

2. Isotopes of hydrogen have different [IO-HYD] E
 (1) Proton (2) Neutron (3) Electron (4) Proton & Neutron

Ans. (2)

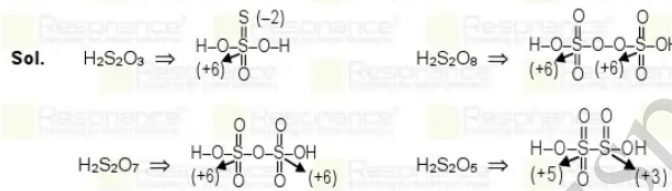
Sol. Isotopes have same proton & electron but different neutron.

3. How many of following compounds have sulphur atom in two different oxidation state.

(a) $H_2S_2O_3$ (b) $H_2S_2O_8$ (c) $H_2S_2O_7$ (d) $H_2S_2O_5$

[IO-PBC-XVI] M

Ans. (2)



Resonance Eduventures Ltd.

Reg. Office & Corp. Office : CG Tower, A-46 & 52, IPIA, Near City Mall, Jhalawar Road, Kota (Raj.) - 324005

Ph. No.: +91-744-2777777, 2777700 | FAX No.: +91-022-39167222

To Know more : sms RESO at 56677 | Website : www.resonance.ac.in | E-mail : contact@resonance.ac.in | CIN : U80302RJ2007PLC024029

Toll Free : 1800 258 5555 | 7340010333 | facebook.com/ResonanceEdu | twitter.com/ResonanceEdu | www.youtube.com/reswatch | blog.resonance.ac.in

This solution was download from Resonance JEE [MAIN] 2022 Solution portal

PAGE # 1

Resonance® | JEE MAIN-2022 | DATE : 28-06-2022 (SHIFT-2) | PAPER-1 | MEMORY BASED | CHEMISTRY

4. Identify the correct statement regarding SF_4 [IO-CBO] M

- (1) It have one lone pair at equatorial position with two lone pair- bond pair repulsion at 90°
 (2) It have one lone pair at axial position with two lone pair-bond pair repulsion at 90°
 (3) It have one lone pair at equatorial position with three lone pair -bond pair repulsion at 90°
 (4) It have one lone pair at axial position with three lone pair - bond pair repulsion at 90°

Ans. (1)



Lone pair at equatorial position with 2 lone pair - bond pair repulsion at 90°

5. Which of the following oxide is basic in nature. [IO-PTB] E

(1) SiO_2 (2) CaO (3) Al_2O_3 (4) SO_2

Ans. (2)

Sol. Acidic $\Rightarrow SiO_2, SO_2$

Amphoteric $\Rightarrow Al_2O_3$

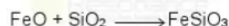
Basic $\Rightarrow CaO$

6. Which set of complex ions represent paramagnetic character. [IO-COR] M
- (i) $[\text{Fe}(\text{CN})_6]^{3-}$ (ii) $[\text{Fe}(\text{CN})_6]^{4-}$ (iii) $[\text{Ti}(\text{CN})_6]^{3-}$ (iv) $[\text{Co}(\text{CN})_6]^{3-}$ (v) $[\text{Ni}(\text{CN})_6]^{4-}$
 (1) (i),(ii),(iii) (2) (i),(iii),(v) (3) (i),(ii),(iii),(iv) (4) (iii),(iv)

Ans. (2)

Sol.	Complex	Electronic configuration	Unpaired electron
(i)	$[\text{Fe}(\text{CN})_6]^{3-}$	$\text{Fe}^{3+} \Rightarrow 3d^5 \Rightarrow t_{2g}^{2,2,1}, e^{0,0}$	1
(ii)	$[\text{Fe}(\text{CN})_6]^{4-}$	$\text{Fe}^{2+} \Rightarrow 3d^6 \Rightarrow t_{2g}^{2,2,2}, e^{0,0}$	0
(iii)	$[\text{Ti}(\text{CN})_6]^{3-}$	$\text{Ti}^{3+} \Rightarrow 3d^1 \Rightarrow t_{2g}^{1,0,0}, e^{0,0}$	1
(iv)	$[\text{Co}(\text{CN})_6]^{3-}$	$\text{Co}^{3+} \Rightarrow 3d^6 \Rightarrow t_{2g}^{2,2,2}, e^{0,0}$	0
(v)	$[\text{Ni}(\text{CN})_6]^{4-}$	$\text{Ni}^{2+} \Rightarrow 3d^8 \Rightarrow t_{2g}^{2,2,2}, e^{1,1}$	2

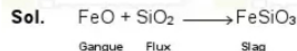
7. In extraction of copper following reaction take place [IO-MTL] E



In which FeO and FeSiO₃ act as

- (1) Flux, Slag (2) Slag, Flux (3) Gangue, Slag (4) Slag, Flux

Ans. (3)



Resonance Eduventures Ltd.

Reg. Office & Corp. Office : CG Tower, A-46 & 52, IPIA, Near City Mall, Jhalawar Road, Kota (Raj.) - 324005

Ph. No.: +91-744-2777777, 2777700 | FAX No.: +91-022-39167222

To Know more : sms RESO at 56677 | Website : www.resonance.ac.in | E-mail : contact@resonance.ac.in | CIN : U80302RJ2007PLC024029

Toll Free : 1800 258 5555 | 7340010333 | facebook.com/ResonanceEdu | twitter.com/ResonanceEdu | www.youtube.com/ResonanceEdu | blog.resonance.ac.in

This solution was download from Resonance JEE (MAIN) 2022 Solution portal PAGE # 2

Resonance Educating for better tomorrow | JEE MAIN-2022 | DATE : 28-06-2022 (SHIFT-2) | PAPER-1 | MEMORY BASED | CHEMISTRY

8. How many of two following show Cis-Trans isomers [IO-COR] E
- (i) $\text{CoCl}_3.4\text{NH}_3$ (ii) $\text{CoCl}_3.5\text{NH}_3$ (iii) $\text{CoCl}_3.6\text{NH}_3$ (iv) $\text{CoCl}_3.3\text{NH}_3$

Ans. (1)



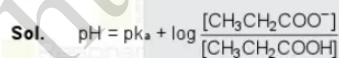
9. pH of a buffer solution of $\text{CH}_3\text{CH}_2\text{COOH}(\text{aq.})$ & $\text{CH}_3\text{CH}_2\text{COONa}(\text{aq.})$ is 4. [PC-IEQ] E

then ratio of $\frac{[\text{CH}_3\text{CH}_2\text{COO}^-]}{[\text{CH}_3\text{CH}_2\text{COOH}]}$ is -

Given $k_a = 10^{-5}$

- (1) 0.1 (2) 10 (3) 0.2 (4) 20

Ans. (1)



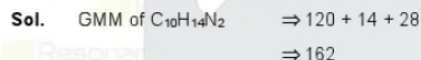
$$4 = 5 + \log \frac{[\text{CH}_3\text{CH}_2\text{COO}^-]}{[\text{CH}_3\text{CH}_2\text{COOH}]}$$

$$\frac{[\text{CH}_3\text{CH}_2\text{COO}^-]}{[\text{CH}_3\text{CH}_2\text{COOH}]} = \frac{1}{10} = 0.1$$

10. A compound contain 8.64 mass % of hydrogen, 74 mass% of carbon and 17.36 mass% of nitrogen and have molecular mass 162. then possible compound is [PC-MOL] E

- (1) $\text{C}_6\text{H}_7\text{N}$ (2) $\text{C}_{10}\text{H}_{14}\text{N}_2$ (3) $\text{C}_4\text{H}_6\text{N}_2$ (4) $\text{C}_2\text{H}_3\text{N}$

Ans. (2)



11. Using following statements identify correct set of statements [PC-ATS] E

- (i) n can have value 1,2,3,4,.....
 (ii) Number of orbital for given value of ℓ is $(2\ell + 1)$
 (iii) Value of spin quantum numbers is always $\pm \frac{1}{2}$

(iv) For $\ell = 5$ total number of orbital is 9

(1) (i),(ii),(iii) (2) (i),(ii),(iv) (3) (i),(ii),(iii),(iv) (4) (i),(iii),(iv)

Ans. (1)

Sol. For $\ell = 5$ total number of orbital is $(2\ell + 1) = 11$ **Resonance Eduventures Ltd.**

Reg. Office & Corp. Office : CG Tower, A-46 & 52, IPIA, Near City Mall, Jhalawar Road, Kota (Raj.) - 324005

Ph. No.: +91-744-2777777, 2777700 | FAX No.: +91-022-39167222

To Know more : sms RESO at 56677 | Website : www.resonance.ac.in | E-mail : contact@resonance.ac.in | CIN : U80302RJ2007PLC024029Toll Free : 1800 258 5555 | 7340010333 | [facebook.com/ResonanceEdu](https://www.facebook.com/ResonanceEdu) | twitter.com/ResonanceEdu | www.youtube.com/reswatch | blog.resonance.ac.in

This solution was download from Resonance JEE (MAIN) 2022 Solution portal

PAGE # 3

Resonance® | JEE MAIN-2022 | DATE : 28-06-2022 (SHIFT-2) | PAPER-1 | MEMORY BASED | CHEMISTRY

12. The value of $E_{\text{Sn}^{4+}/\text{Sn}^{2+}}^0$ is $___ \times 10^{-2}\text{V}$ [PC-ECH] M

$$\text{given } \begin{cases} E_{\text{Sn}^{2+}/\text{Sn}}^0 = -0.14\text{V} \\ E_{\text{Sn}^{4+}/\text{Sn}}^0 = +0.15\text{V} \end{cases}$$

Ans. (44)

Sol. (i) $\text{Sn}^{2+} + 2e^- \longrightarrow \text{Sn}$ $E_1^0 = -0.14\text{V}$

$$\Delta G_1^0 = -2F(-0.14)$$

(ii) $\text{Sn}^{4+} + 4e^- \longrightarrow \text{Sn}$ $E_2^0 = +0.15\text{V}$

$$\Delta G_2^0 = -4F(+0.15)$$

Target $\text{Sn}^{4+} + 2e^- \longrightarrow \text{Sn}^{2+}$ $E_3^0 = ?$

$$\Delta G_3^0 = -2F[E_3^0]$$

Target Eq. = Eq. ii - Eq. i

$$-2F(E_3^0) = -4F(0.15) - (-2F(-0.14))$$

$$E_3^0 = \frac{4 \times 0.15 + 2 \times 0.14}{2} = 2 \times 0.15 + 0.14$$

$$= 0.30 + 0.14$$

$$= 0.44\text{V} = 44 \times 10^{-2}\text{V}$$

13. Match the column [PC-SC] E

Column - I

(I) Positive Colloid

(II) Macro molecular colloid

(III) Negative Colloid

(IV) Gel

Column - II

(a) $\text{Fe}_2\text{O}_3 \cdot x\text{H}_2\text{O}$

(b) CdS

(c) Starch

(d) Cheese

Correct match is

	I	II	III	IV
(1)	(a)	(c)	(b)	(d)
(2)	(a)	(b)	(c)	(d)
(3)	(b)	(c)	(a)	(d)
(4)	(a)	(c)	(d)	(b)

Ans. (1)

Resonance Eduventures Ltd.

Reg. Office & Corp. Office : CG Tower, A-46 & 52, IPIA, Near City Mall, Jhalawar Road, Kota (Raj.) - 324005

Ph. No.: +91-744-2777777, 2777700 | FAX No.: +91-022-39167222

To Know more : sms RESO at 56677 | Website : www.resonance.ac.in | E-mail : contact@resonance.ac.in | CIN : U80302RJ2007PLC024029Toll Free : 1800 258 5555 | 7340010333 | [facebook.com/ResonanceEdu](https://www.facebook.com/ResonanceEdu) | twitter.com/ResonanceEdu | www.youtube.com/reswatch | blog.resonance.ac.in

This solution was download from Resonance JEE (MAIN) 2022 Solution portal

PAGE # 4

- Sol.** Position colloide $\Rightarrow \text{Fe}_2\text{O}_3 \cdot x\text{H}_2\text{O}$
 Macro molecular colloid \Rightarrow Starch
 Negative Colloid \Rightarrow CdS
 Gel \Rightarrow Cheese

14. 2.5 gram of a protein dissolve in 500 gram of water at 300K. The observed value of osmotic pressure is 0.410 atm. Then number of glycein unit present in protein is : **[PC-SCP] E**

Ans. (4)

Sol. $\pi = CRT$

$$0.410 = \left[\frac{2.5 \times 1000}{\text{M.wt.} \times 500} \right] \times 0.082 \times 300$$

$$0.410 = \frac{2.5 \times 2 \times 0.082 \times 300}{\text{M.wt.}}$$

$$0.410 = \frac{123}{\text{M.wt.}}$$

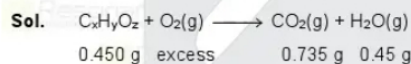
M.wt. = 300 g/mol.

Molar mass of glycein = 75 g/mol.

$$\text{Number of glycein unit per molecule of protein} = \frac{300}{75} = 4$$

15. 0.450 gram of an organic compound containing Carbon, Hydrogen & Oxygen on complete combustion give 0.735 gram CO_2 and 0.45 gram of water, then mass % of oxygen in compound is (Report your answer to nearest integer) **[PC-MOL] M**

Ans. (44)



$$W_{\text{Carbon}} = \left(\frac{0.732}{44} \right) 12 = 0.2 \text{ gram}$$

$$W_{\text{Hydrogen}} = \left(\frac{0.45}{18} \right) 2 = 0.05 \text{ gram}$$

Total weight of carbon & hydrogen = 0.25 g

Mass of oxygen = 0.450 - 0.25 = 0.20 g

$$\text{Mass \% of oxygen} = \left(\frac{0.20}{0.45} \times 100 \right) = 44.44\% \approx 44$$

Resonance Eduventures Ltd.

Reg. Office & Corp. Office : CG Tower, A-46 & 52, IPHA, Near City Mall, Jhalawar Road, Kota (Raj.) - 324005

Ph. No.: +91-744-2777777, 2777700 | FAX No.: +91-022-39167222

To Know more : sms RESO at 56677 | Website : www.resonance.ac.in | E-mail : contact@resonance.ac.in | CIN : U80302RJ2007PLC024029

Toll Free : 1800 258 5555 | 7340010333 | facebook.com/ResonanceEdu | twitter.com/ResonanceEdu | www.youtube.com/reswatch | blog.resonance.ac.in

This solution was download from Resonance JEE (MAIN) 2022 Solution portal

PAGE # 5

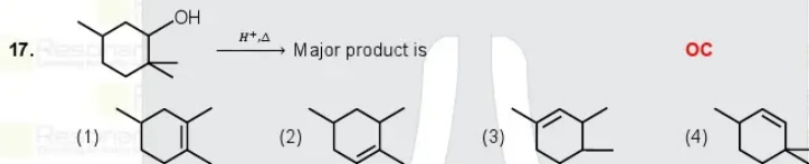
16. 0.2 gram of an ideal gas at 300K temperature and at 1 bar pressure, occupying 0.082 L volume then molar mass of gas is (in gram) : **[PC-GST] E**

Ans. (60)

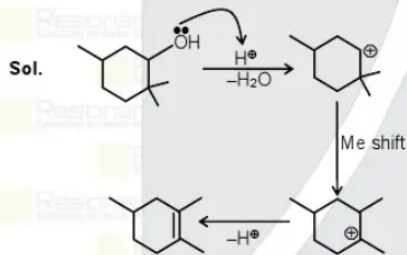
Sol. $PV = nRT$

$$1 \times 0.082 = \frac{0.2}{\text{M.wt.}} \times 0.082 \times 300$$

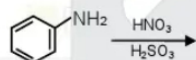
M.wt. = 60 gram/mole



Ans. (1)



18. Find correct option regarding the reaction



- (a) HNO_3 acts as acid
 (b) H_2SO_4 acts as acid
 (c) Major product is formed at ortho, meta.
 (d) Major product is formed at para, meta position.

- (1) a, b, c, d (2) b, d (3) a, c, d (4) c, d

Ans. (2)

Resonance Eduventures Ltd.

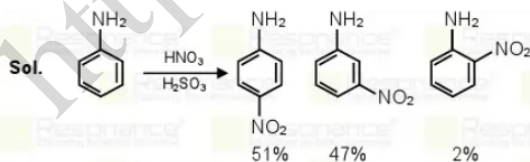
Reg. Office & Corp. Office : CG Tower, A-46 & 52, IPIA, Near City Mall, Jhalawar Road, Kota (Raj.) - 324005
 Ph. No.: +91-744-2777777, 2777700 | FAX No.: +91-022-39167222

To Know more : sms RESO at 56677 | Website : www.resonance.ac.in | E-mail : contact@resonance.ac.in | CIN : U80302RJ2007PLC024029
 Toll Free : 1800 258 5555 | 7340010333 | Facebook.com/ResonanceEdu | Twitter.com/ResonanceEdu | www.youtube.com/resowatch | blog.resonance.ac.in

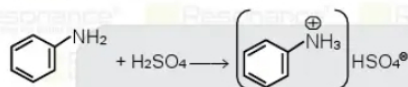
This solution was download from Resonance JEE (MAIN) 2022 Solution portal

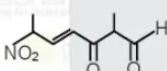
PAGE # 6

Resonance® JEE MAIN-2022 | DATE : 28-06-2022 (SHIFT-2) | PAPER-1 | MEMORY BASED | CHEMISTRY



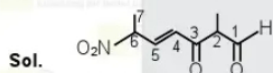
H_2SO_4 is strong acid, hence



19.  ; Nomenclature the structure? OC

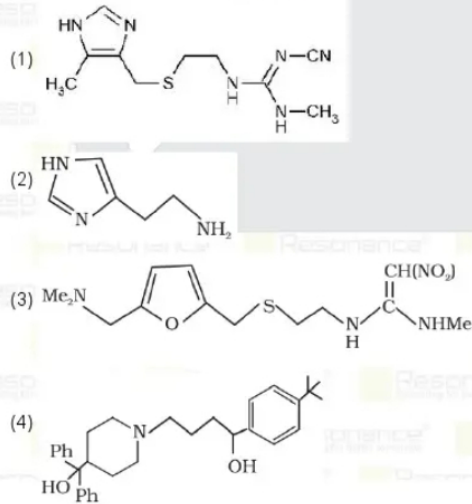
- (1) 2-methyl-6-nitro-3-oxohept-4-enal (2) 2,6-dimethyl-6-nitro-oxohex-4-enal
 (3) 2-methyl-6-nitrohept-4-en-1,3-dione (4) 2-methyl-6-nitro-3-oxo hept-3-enal

Ans. (1)



20. Structure of Tegamet is :

<https://previouspaper.in>



Ans. (1)

Resonance Eduventures Ltd.

Reg. Office & Corp. Office : CG Tower, A-46 & 52, IPIA, Near City Mall, Jhalawar Road, Kota (Raj.) - 324005

Ph. No.: +91-744-2777777, 2777700 | FAX No.: +91-022-39167222

To Know more : sms RESO at 56677 | Website : www.resonance.ac.in | E-mail : contact@resonance.ac.in | CIN : U80302RJ2007PLC024029

Toll Free : 1800 258 5555 | [Facebook](https://www.facebook.com/ResonanceEdu) | [Twitter](https://twitter.com/ResonanceEdu) | [YouTube](https://www.youtube.com/resonance) | [Blog](http://blog.resonance.ac.in)

This solution was download from Resonance JEE (MAIN) 2022 Solution portal

PAGE # 7

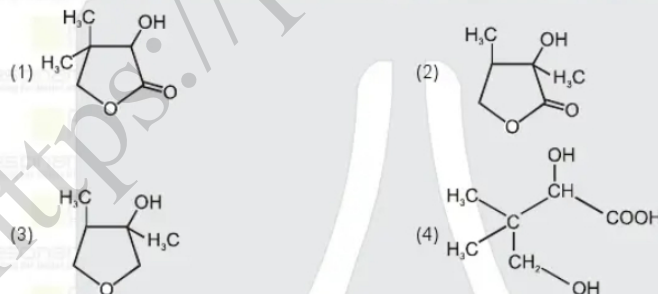
Resonance® | JEE MAIN-2022 | DATE : 28-06-2022 (SHIFT-2) | PAPER-1 | MEMORY BASED | CHEMISTRY

21. Photochemical smog is mixture of :

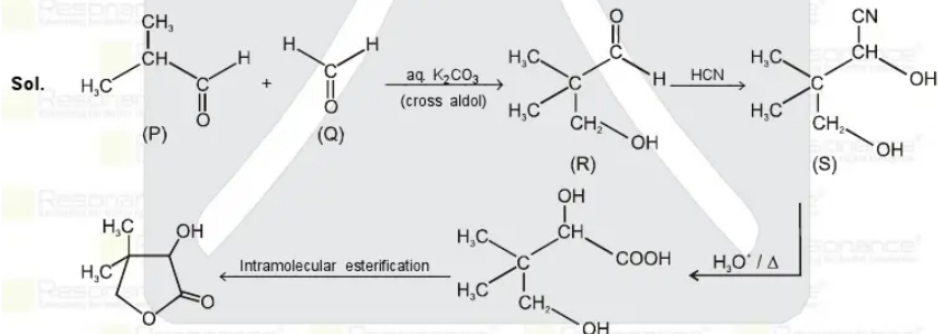
- (1) $\text{NO}_2 + \text{O}_3 + \text{PAN}$ (2) $\text{H}_2\text{O} + \text{O}_3 + \text{CH}_4$
 (3) $\text{NO} + \text{NO}_2$ (4) $\text{SO}_2 + \text{SO}_3 + \text{NO}_2$

Ans. (1)

21. Isobutyl aldehyde + formaldehyde $\xrightarrow[3. \text{H}_3\text{O}^+ / \Delta]{1. \text{K}_2\text{CO}_3, 2. \text{KCN}}$



Ans. (1)



23. Disaccharide x on hydrolysis gives A and B. A on HNO_3 treatment gives saccharic Acid and B is

leavorotatory

identif x

<https://previouspaper.in>

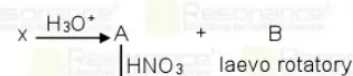
Ans. (1)

Resonance Eduventures Ltd.

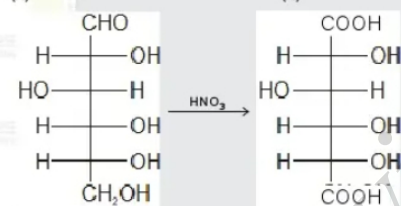
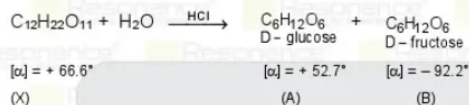
Reg. Office & Corp. Office : CG Tower, A-46 & 52, IPIA, Near City Mall, Jhalawar Road, Kota (Raj.) - 324005
Ph. No.: +91-744-2777777, 2777700 | FAX No.: +91-022-39167222

To Know more : sms RESO at 56677 | Website : www.resonance.ac.in | E-mail : contact@resonance.ac.in | CIN : U80302RJ2007PLC024029
Toll Free : 1800 258 5555 | 7340010333 | [facebook.com/ResonanceEdu](https://www.facebook.com/ResonanceEdu) | twitter.com/ResonanceEdu | www.youtube.com/reswatch | blog.resonance.ac.in

This solution was download from Resonance JEE (MAIN) 2022 Solution portal PAGE # 8



Sol. (Sachharic acid)



24. **Statement-I** : Natural rubber is linear polymer of isoprene unit with cis isomer.

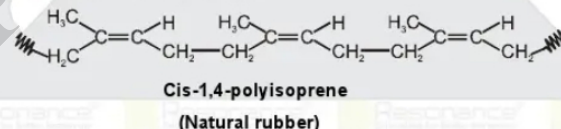
Statement-II : Polymer of isoprene is polar and has coil like structure.

- (1) Statement-I is correct only. (2) Statement-II is correct only.
(3) Both statement-I & II are correct. (4) None of the statement is correct.

Ans. (3)

Sol. **Natural rubber**

Natural rubber is a polymer of isoprene, and obtained from natural source-latex tree. In natural rubber, isoprene units are joined together in head-to-tail fashion and all double bonds in the polymer chain have cis configurations as shown in the given figure.



The polymer contains cis repeating units and has a molecular weight ranging from 100,000 upto 1,000,000.

The cis arrangement of the double bonds in natural rubber prevents the rubber molecules from fitting into an ordered structure. Thus, rubber is an amorphous polymer. Because of the random coiling of its polymer chains, rubber stretches easily. When stretched, the rubber molecules are forced into a higher energy state. when the tension is released, rubber snaps back to its original random coiled state.

Resonance Eduventures Ltd.

Reg. Office & Corp. Office : CG Tower, A-46 & 52, IPIA, Near City Mall, Jhalawar Road, Kota (Raj.) - 324005
Ph. No.: +91-744-2777777, 2777700 | FAX No.: +91-022-39167222

To Know more : sms RESO at 56677 | Website : www.resonance.ac.in | E-mail : contact@resonance.ac.in | CIN : U80302RJ2007PLC024029
Toll Free : 1800 258 5555 | 7340010333 | [facebook.com/ResonanceEdu](https://www.facebook.com/ResonanceEdu) | twitter.com/ResonanceEdu | www.youtube.com/reswatch | blog.resonance.ac.in

This solution was download from Resonance JEE (MAIN) 2022 Solution portal PAGE # 9



Resonance[®]
Educating for better tomorrow

BEST RANK

from Kota Classroom among
all Institutes of Kota

AIR
8

CHAITANYA AGGARWAL
JEE (Advanced) 2021



Numbers that Inspire Students to **EXCEL**

Trust of 9,50,000+ STUDENTS*	Total Selections 1,78,546 <small>JEE (Adv.) - Eligibility for JEE (Adv.)** - NEET (UG)</small>	AIRs in TOP-100 350 <small>JEE (Adv.) - JEE (Main) - NEET (UG)</small>	Pool of 800+ FACULTY	Study Centres in 70+ CITIES
---	---	--	-----------------------------------	--

* Since 2001 | **Students Qualified from JEE (Main) to JEE (Advanced) since 2013
Total Selections & AIR in TOP-100 in JEE (Adv.) / IIT-JEE (since 2002), JEE (Main)/ AIEEE (since 2009), NEET (UG) / APMET (since 2012) | AIR: All India Rank

For Class XII Passed Students

<p>TARGET</p> <p>JEE (Main+Advanced) 2023</p> <p>COURSE</p> <p>VISHESH (JD)</p> <p><small>CLASS STARTS</small> 27th June & 4th July</p>	<p>TARGET</p> <p>JEE (Main) 2023</p> <p>COURSE</p> <p>ABHYAAS (ED)</p> <p><small>CLASS STARTS</small> 27th June & 4th July</p>
--	---

*T & C Apply

Scholarship upto 90%*
on the basis of JEE (Main) Percentile Score

अपनी **स्कोलरशिप** जानने के लिए **अपनी जेईई (मेन) परसेंटाइल वाट्सअप करें: 73400-10345**

Resonance Eduventures Ltd.
Kota Study Centre & Registered Corporate Office: CG Tower, A-46 & 52, IPIA, Near City Mall, Jhalawar Road, Kota (Raj.) - 324005
Tel. No.: 0744-2777777, 2777700 | CIN: U80302RJ2007PLC024029 | www.resonance.ac.in | contact@resonance.ac.in