

सफलता की शुरुआत  
सिर्फ मोशन के साथ...



# ICSE

10th Board

Semester 1 - 2021

PAPER WITH SOLUTION

**CHEMISTRY**

**Toll Free : 1800-212-1799**

Corporate Office :394, Rajeev Gandhi Nagar, Kota

**MOTION<sup>®</sup>**

मोशन के परिणाम ही है, सफलता का प्रमाण

## JEE MAIN 2021 RESULT

AIR  
**1**



Guramrit Singh

AIR  
**11**



Kumar Satyadarshi

AIR  
**53**



Ayush Agarwal

AIR  
**90**



Sanket Singh

Students Qualified for JEE ADVANCED  $2994/4087 = 73.25\%$

## JEE ADVANCED 2021 RESULT

AIR  
**26**



Guramrit Singh

AIR  
**32**



Rudransh Aggarwal

AIR  
**61**



Harsh Poonia

AIR  
**88**



Tejas Kumar

AIR  
**100**



Rajat Golechha

24 Student Under 500

41 Student Under 1000

Motion's Selection  $1256/2994 = 41.95\%$

## NEET 2020 RESULT

AIR  
**21**



Kartikey Agarwal

AIR  
**51**



Ronit Singh

AIR  
**161**



Cyril Joel Deva Asir

AIR  
**164**



Rahul Yadav

Above  
650 Marks

**12**

Above  
625 Marks

**47**

Above  
600 Marks

**137**

Students Qualified  $2663 / 2843 = 93.66\%$

1. In the Periodic Table elements of Period 3 are arranged in the increasing order of ionization potential as:  
(A) B, N, Cl, Ar      (B) Mg, Si, S, Ar      (C) Ar, Si, S, Mg      (D) Si, Ar, Cl, Mg

Ans. (B)

2. If Relative Molecular Mass of Butane (C<sub>4</sub>H<sub>10</sub>) is 58 then its vapour density will be:  
(A) 58      (B) 29      (C) 32      (D) 16

Ans. (B)

3. Identify one statement that holds true for electrolysis of molten lead bromide:  
(A) Silver grey metal deposits at the anode  
(B) Temperature is not maintained during the electrolysis  
(C) Brown vapours of bromine are obtained at the anode  
(D) Electrolyte contains H<sup>+</sup> ions along with Pb<sup>2+</sup> ions

Ans. (C)

4. The tendency of an atom to attract shared pair of electrons to itself when forming a chemical bond is known as:  
(A) Electron affinity      (B) Electronegativity  
(C) Ionization potential      (D) Nuclear charge

Ans. (B)

5. Solid sodium chloride does not conduct electricity as:  
(A) The strength of the bond is weak  
(B) It contains free ions  
(C) It does not contain any free ions  
(D) It contains free ions as well as molecules

Ans. (C)

6. Elements A and B have electronic configuration 8 and 13 respectively. The chemical formula formed between A and B will be:  
(A) AB      (B) B<sub>3</sub>A<sub>3</sub>      (C) A<sub>2</sub>B<sub>3</sub>      (D) B<sub>2</sub>A<sub>3</sub>

Ans. (D)

7. The percentage of hydrogen present in NaOH is: (Relative Molecular Mass of NaOH = 40) (At. Wt. of H = 1)  
(A) 2.5      (B) 25      (C) 0.25      (D) 0.025

Ans. (A)

8. A salt formed by incomplete neutralization of an acid by a base:  
(A) Basic salt      (B) Acid salt      (C) Normal salt      (D) Complex salt

Ans. (B)

9. The colour of the precipitate formed after the addition of a small amount of sodium hydroxide solution to an aqueous solution of ferric chloride is:  
(A) gelatinous white      (B) pale blue      (C) reddish brown      (D) dirty green

Ans. (D)

10. Alkaline earth metals have the same:  
(A) number of valence electrons (B) number of shells  
(C) metallic property (D) ionization potential

Ans. (A)

11. Which of the following compounds neither dissociate nor ionise in water?  
(A) Hydrochloric acid (B) Sodium hydroxide  
(C) Potassium Nitrate (D) Carbon tetrachloride

Ans. (D)

12. The table shows the electronic configuration of four elements

element	electronic configuration
W	2,6
X	2,8
Y	2,8,1
Z	2,8,7

Which pair of atoms, will form a covalent compound?

- (A) two atoms of W (B) two atoms of X  
(C) an atom of W and an atom of X (D) an atom of Y and an atom of Z

Ans. (A)

13. Element with an atomic number 19 will:  
(A) accept an electron and get oxidized (B) accept an electron and get reduced  
(C) lose an electron and get oxidized (D) lose an electron and get reduced

Ans. (C)

14. Which of the following has two sets of lone pair of electrons in them?  
(A) Ammonia (B) Methane (C) Water (D) Ammonium ion

Ans. (C)

15. If the empirical mass of the formula  $PO_2$  is 10 and the Relative Molecular Mass is 30, then the molecular formula will be:

- (A)  $PQ_2$  (B)  $P_3Q_2$  (C)  $P_6Q_3$  (D)  $P_3Q_6$

Ans. (D)

16. Which of the following is a tribasic acid?

- (A)  $H_2SO_4$  (B)  $Al(OH)_3$  (C)  $H_3PO_4$  (D)  $Ca(OH)_2$

Ans. (C)

17. If a solution of an electrolyte mixture has calcium ions, cupric ions, zinc ions and magnesium ions, which of these ions would you see preferentially discharged at the cathode?

- (A) Calcium ions (B) Zinc ions (C) Cupric ions (D) Magnesium ions

Ans. (C)

18. Which of the following ions will readily discharge at the anode during the electrolysis of acidulated water?  
 (A) OH<sup>-</sup> (B) SO<sub>4</sub><sup>2-</sup> (C) Cl<sup>-</sup> (D) H<sup>+</sup>

Ans. (A)

19. If the empirical formula of a compound is CH and its vapour density is 13, then its molecular formula will be:  
 (At, Wt. C = 12, H = 1)  
 (A) CH (B) C<sub>2</sub>H<sub>2</sub> (C) C<sub>4</sub>H<sub>4</sub> (D) C<sub>3</sub>H<sub>3</sub>

Ans. (B)

20. Aqueous solution of Cupric chloride forms a deep blue solution on addition of:  
 (A) dropwise sodium hydroxide  
 (B) excess sodium hydroxide  
 (C) dropwise ammonium hydroxide  
 (D) excess ammonium hydroxide

Ans. (D)

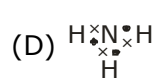
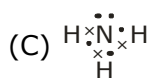
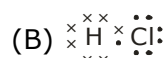
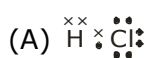
21. Which statement about conduction of electricity is correct?  
 (A) Electricity is conducted in aqueous solution by electrons  
 (B) Electricity is conducted in a metal wire by ions  
 (C) Electricity is conducted in a molten electrolyte by electrons  
 (D) Electricity is conducted in an acid solution by ions

Ans. (D)

22. If an element has low ionization potential, then it is likely to be a:  
 (A) metal (B) metalloid  
 (C) non metal (D) inert gas

Ans. (A)

23. Which electron arrangement for the outer shell electrons in a covalent compound is correct?

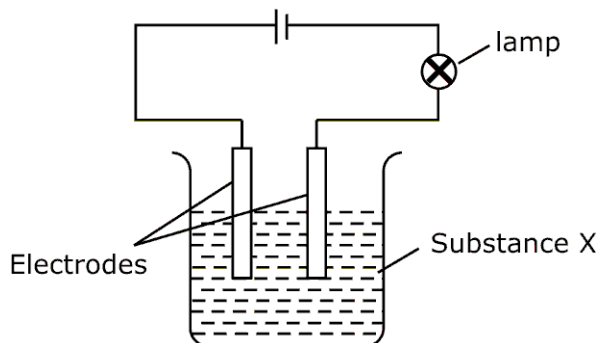


Ans. (C)

24. The product formed when an acid reacts with a base is:  
 (A) salt and hydrogen  
 (B) salt and oxygen  
 (C) salt and water  
 (D) salt and carbon dioxide

Ans. (C)

25. In the circuit below, the lamp lights up.



What could X be?

- (A) a solution of alcohol in water                      (B) a solution of sodium chloride in water  
(C) sugar solution    (D) solid potassium chloride

**Ans. (B)**

26. Which one of the following is a non metallic cation?

- (A)  $K^+$                       (B)  $NH_4^+$                       (C)  $Cu^{2+}$                       (D)  $Na^+$

**Ans. (B)**

27. Type of bonding present in hydrogen chloride:

- (A) metallic                      (B) ionic                      (C) covalent                      (D) coordinate

**Ans. (C)**

28. The non-metallic properties of elements from left to right in a Periodic Table:

- (A) increases                      (B) decreases  
(C) remains same                      (D) first increases and then decreases

**Ans. (A)**

29. The aqueous solution that contains both ions and molecules:

- (A) sulphuric acid                      (B) nitric acid  
(C) acetic acid                      (D) hydrochloric acid

**Ans. (C)**

30. The basic oxide which is an alkali:

- (A) Copper oxide                      (B) Sodium oxide  
(C) Ferric oxide                      (D) Zinc oxide

**Ans. (B)**

31. If the pH of a solution is '2', then the solution is a

- (A) Strong acid                      (B) Strong alkali  
(C) Weak acid                      (D) Weak alkali

**Ans. (A)**

32. The acidity of aluminium hydroxide is:

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

**Ans. (A)**

- 33.** Hydracids are those acids which contain:  
 (A) Hydrogen with any metal  
 (B) Hydrogen, a non-metal and oxygen  
 (C) Hydrogen and a non-metal other than oxygen  
 (D) Hydrogen and oxygen only

**Ans. (C)**

- 34.** The oxidation reactions among the following is:  
 (A)  $\text{Fe}^{3+} + 3\text{e}^- \rightarrow \text{Fe}$  (B)  $\text{Fe}^{2+} - 1\text{e}^- \rightarrow \text{Fe}^{3+}$   
 (C)  $\text{Cl}_2 + 2\text{e}^- \rightarrow 2\text{Cl}^{1-}$  (D)  $\text{Cu}^{2+} + 2\text{e}^- \rightarrow \text{Cu}$

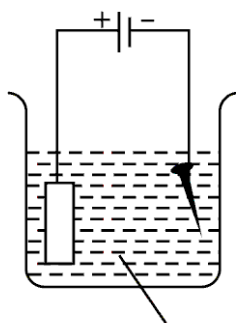
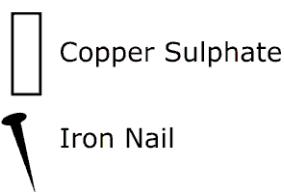
**Ans. (B)**

- 35.** A student added excess of sodium hydroxide solution to each of the salt solution. An insoluble precipitate formed was observed in:  
 (A) Calcium nitrate (B) Zinc nitrate (C) Lead nitrate (D) Sodium nitrate

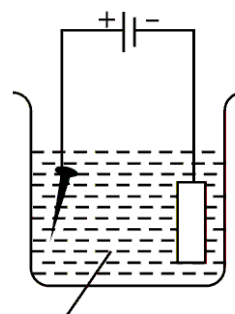
**Ans. (C)**

- 36.** Which apparatus could be used to electroplate an iron nail with copper?

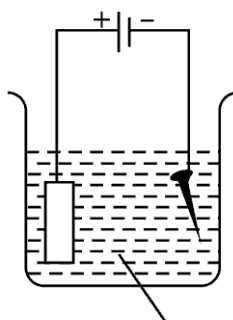
**Key**



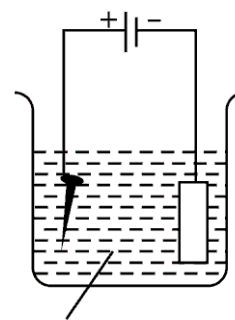
(A) Aqueous copper (II) sulphate



(B) Aqueous copper (II) sulphate



(C) Aqueous iron (II) sulphate



(D) Aqueous iron (II) sulphate

**Ans. (A)**

37. The table below shows the electronic arrangements of six atoms, A to F.

Atom	A	B	C	D	E	F
Electronic configuration	2,5	2	2,6	2,8,6	2,8,8	2,8,3

With respect to the table select the following:

- (i) Two atoms from the same group of the periodic table:  
(A) D and E                      (B) C and D                      (C) E and F                      (D) C and E

**Ans. (B)**

- (ii) Two noble gases:  
(A) A and B                      (B) E and F                      (C) B and E                      (D) D and E

**Ans. (C)**

- (iii) The atom which is the most electronegative:  
(A) A                                  (B) B                                  (C) C                                  (D) F

**Ans. (C)**

- (iv) The atom which has the highest ionization potential:  
(A) A                                  (B) B                                  (C) E                                  (D) F

**Ans. (B)**



# अब मोशन ही है सर्वोत्तम विकल्प !

## Directors of Sarvottam Career Institute

Now associated with Motion Kota Classroom



**Nitin Vijay**  
(NV Sir)  
Managing Director  
Exp. : 18 yrs



**Lalit Vijay**  
(LV Sir)  
Deputy Director  
Exp. : 19 yrs



**Ashish Bajpai**  
(AB Sir)  
Deputy Director  
Exp. : 19 yrs



**Dr. Ashish Maheshwari**  
(AM Sir)  
Deputy Director  
Exp. : 21 yrs



**Jitendra Chandwani**  
(JC Sir)  
Deputy Director  
Exp. : 19 yrs



**G. S. Tiwari**  
(GST Sir)  
Sr. Faculty  
Exp. : 20 yrs

## Academic Pillars of NEET Motion KOTA



**Amit Verma**  
(AV Sir)  
Joint Director  
Exp. : 16 yrs



**Shantanu Gupta**  
(SG Sir)  
Sr. Faculty  
Exp. : 11 yrs



**Harmeet S. Bindra**  
(Harmeet Sir)  
Sr. Faculty  
Exp. : 25 yrs



**Renu Singh**  
(RNS Ma'am)  
Sr. Faculty  
Exp. : 18 yrs



**Kranti Deep Jain**  
(KD Sir)  
Sr. Faculty  
Exp. : 21 yrs



**Bharat Bhushan**  
(Bharat Sir)  
Sr. Faculty  
Exp. : 11 yrs



**Pranay Lahoty**  
(PL Sir)  
Sr. Faculty  
Exp. : 8 yrs



**Harshit Thakuria**  
(HT Sir)  
Sr. Faculty  
Exp. : 11 yrs



**Dr. Deepak Garg**  
(Deepak Sir)  
Sr. Faculty  
Exp. : 6 yrs



**S. K. Yadav**  
(SKY Sir)  
Sr. Faculty  
Exp. : 9 yrs



**Zeeshan Hussain**  
(ZH Sir)  
Sr. Faculty  
Exp. : 8 yrs



**Pawan Vijay**  
(PV Sir)  
Sr. Faculty  
Exp. : 5 yrs



**Sarthak Maurya**  
(SM Sir)  
Sr. Faculty  
Exp. : 6 yrs



**Deepak Bulani**  
(DB Sir)  
Faculty  
Exp. : 7 yrs



**Sonu Bulani**  
(SB Sir)  
Faculty  
Exp. : 6 yrs

## Directors of Nucleus Education & Wizard of Mathematics

Now Offline associated with Motion Kota Classroom



**Akhilesh Kanther**  
(AKK Sir)  
Exp. : 17 yrs



**Vishal Joshi**  
(VJ Sir)  
Exp. : 18 yrs



**Surendra K. Mishra**  
(SKM Sir)  
Exp. : 16 yrs



**Gavesh Bhardwaj**  
(GB Sir)  
Exp. : 17 yrs

## Academic Pillars of JEE Motion KOTA



**Ram Ratan Dwivedi**  
(RRD Sir)  
Joint Director  
Exp. : 20 yrs



**Nikhil Srivastava**  
(NS Sir)  
Head JEE Academics  
Exp. : 17 yrs



**Aatish Agarwal**  
(AA Sir)  
Sr. Faculty  
Exp. : 17 yrs



**Jayant Chittora**  
(JC Sir)  
Sr. Faculty  
Exp. : 16 yrs



**Anurag Garg**  
(AG Sir)  
Sr. Faculty  
Exp. : 17 yrs



**Arjun Gupta**  
(Arjun Sir)  
Sr. Faculty  
Exp. : 14 yrs



**Devki Nandan Pathak**  
(DN Sir)  
Sr. Faculty  
Exp. : 13 yrs



**Avinash Kishore**  
(AVN Sir)  
Sr. Faculty  
Exp. : 9 yrs



**Vipin Sharma**  
(VS Sir)  
Sr. Faculty  
Exp. : 12 yrs



**Sanjeev Kumar**  
(Sanjeev Sir)  
Sr. Faculty  
Exp. : 8 yrs



**Pramod Pottar**  
(Pramod Sir)  
Sr. Faculty  
Exp. : 7 yrs



**Durgesh Pandey**  
(Pandey Sir)  
Sr. Faculty  
Exp. : 8 yrs

Olympiads है ज़रूरी,  
मोशन करवाएगा घर बैठे तैयारी पूरी

## NTSE / IJSO & Olympiads Program

For Class 10th Students



Imprinting the best on  
your **CBSE term 1 & 2 results!**

## Board Booster Online Program

For Class 10th Students



# Saarathi

Class 11th se apke selection tak ka **saccha saathi..**

English & Hindi Medium



# Drona

Coaching + Hostel + Quality Food Under One Roof

## Residential Coaching Program

Discipline- Bridge between  
Dreams & Success



# MOTION®

Corporate Office : 394, Rajeev Gandhi Nagar, Kota-324005 | Toll Free : **1800-212-1799**

url : [www.motion.ac.in](http://www.motion.ac.in) | Email : [info@motion.ac.in](mailto:info@motion.ac.in)