Answer: (B) Be_2 · Official TGCHE final key

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Q275 TS EAMCET 2020 · 10 Sep · Shift 1 MCQ

What is the nature of the bonding in anhydrous $AlCl_3$ and hydrated $AlCl_3$ respectively?

(A) Ionic and Ionic
(B) Ionic and Covalent
(C) Covalent and Ionic
(D) Covalent and Covalent

Answer: (C) Covalent and Ionic · Official TGCHE final key

Q276 TS EAMCET 2020 · 10 Sep · Shift 2 MCQ

Let's assume the $C^1 \equiv C^2$ bond in acetylene is along z-axis. Find out the correct combination of atomic orbitals with non-zero overlapping.

(A) $2P_x$ of C^1 and $2P_y$ of C^2
(B) $2P_z$ of C^1 and $2P_y$ of C^2
(C) $2P_x$ of C^1 and 2S of C^2
(D) $2P_z$ of C^1 and $2P_z$ of C^2

Answer: (D) $2P_z$ **of** C^1 **and** $2P_z$ **of** C^2 · Official TGCHE final key

Q277 TS EAMCET 2020 · 10 Sep · Shift 2 MCQ

Which of the following molecules is not paramagnetic in nature?

(A) O_2
(B) O_2^+
(C) O_2^-
(D) O_2^{2-}

Answer: (D) O_2^{2-} · Official TGCHE final key

Q278 TS EAMCET 2020 · 10 Sep · Shift 2 MCQ

Hybridizations of carbon-2 in P and Q are respectively.
(see the figure above)

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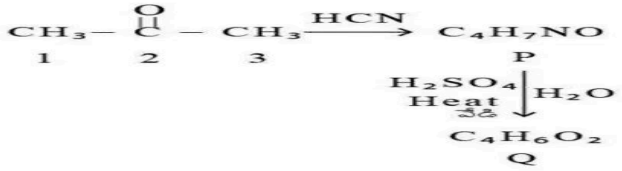
Question Number : 139 Question Id : 7196506619 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Hybridizations of carbon-2 in P and Q are respectively.

P మరియు Q లలో కార్బన్-2 సంకరీకరణాలు వరుసగా



Options :

1. P: Sp^3, Q: Sp^2
2. P: Sp^2, Q: Sp^2
3. P: Sp^3, Q: Sp
4. P: Sp^3, Q: Sp^3

(A) P: sp^3, Q: sp^2

(B) P: sp^2, Q: sp^2

(C) P: sp^3, Q: sp

(D) P: sp^3, Q: sp^3

Answer: (A) P: sp^3, Q: sp^2 · Official TGCHE final key

Q279 TS EAMCET 2020 · 9 Sep · Shift 1 MCQ

Find out the correct order of ionic character in the following molecules

(i) SO_2 (ii) K_2O (iii) N_2 (iv) LiF

(A) (iv) > (ii) > (iii) > (i)

(B) (iv) > (ii) > (i) > (iii)

(C) (ii) > (iv) > (i) > (iii)

(D) (ii) > (iv) > (iii) > (i)

Answer: (B) (iv) > (ii) > (i) > (iii) · Official TGCHE final key

Q280 TS EAMCET 2020 · 9 Sep · Shift 1 MCQ

Find out the bond order in He_2, He_2^+, O_2 and O_2^+, respectively

(A) 0, 0.5, 2 and 3

(B) 0.5, 0, 3 and 2

(C) 0, 0.5, 2 and 1

(D) 0, 0.5, 2 and 2.5

Answer: (D) 0, 0.5, 2 and 2.5 · Official TGCHE final key

Q281 TS EAMCET 2020 · 9 Sep · Shift 1 MCQ

In CO_2 molecule, the hybridizations of carbon and oxygen atoms are respectively

(A) Carbon: sp, Oxygen: sp^2

(B) Carbon: sp^2, Oxygen: sp^2

(C) Carbon: sp, Oxygen: sp

(D) Carbon: sp^2, Oxygen: sp^3

Answer: (A) Carbon: sp, Oxygen: sp^2 · Official TGCHE final key

Q282 TS EAMCET 2020 · 9 Sep · Shift 2 MCQ

Find out the hybridisations of C^1, C^2 and C^3 labelled carbon atoms in the given molecule $H-C\equiv C-\underset{H}{C}=C=CH_2$ *(see the figure above)*

Question Number : 125 Question Id : 719650445 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

Find out the hybridisations of C^1, C^2 and C^3 labelled carbon atoms in the given molecule $H-C\equiv \overset{1}{C}-\underset{H}{\overset{2}{C}}=\overset{3}{C}=CH_2$

$H-C\equiv \overset{1}{C}-\underset{H}{\overset{2}{C}}=\overset{3}{C}=CH_2$ అణువులో లేబుల్ చేయబడిన C^1, C^2 మరియు C^3 ల వద్ద కార్బన్ పరమాణువుల యొక్క సంకరీకరణాన్ని గుర్తించండి

Options :

	C^1	C^2	C^3
1.	sp	sp^2	sp^2
2.	sp	sp^2	sp
3.	sp	sp	sp
4.	sp^2	sp^2	sp^2

(A) C^1 sp, C^2 sp^2, C^3 sp^2

(B) C^1 sp, C^2 sp^2, C^3 sp

(C) C^1 sp, C^2 sp, C^3 sp

(D) C^1 sp^2, C^2 sp^2, C^3 sp^2

Answer: (B) C^1 sp, C^2 sp^2, C^3 sp · Official TGCHE final key

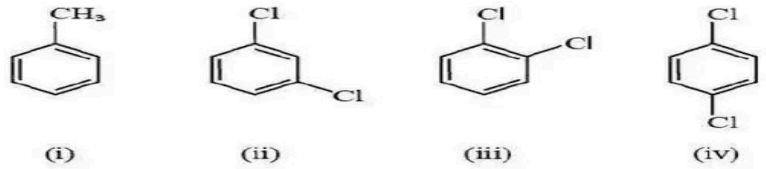
Q283 TS EAMCET 2020 · 9 Sep · Shift 2 MCQ

Increasing order of dipole moment of following compounds *(see the figure above)*

Question Number : 126 Question Id : 719650446 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

Increasing order of dipole moment of following compounds

ఈ క్రింది ఇవ్వబడిన సమ్మేళనాల యొక్క ద్విధ్రువ భ్రామకము పెరిగే క్రమం



(i) (ii) (iii) (iv)

Options :

1. (iv) < (i) < (ii) < (iii)

2. (i) < (iv) < (iii) < (ii)

3. (iv) < (iii) < (ii) < (i)

4. (iii) < (iv) < (ii) < (i)

(A) (iv) < (i) < (ii) < (iii)

(B) (i) < (iv) < (iii) < (ii)

(C) (iv) < (iii) < (ii) < (i)

(D) (iii) < (iv) < (ii) < (i)

Answer: (A) (iv) < (i) < (ii) < (iii) · Official TGCHE final key

Q284 TS EAMCET 2019 · 6 May · Shift 1 MCQ

Which of the following have linear structure?

a) $SnCl_2$ b) BeF_2 c) SO_2

d) NO_2^+ e) C_2H_2

(A) a, b, d

(B) b, d, e

(C) b, c, d

(D) a, d, e

Answer: (B) b, d, e · Official TGCHE final key

Q285 TS EAMCET 2019 · 6 May · Shift 1 MCQ

Match the following.

List - I (Molecular geometry)

A) Trigonal planar

B) Tetrahedral

C) Trigonal bipyramidal

D) Octahedral

List - II (Molecule)

I) PCl_5
II) SF_6
III) BF_3
IV) CCl_4
V) $BeCl_2$
The correct answer is

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

Answer: (D) A-III, B-IV, C-I, D-II · Official TGCHE final key

Q286 TS EAMCET 2019 · 4 May · Shift 1 MCQ

Which of the following compounds has the highest dipole moment (D)?

(A) HBr
(B) CH_3COCH_3
(C) H_2S
(D) $COCl_2$

Answer: (B) CH_3COCH_3 · Official TGCHE final key

Q287 TS EAMCET 2019 · 4 May · Shift 1 MCQ

Match the following.
List - I (Hybridisation)
A) sp^3d
B) sp^3d^2
C) dsp^2
D) dsp^3
List - II (Compound/ion)
I) $[PtCl_4]^{2-}$
II) SF_6
III) BCl_3
IV) PCl_5
V) ClF_3
The correct match is

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

Answer: (A) A-IV, B-II, C-I, D-V · Official TGCHE final key

Q288 TS EAMCET 2019 · 4 May · Shift 1 MCQ

What is the bonding nature in LiCl bond?

(A) Pure ionic
(B) Pure covalent
(C) Coordinate bond
(D) Ionic and covalent

Answer: (D) Ionic and covalent · Official TGCHE final key

Q289 TS EAMCET 2019 · 4 May · Shift 2 MCQ

Which is the correct order of dipole moments of BF_3, NF_3 and NH_3?

(A) $NH_3 > BF_3 > NF_3$
(B) $BF_3 > NF_3 > NH_3$
(C) $NH_3 > NF_3 > BF_3$
(D) $NF_3 > NH_3 > BF_3$

Answer: (C) $NH_3 > NF_3 > BF_3$ · Official TGCHE final key

Q290 TS EAMCET 2019 · 4 May · Shift 2 MCQ

Match the following.
List - I (Molecules/Ions)
A) N_2^+
B) CO
C) O_2
D) O_2^-
List - II (Bond order)
I) 1.0
II) 1.5
III) 2.0
IV) 2.5
V) 3
The correct answer is

EdLoop EAPCET

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

Answer: (A) A-IV, B-V, C-III, D-II · Official TGCHE final key

Q291 TS EAMCET 2019 · 3 May · Shift 1 MCQ

How many of the following species are diamagnetic?
He_2^+, H_2, H_2^+, H_2^-, He

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

Answer: (B) 2 · Official TGCHE final key

Q292 TS EAMCET 2019 · 3 May · Shift 1 MCQ

In which of the following, hydrogen bonding is strongest?

(A) $O-H\cdots N$
(B) $O-H\cdots O$
(C) $O-H\cdots F$
(D) $F-H\cdots F$

Answer: (D) $F-H\cdots F$ · Official TGCHE final key

Q293 TS EAMCET 2019 · 3 May · Shift 2 MCQ

How many ions of the following have bond order of 2.5?
N_2^- ; NO^- ; C_2^- ; N_2^+ ; C_2^{2-} ; CN^+

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

Answer: (B) 3 · Official TGCHE final key

Q294 TS EAMCET 2019 · 3 May · Shift 2 MCQ

Which of the following ions has Tetrahedral geometry and sp^3 hybridisation for its central atom?

(A) BH_4^-
(B) NH_2^-
(C) CO_3^{2-}
(D) H_3O^+

Answer: (A) BH_4^- · Official TGCHE final key

Q295 AP EAMCET 2019 · 23 Apr · Shift 1 MCQ

Observe the following statements.
i. According to VSEPR theory, ClF_3 and SO_2 are shown as AB_3E and AB_2E type molecules respectively.
ii. SF_4 has "See-saw" shape.
iii. $HgCl_2$ and $PbCl_2$ have same shape.
The statements which are not correct are:

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

Answer: (B) i, iii only · Official APSCHE final key

Q296 AP EAMCET 2019 · 23 Apr · Shift 1 MCQ

Observe the following molecules
C_2, N_2, O_2, F_2
Which one of the following statements is correct for the above molecules?

(A) They exhibit same magnetic property
(B) They have same number of bonding molecular orbitals and same number of antibonding molecular orbitals
(C) The sequence of molecular orbitals is as follows $\sigma_{2p_z} < (\pi_{2p_x} = \pi_{2p_y}) < (\pi^*_{2p_x} = \pi^*_{2p_y}) < \sigma^*_{2p_z}$
(D) They have same bond order

Answer: (B) They have same number of bonding molecular orbitals and same number of antibonding molecular orbitals · Official APSCHE final key

Q297 AP EAMCET 2019 · 22 Apr · Shift 1 MCQ

Observe the following molecules/ions
$H_2, N_2, O_2, N_2^+, O_2^+, O_2^-, F_2$
Identify correct statement

(A) H_2, N_2, O_2, F_2 show diamagnetic property
(B) O_2, O_2^+, O_2^-, N_2^+ show paramagnetic property
(C) N_2, F_2, O_2^+, O_2^- show diamagnetic property
(D) H_2, N_2^+, O_2^+, O_2^- show paramagnetic property

Answer: (B) O_2, O_2^+, O_2^-, N_2^+ **show paramagnetic property** · Official APSCHE final key

Q298 AP EAMCET 2019 · 22 Apr · Shift 1 MCQ

Match the following.
List - I
A) BrF_5
B) SF_4
C) XeF_4
D) ClF_3
List - II
I) AB_4E, see-saw
II) AB_4E_2, square planar
III) AB_5E, square pyramid
IV) AB_3E_2, T-shape
V) AB_5E_2, square pyramid
The correct answer is

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

Answer: (C) A-III, B-I, C-II, D-IV · Official APSCHE final key

Q299 AP EAMCET 2019 · 22 Apr · Shift 2 MCQ

Match the following.
List - I
A) $[CrF_6]^{3-}$
B) XeF_4
C) PCl_5
D) BrF_5
List - II
I) sp^3d^2, square planar
II) sp^3d, square planar
III) sp^3d^2, square pyramid
IV) sp^3d, trigonal bipyramidal
V) sp^3d^2, octahedral
The correct answer is

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

Answer: (C) A-V, B-I, C-IV, D-III · Official APSCHE final key

Q300 AP EAMCET 2019 · 22 Apr · Shift 2 MCQ

Identify the pair of species having same hybridisation for central atom but possess different geometry

(A) CH_4, NH_4^+
(B) $C_2H_2, BeCl_2$
(C) PF_5, IF_5
(D) PCl_5, ClF_3

Answer: (D) PCl_5, ClF_3 · Official APSCHE final key

Q301 AP EAMCET 2019 · 21 Apr · Shift 1 MCQ

Identify the molecule in which the arrangement of electron pairs around the central atom is octahedral and shape is not octahedral

(A) SF_6
(B) XeF_6
(C) BrF_5
(D) XeO_2F_4

Answer: (C) BrF_5 · Official APSCHE final key

Q302 AP EAMCET 2019 · 21 Apr · Shift 1 MCQ

The wave functions of 1s orbitals of two hydrogen atoms are ψ_A and ψ_B. ψ_A and ψ_B are linearly combined to form two molecular orbitals (σ and σ^*). Which of the following statements are correct?
I) σ^* is equal to $(\psi_A - \psi_B)$
II) In σ orbital, one nodal plane is present in between two nuclei
III) The energy of σ orbital is lower than the energy of σ^* orbital

(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

Q303 AP EAMCET 2019 · 21 Apr · Shift 2 MCQ

Identify the correct set of molecules with different geometries and central atoms with different hybridisations.

(A) $SnCl_2, BeCl_2, OF_2$
(B) $H_2O, SO_2, HOCl$
(C) NH_3, H_2SO_3, XeO_3
(D) SF_4, XeF_4, CF_4

Answer: (D) SF_4, XeF_4, CF_4 · Official APSCHE final key

Q304 AP EAMCET 2019 · 21 Apr · Shift 2 MCQ

Observe the following molecules.
$PCl_5, BrF_5, ClF_5, PF_5, ClF_3, XeF_4, XeF_2, IF_5$
The number of molecules having square pyramidal geometry from the above is

(A) 4
(B) 5
(C) 3
(D) 6

Answer: (C) 3 · Official APSCHE final key

Q305 AP EAMCET 2019 · 20 Apr · Shift 1 MCQ

Which of the following orders are correct against the property given?
I) dipole moment : $NF_3 > NH_3 > BF_3$
II) Covalent bond length : $C - O > N - O > O - H$
III) Bond order : $C_2 > B_2 > He_2$

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

Answer: (B) II, III only · Official APSCHE final key

Q306 AP EAMCET 2019 · 20 Apr · Shift 1 MCQ

The molecule/ion having diamagnetic nature and a bond order of 1.0 is

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(A) He_2^+
(B) Li_2^+
(C) B_2
(D) C_2

Any attempt was accepted. Full marks for attempting. · Official APSCHE final key

Q307 AP EAMCET 2019 · 20 Apr · Shift 1 MCQ

Which one of the following has maximum number of hybrid orbitals?

(A) C_6H_6
(B) $(CH_3)_4C$
(C) $(CH_3)_2C{=}O$
(D) $CH_3 - CH{=}CH - CN$

Answer: (B) $(CH_3)_4C$ · Official APSCHE final key

Q308 AP EAMCET 2019 · 20 Apr · Shift 1 MCQ

The bond angle between C - O and O - H bonds in alcohols is close to

(A) 109°
(B) 120°
(C) 180°
(D) 90°

Answer: (A) 109° · Official APSCHE final key

Q309 AP EAMCET 2019 · 20 Apr · Shift 2 MCQ

The changes in bond length with respect to N-N and O-O, when N_2 becomes N_2^+ and O_2 becomes O_2^+ are respectively

(A) increases, decreases
(B) decreases, increases
(C) increases, increases
(D) decreases, decreases

Answer: (A) increases, decreases · Official APSCHE final key

Q310 AP EAMCET 2019 · 20 Apr · Shift 2 MCQ

Arrange the following species in the increasing order of lone pairs of electrons
(a) CO (b) NO_2^- (c) NF_3 (d) CO_3^{-2}

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

Answer: (D) (a) < (b) < (d) < (c) · Official APSCHE final key

Q311 AP EAMCET 2019 · 20 Apr · Shift 2 MCQ

The stability order of the following resonance structures is
(see the figure above)

Question Number : 136 Question Id : 1874633976 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The stability order of the following resonance structures is

క్రింది రెజోనెన్స్ నిర్మాణాల స్థిరత్వక్రమం

I) $CH_2=CH-\overset{\overset{:O:}{\|}}{C}-H$

II) $\overset{\oplus}{C}H_2-CH=\overset{\overset{:\ddot{O}:^{\ominus}}{|}}{C}-H$

III) $:\overset{\ominus}{C}H_2-CH=\overset{\overset{:\overset{\oplus}{O}:}{|}}{C}-H$

Options :

1. III < II < I
2. II > I > III
3. II < I < III
4. II > III > I

(A) III < II < I
(B) II > I > III
(C) II < I < III
(D) II > III > I

Answer: (A) III < II < I · Official APSCHE final key

Q312 TS EAMCET 2018 · 7 May · Shift 1 MCQ

The hybridization of N in NO_2^+, NO_3^- and NH_4^+ respectively is

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

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

Q313 TS EAMCET 2018 · 7 May · Shift 1 MCQ

The bond orders of He_2^+ and He_2 are respectively

(A) $\frac{1}{2}$, 0
(B) 0, $\frac{1}{2}$
(C) 0, 1
(D) 1, 0

Answer: (A) $\frac{1}{2}$, 0 · The council's preliminary key

Q314 TS EAMCET 2018 · 5 May · Shift 1 MCQ

Statement (a) : CO_2 has no dipole moment, whereas SO_2 and H_2O have dipole moment.
Statement (b) : $SnCl_2$ is ionic, whereas $SnCl_4$ is covalent.
Which of the following is correct?

(A) Both (a) and (b) are not correct
(B) (a) is correct but (b) is not correct
(C) Both (a) and (b) are correct
(D) (a) is not correct but (b) is correct

Answer: (C) Both (a) and (b) are correct · The council's preliminary key

Q315 TS EAMCET 2018 · 5 May · Shift 1 MCQ

Assertion (A) : Xe atoms in XeF_2 are d^2sp^3 hybridised.
Reason (R) : XeF_2 molecule does not follow octet rule.
Which of the following is true?

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

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

Q316 TS EAMCET 2018 · 5 May · Shift 2 MCQ

Identify the correct statements from the following
a) The dipole moment of CO_2 and BF_3 is zero
b) The dipole moment of NF_3 is higher than the dipole moment of NH_3
c) The dipole moment of HI is lower than the dipole moment of HCl

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(A) a, c
(B) a, b
(C) b, c
(D) a, b, c

Answer: (A) a, c · The council's preliminary key

Q317 TS EAMCET 2018 · 5 May · Shift 2 MCQ

Identify the pair that is not isostructural

(A) PCl_5, BrF_5
(B) $CH_4, SiCl_4$
(C) CO_3^{2-}, NO_3^-
(D) AlF_6^{3-}, SF_6

Answer: (A) PCl_5, BrF_5 · The council's preliminary key

Q318 TS EAMCET 2018 · 5 May · Shift 2 MCQ

Find the odd-electron molecules from the following
(a) C_2H_2 (b) SCl_2 (c) NO (d) N_2 (e) NO_2

(A) a, c, d
(B) b, c
(C) a, d
(D) c, e

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

Q319 TS EAMCET 2018 · 4 May · Shift 1 MCQ

The correct order of bond angles of the given compounds is

(A) $NH_3 < PH_3 < AsH_3 < SbH_3$
(B) $SbH_3 < AsH_3 < PH_3 < NH_3$
(C) $NH_3 < AsH_3 < SbH_3 < PH_3$
(D) $PH_3 < SbH_3 < AsH_3 < NH_3$

Answer: (B) $SbH_3 < AsH_3 < PH_3 < NH_3$ · The council's preliminary key

Q320 TS EAMCET 2018 · 4 May · Shift 1 MCQ

The molecular orbital theory supports paramagnetic behaviour of

(A) Be_2
(B) C_2
(C) N_2
(D) O_2

Answer: (D) O_2 · The council's preliminary key

Q321 TS EAMCET 2018 · 4 May · Shift 2 MCQ

Group the molecules/ ions according to bond order

(A) $(O_2^{2-}, Li_2, O_2^{2+})(F_2, N_2, He_2^{2+})$
(B) $(F_2, O_2^{2+}, N_2)(O_2^{2-}, He_2^{2+}, Li_2)$
(C) $(O_2^{-}, Li_2, F_2, He_2^{2+})(N_2, O_2^{2+})$
(D) $(Li_2, F_2, O_2^{2+})(N_2, O_2^{2-}, He_2^{2+})$

Answer: (C) $(O_2^{-}, Li_2, F_2, He_2^{2+})(N_2, O_2^{2+})$ · The council's preliminary key

Q322 TS EAMCET 2018 · 4 May · Shift 2 MCQ

Match the bond order for the following molecules.
List - I
a) Li_2
b) N_2
c) Be_2
d) O_2
List - II
i) 3
ii) 1.5
iii) 1.0
iv) 0
v) 2
The correct answer is

(A) a-ii, b-iii, c-i, d-v
(B) a-iii, b-i, c-iv, d-v
(C) a-iv, b-i, c-v, d-iii
(D) a-iii, b-ii, c-v, d-i

Answer: (B) a-iii, b-i, c-iv, d-v · The council's preliminary key

Q323 AP EAMCET 2018 · 24 Apr · Shift 1 MCQ

An atom in a molecule has electrons in 1s, 2s, 2p, 3s, 3p, 3d and 4s orbitals. This atom can undergo hybridisations of type

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(A) $sp^3d^2,\ sp^3,\ p^3ds$

(B) $d^2sp^3,\ p^2ds,\ dsp^2$

(C) $sp^3,\ dsp^2,\ d^2sp^3$

(D) $sp^3,\ dsp^2,\ dsp$

Answer: (C) $sp^3,\ dsp^2,\ d^2sp^3$ · The council's preliminary key

Q324 AP EAMCET 2018 · 24 Apr · Shift 1 MCQ

The bond dissociation energy (E) and bond length (R) of O_2, N_2, F_2 follow the order as

(A) (E) $O_2 > N_2 > F_2$; (R) $F_2 > O_2 > N_2$

(B) (E) $N_2 > F_2 > O_2$; (R) $N_2 > O_2 > F_2$

(C) (E) $N_2 > O_2 > F_2$; (R) $F_2 > O_2 > N_2$

(D) (E) $N_2 > O_2 > F_2$; (R) $N_2 > O_2 > F_2$

Answer: (C) (E) $N_2 > O_2 > F_2$; (R) $F_2 > O_2 > N_2$ · The council's preliminary key

Q325 AP EAMCET 2018 · 24 Apr · Shift 1 MCQ

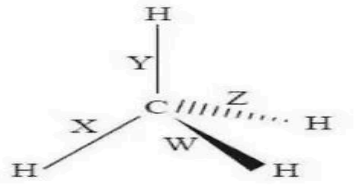
In the following three dimensional structure of CH_4, the bonds are labelled as W, X, Y and Z. The bonds projecting out of the plane are

(see the figure above)

Question Number : 136 Question Id : 4557344456 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In the following three dimensional structure of CH_4, the bonds are labelled as W, X, Y and Z. The bonds projecting out of the plane are

క్రింది CH_4 త్రిజామితీయ నిర్మాణంలోని బంధాలు W, X, Y, Z లుగా సూచింపబడ్డాయి. ఈ నిర్మాణంలో తలం నుండి బయటకు పోయే బంధాలు ఏవి?



Options :

1. X, Y
2. W, Z
3. X, Z
4. W, Y

(A) X, Y
(B) W, Z
(C) X, Z
(D) W, Y

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

Q326 AP EAMCET 2018 · 24 Apr · Shift 1 MCQ

Which one of the following has highest dipole moment?

(A) cis-But-2-ene
(B) trans-1, 2-Dichloroethene
(C) cis-1, 2-Dichloroethene
(D) trans-But-2-ene

Answer: (C) cis-1, 2-Dichloroethene · The council's preliminary key

Q327 AP EAMCET 2018 · 24 Apr · Shift 2 MCQ

Observe the following statements
i. The dipole moment of NH_3 is higher than the dipole moment of NF_3.
ii. The dipole moment of chloroform is zero.
iii. Covalent bond character in NaCl is more compared to CuCl.
The statements which are not correct are

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

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

Q328 AP EAMCET 2018 · 24 Apr · Shift 2 MCQ

The correct order of energy of σ_{2p}, π_{2p}, π^*_{2p} and σ^*_{2p} orbitals in F_2 is

(A) $\sigma_{2p} > \pi_{2p} > \pi^*_{2p} > \sigma^*_{2p}$
(B) $\sigma_{2p} < \pi_{2p} < \pi^*_{2p} < \sigma^*_{2p}$
(C) $\pi_{2p} > \sigma_{2p} > \pi^*_{2p} > \sigma^*_{2p}$
(D) $\pi_{2p} < \sigma_{2p} < \pi^*_{2p} < \sigma^*_{2p}$

Answer: (B) $\sigma_{2p} < \pi_{2p} < \pi^*_{2p} < \sigma^*_{2p}$ · The council's preliminary key

Q329 AP EAMCET 2018 · 24 Apr · Shift 2 MCQ

The three dimensional structure of CH_4 is given below. The bonds are labelled as W, X, Y and Z. What are the bonds lying in the plane (A), projecting out of the plane away from the observer (B) and

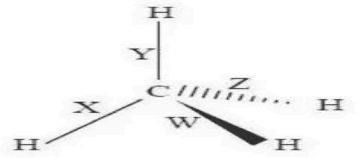
projecting out of the plane towards the observer (C) ?

(see the figure above)

Question Number : 136 Question Id : 4557344616 Question Type : MCQ Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The three dimensional structure of CH_4 is given below. The bonds are labelled as W, X, Y and Z. What are the bonds lying in the plane (A), projecting out of the plane away from the observer (B) and projecting out of the plane towards the observer (C) ?

CH_4 త్రిజామితీయ నిర్మాణం కింద ఇవ్వబడినది. దాని బంధాలు W, X, Y మరియు Z లుగా సూచింపబడ్డాయి. దీనిలో తలంలోని బంధాలు (A), తలం నుండి బయటకుపోయే బంధాలలో పరిశీలకునికి దూరంగా ఉన్న బంధాలు (B) మరియు తలం నుండి బయటకుపోయే బంధాలలో పరిశీలకునికి సమీపంగా ఉండే బంధాలు (C) ఏవి?



Options :

	A	B	C
1.	X, Y	Z	W
2.	Z	W	X, Y
3.	X, Y	W	Z
4.	W	X, Y	Z

(A) A: X, Y; B: Z; C: W

(B) A: Z; B: W; C: X, Y

(C) A: X, Y; B: W; C: Z

(D) A: W; B: X, Y; C: Z

Answer: (A) A: X, Y; B: Z; C: W · The council's preliminary key

Q330 AP EAMCET 2018 · 23 Apr · Shift 1 MCQ

Dipole moment order of which of the following pairs of molecules is not correct?

(A) $HF > HCl$

(B) $H_2S > CO_2$

(C) $NH_3 > NF_3$

(D) $CH_4 > CHCl_3$

Answer: (D) $CH_4 > CHCl_3$ · The council's preliminary key

Q331 AP EAMCET 2018 · 23 Apr · Shift 1 MCQ

X and Y are the two covalent molecules in which the hybridization of the central atoms is same, but shapes are different. X and Y are

(A) XeF_4, NH_3
(B) XeF_2, PF_5
(C) BF_3, H_2O
(D) CH_4, $BeCl_2$

Answer: (B) XeF_2, PF_5 · The council's preliminary key

Q332 AP EAMCET 2018 · 23 Apr · Shift 2 MCQ

The correct order of dipole moments of NH_3, H_2O and NF_3 is

(A) $H_2O > NH_3 > NF_3$
(B) $H_2O > NF_3 > NH_3$
(C) $NF_3 > NH_3 > H_2O$
(D) $NH_3 > NF_3 > H_2O$

Answer: (A) $H_2O > NH_3 > NF_3$ · The council's preliminary key

Q333 AP EAMCET 2018 · 23 Apr · Shift 2 MCQ

The number of electrons present in bonding and antibonding orbitals in O_2^{2-} is respectively

(A) 10, 6
(B) 12, 6
(C) 11, 7
(D) 10, 8

Answer: (D) 10, 8 · The council's preliminary key

Q334 AP EAMCET 2018 · 22 Apr · Shift 1 MCQ

Which set of the following molecules has only one lone pair of electrons on their respective central atoms?
a) SO_2 b) XeF_4 c) $PbCl_2$ d) SF_4 e) ClF_3

(A) a, c, d
(B) b, c, d
(C) a, b, e
(D) a, c, e

Answer: (A) a, c, d · The council's preliminary key

Q335 AP EAMCET 2018 · 22 Apr · Shift 1 MCQ

XeF_4 is square planar where as CCl_4 is tetrahedral because

(A) In XeF_4, 'Xe' is sp^2 hybridised and in CCl_4 'C' is sp^3 hybridised

(B) In both XeF_4 and CCl_4 the central atom is sp^3 hybridised

(C) In XeF_4, 'Xe' is sp^3d^2 hybridised but due to the presence of 2 lone pairs of electrons shape is square planar whereas in CCl_4 'C' is sp^3 hybridised

(D) Xe is a noble gas, whereas C is a non-metal

Answer: (C) In XeF_4, 'Xe' is sp^3d^2 hybridised but due to the presence of 2 lone pairs of electrons shape is square planar whereas in CCl_4 'C' is sp^3 hybridised · The council's preliminary key

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Q336 AP EAMCET 2018 · 22 Apr · Shift 2 MCQ

The species, which has the bond order same as that of F_2 molecule is

(A) O_2^+

(B) O_2^{2-}

(C) O_2

(D) N_2^+

Answer: (B) O_2^{2-} · The council's preliminary key

Q337 TS EAMCET 2017 · 12 May · Offline MCQ

The species having pyramidal shape according to VSEPR theory is

(A) SO_3

(B) BrF_3

(C) SiO_3^{2-}

(D) OSF_2

Answer: (D) OSF_2 · The council's preliminary key

Q338 TS EAMCET 2017 · 12 May · Offline MCQ

The bond length (pm) of F_2, H_2, Cl_2 and I_2, respectively is

(A) 144, 74, 199, 267

(B) 74, 144, 199, 267

(C) 74, 267, 199, 144

(D) 144, 74, 267, 199

Answer: (A) 144, 74, 199, 267 · The council's preliminary key

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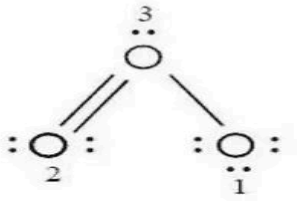
Q339 AP EAMCET 2017 · 26 Apr · Shift 1 MCQ

The Lewis structure for O_3 molecule is given below.
The correct formal charges on oxygen atoms labelled 1, 2, 3 are respectively
(see the figure above)

Question Number : 124 Question Id : 1017174604 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The Lewis structure for O_3 molecule is given below.
The correct formal charges on oxygen atoms labelled 1, 2, 3 are respectively

O_3 అణువు లూయీ నిర్మాణం క్రింద ఇవ్వబడింది.
అయితే, 1, 2, 3 లుగా గుర్తించబడిన ఆక్సిజన్ పరమాణువుల సరియైన ఫార్మల్ చార్జ్‌లు వరుసగా



Options :
1. $+1, 0, -1$
2. $-1, 0, +1$
3. $0, +1, -1$
4. $+1, -1, 0$

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

Answer: (B) $-1,\ 0,\ +1$ · The council's preliminary key

Q340 AP EAMCET 2017 · 26 Apr · Shift 1 MCQ

Which among the following are having, diamagnetic property?
(a) B_2 (b) N_2 (c) O_2 (d) C_2

(A) a, b
(B) b, c
(C) a, d
(D) b, d

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

Q341 AP EAMCET 2017 · 26 Apr · Shift 2 MCQ

Match the following :
List - I
a) sp^3d^2
b) sp^3
c) sp^3d
d) dsp^2
List - II
i) PF_5

ii) $[Ni(CN)_4]^{2-}$
iii) BrF_5
iv) C_2H_6
v) C_2H_2
The correct answer is

(A) a-v, b-ii, c-i, d-iii
(B) a-iii, b-iv, c-i, d-ii
(C) a-iii, b-iv, c-ii, d-i
(D) a-ii, b-i, c-iii, d-iv

Answer: (B) a-iii, b-iv, c-i, d-ii · The council's preliminary key

Q342 AP EAMCET 2017 · 26 Apr · Shift 2 MCQ

Identify the correct statement(s) from the following
a) Dipole moment of NH_3 is more than NF_3
b) SF_4 is square planar
c) $SnCl_4$ is more covalent than $SnCl_2$
d) In H_2SO_4 sulphur atom has expanded octet

(A) a, b
(B) b, c, d
(C) a, c, d
(D) a, b, c

Answer: (C) a, c, d · The council's preliminary key

Q343 AP EAMCET 2017 · 25 Apr · Shift 1 MCQ

Which one of the following sets is **correct** for interhalogen compound BrF_5?

(A) Trigonal pyramidal shape, 3 bond pairs and one lone pair
(B) T-shape, 3 bond pairs and two lone pairs
(C) Square pyramidal shape, 4 bond pairs and two lone pairs
(D) Square pyramidal shape, 5 bond pairs and one lone pair

Answer: (D) Square pyramidal shape, 5 bond pairs and one lone pair · The council's preliminary key

Q344 AP EAMCET 2017 · 25 Apr · Shift 1 MCQ

Identify the pair of molecules in which the central atom has same hybridization

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(A) H_2O, NH_3
(B) ClF_3, NH_3
(C) XeF_2, ClF_5
(D) SF_4, CF_4

Answer: (A) H_2O, NH_3 · The council's preliminary key

Q345 AP EAMCET 2017 · 25 Apr · Shift 1 MCQ

Oxidation of carbon with concentrated sulphuric acid gives the corresponding oxides of C, S and H. The hybridisation of the central atoms in the oxides of C and H are respectively

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

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

Q346 AP EAMCET 2017 · 25 Apr · Shift 2 MCQ

Assertion (A) : Higher lattice enthalpy leads to greater stability of ionic compounds.
Reason (R) : Lattice enthalpy is a direct measure of the electrostatic forces of repulsion among the constituent ions in an ionic solid.
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: (C) (A) is correct, but (R) is not correct · The council's preliminary key

Q347 AP EAMCET 2017 · 25 Apr · Shift 2 MCQ

The number of bond pairs, lone pairs present on the central atom of SF_4 molecule and shape respectively are

(A) 4, 2, tetrahedral
(B) 4, 2, square planar
(C) 4, 1, tetrahedral
(D) 4, 1, see-saw

Answer: (D) 4, 1, see-saw · The council's preliminary key

Q348 AP EAMCET 2017 · 24 Apr · Shift 1 MCQ

If the dipolemoment of H_2S, NH_3, NF_3 and BF_3 are 0.95D, 1.47D, 0.23D and 0.0D respectively, the molecule that has trigonal planar structure is :

(A) BF_3
(B) NH_3
(C) H_2S
(D) NF_3

Answer: (A) BF_3 · The council's preliminary key

Q349 AP EAMCET 2017 · 24 Apr · Shift 1 MCQ

Identify statement (s) which is (are) not correct from the following
a) NH_3 and H_3O^+ are isostructural
b) ClF_3 has T-shape
c) O_2 molecule is paramagnetic
d) Bond order of N_2^+ is more than N_2

(A) a, d
(B) b, c
(C) a
(D) d

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

Q350 AP EAMCET 2017 · 24 Apr · Shift 2 MCQ

The correct statements from the following are:
a) The total number of sigma bonds present in benzene is 12
b) LiF is more covalent than KF
c) $SnCl_2$ is more covalent than $SnCl_4$

(A) a, c
(B) a, b
(C) b, c
(D) a, b, c

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

Q351 AP EAMCET 2017 · 24 Apr · Shift 2 MCQ

Match the following :
List - I
a) See Saw Shape
b) Square Pyramidal

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c) T-Shape
d) Bent Shape
List - II
i) XeF_4
ii) ClF_3
iii) $PbCl_2$
iv) SF_4
v) BrF_5
The correct answer is

(A) (a) iv, (b) v, (c) iii, (d) ii
(B) (a) iv, (b) v, (c) ii, (d) iii
(C) (a) i, (b) iii, (c) iv, (d) ii
(D) (a) i, (b) iv, (c) v, (d) iii

Answer: (B) (a) iv, (b) v, (c) ii, (d) iii · The council's preliminary key

Q352 TS EAMCET 2016 · 15 May · Offline MCQ

Match the following
List-I
A) PCl_3
B) BF_3
C) ClF_3
D) XeF_4
List-II
I) Square planar
II) T-shape
III) Trigonal-pyramidal
IV) See-saw
V) Trigonal planar
The correct answer is :

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

Answer: (C) A-III, B-V, C-II, D-I · Official TGCHE final key

Q353 TS EAMCET 2016 · 15 May · Offline MCQ

The order of covalent character of KF, KI, KCl is

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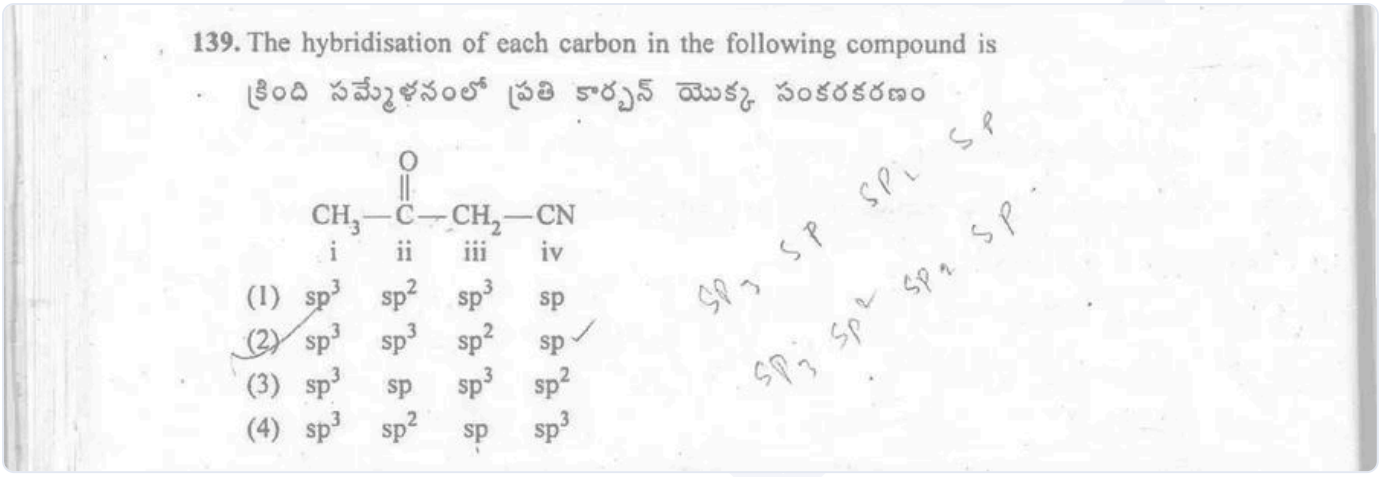
(A) KCl < KF < KI
(B) KI < KCl < KF
(C) KF < KI < KCl
(D) KF < KCl < KI

Answer: (D) KF < KCl < KI · Official TGCHE final key

Q354 TS EAMCET 2016 · 15 May · Offline MCQ

The hybridisation of each carbon in the following compound is
(see the figure above)


139. The hybridisation of each carbon in the following compound is
కింది సమ్మేళనంలో ప్రతి కార్బన్ యొక్క సంకరకరణం

	i	ii	iii	iv
(1)	sp^3	sp^2	sp^3	sp
(2)	sp^3	sp^3	sp^2	sp
(3)	sp^3	sp	sp^3	sp^2
(4)	sp^3	sp^2	sp	sp^3

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

Answer: (A) sp^3, sp^2, sp^3, sp · Official TGCHE final key

Q355 AP EAMCET 2016 · 29 Apr · Offline MCQ

In which of the following molecules all bond lengths are not equal?

(A) SF_6
(B) PCl_5
(C) BCl_3
(D) CCl_4

Answer: (B) PCl_5 · The council's preliminary key

Q356 AP EAMCET 2016 · 29 Apr · Offline MCQ

In which of the following molecules maximum number of lone pairs is present on the central atom?

(A) NH_3
(B) H_2O
(C) ClF_3
(D) XeF_2

Answer: (D) XeF_2 · The council's preliminary key

Q357 AP EAMCET 2014 · 22 May · Offline MCQ

The structure of $XeOF_4$ is

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

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

Q358 AP EAMCET 2014 · 22 May · Offline MCQ

The number of electrons in the valence shell of the central atom of a molecule is 8. The molecule is

(A) BCl_3
(B) BeH_2
(C) SCl_2
(D) SF_6

Answer: (C) SCl_2 · The council's preliminary key

Q359 AP EAMCET 2014 · 22 May · Offline MCQ

Which one of the following has longest covalent bond distance ?

(A) C−C
(B) C−H
(C) C−N
(D) C−O

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

Q360 AP EAMCET 2014 · 22 May · Offline MCQ

The molecular interactions responsible for hydrogen bonding in HF

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(A) ion-induced dipole
(B) dipole-dipole
(C) dipole-induced dipole
(D) ion-dipole

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

Q361 AP EAMCET 2014 · 22 May · Offline MCQ

What are the shapes of ethyne and methane ?

(A) square planar and linear
(B) tetrahedral and trigonal planar
(C) linear and tetrahedral
(D) trigonal planar and linear

Answer: (C) linear and tetrahedral · The council's preliminary key

Q362 AP EAMCET 2013 · 10 May · Offline MCQ

Identify the correct set :
(columns: molecule | hybridisation of central atom | shape)

(A) PCl_5 | dsp^3 | square pyramidal
(B) $[Ni(CN)_4]^{2-}$ | sp^3 | tetrahedral
(C) SF_6 | sp^3d^2 | octahedral
(D) IF_3 | dsp^3 | pyramidal

Answer: (C) SF_6 | sp^3d^2 | octahedral · The council's preliminary key

Q363 AP EAMCET 2013 · 10 May · Offline MCQ

Which one of the following statements is correct ?

(A) Hybrid orbitals do not form σ bonds
(B) Lateral overlap of p-orbitals or p- and d-orbitals produces π-bonds
(C) The strength of bonds follows the order : $\sigma_{p-p} < \sigma_{s-s} < \pi_{p-p}$
(D) s-orbitals do not form σ bonds

Answer: (B) Lateral overlap of p-orbitals or p- and d-orbitals produces π-bonds · The council's preliminary key

Q364 AP EAMCET 2012 · 12 May · Offline MCQ

The formal charges of C and O atoms in CO_2 (:Ö=C=Ö:) are, respectively

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(A) 1, -1
(B) -1, 1
(C) 2, -2
(D) 0, 0

Answer: (D) 0, 0 · Official APSCHE final key

Q365 AP EAMCET 2012 · 12 May · Offline MCQ

According to molecular orbital theory, the total number of bonding electron pairs in O_2 is

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

Answer: (C) 5 · Official APSCHE final key

Q366 AP EAMCET 2011 · 8 May · Offline MCQ

Assertion (A) : Ethanol boils at lower temperature than ethane.
Reason (R) : The molecular weight of ethanol is higher than that of ethane.
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 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: (D) (A) is not true but (R) is true · The council's preliminary key

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Q367 AP EAMCET 2011 · 8 May · Offline MCQ

see figure

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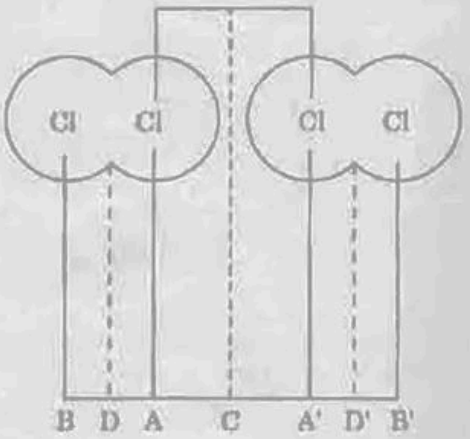
158.



With reference to the diagram given, the van der Waals radius is equal to :
పేర్కొనబడిన పటం ప్రకారం, వాండర్ వాల్స్ వ్యాసార్ధం క్రింది వాటిలో దేనికి సమానము?

(1) A–A' (2) B–A
(3) B–D (4) A–C

(A) A-A'
(B) B-A
(C) B-D
(D) A-C

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

Q368 AP EAMCET 2011 · 8 May · Offline MCQ

In which one of the following, the bond angle is the lowest ?

(A) $H_3O^{\oplus}$
(B) $NH_4^{\oplus}$
(C) F_2O
(D) BCl_3

Answer: (C) F_2O · The council's preliminary key

Q369 AP EAMCET 2011 · 8 May · Offline MCQ

In the Born-Haber cycle of the given reaction
$Na(s) + \frac{1}{2}Cl_2(g) \rightarrow NaCl(s)$
the number of endothermic and exothermic stages respectively are :

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

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

Q370 AP EAMCET 2010 · 30 May · Offline MCQ

Match the following :

List I (Molecule)

A) NH_3

B) H_2O

C) XeF_2

D) CH_4

List II (Number of lone pairs on central atom)

I) Two

II) Three

III) Zero

IV) Four

V) One

The correct answer is :

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

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

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

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

Answer: (C) A-V, B-I, C-II, D-III · Official APSCHE final key

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