



## Genius Seed Program (ACADEMIC SESSION 2025-2026)

# **Pre Foundation Division**

# CLASS – IX & X

MOCK TEST # 01

TARGET : ICQ

PL	PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY								
1.	Duration of Test is 1 Hour and Questions Paper Contains								
	30 Questions.								
2.	Total Marks are 30.								
3.	Student must abide by the instructions issued during the								
	examination, by the invigilators or the centre incharge.								
4.	Before attempting the question paper ensure that it contains								
	all the pages and that no question is missing.								
5.	A candidate has to write his / her answers in the OMR								
	sheet by darkening the appropriate bubble with the help of								
	Blue / Black Ball Point Pen only as the correct answer(s)								
	of the question attempted.								
6.	Use of Pencil is strictly prohibited.								

## **Prepare to be a Winner With Class24**

Science Olympiads Mathematics Olympiads NSO, IOS, NSTSC, VVM, ICQ UIMO, IMO, IOM, IPM, NMTC





TEST - 1

- **Q1.** A family of people often consists of related but not identical individuals. Elements have families as well, known as isotopes. Isotopes are members of a family of an element that all have the same number of protons but different numbers of neutrons. Which pair of the isotopes of the element is given correct ?
  - (A)  ${}^{1}H_{1}$ ,  ${}^{2}H_{1}$ ,  ${}^{3}H_{1}$  and  ${}^{12}C_{6}$ ,  ${}^{18}Ar_{30}$  (B)  ${}^{12}C_{6}$ ,  ${}^{13}C_{6}$  and  ${}^{40}Ca_{20}$  and  ${}^{40}Ar_{18}$

(C)  ${}^{1}H_{1}$ ,  ${}^{2}H_{1}$ ,  ${}^{3}H_{1}$  and  ${}^{12}C_{6}$ ,  ${}^{13}C_{6}$  (D)  ${}^{40}Ar_{18}$ ,  ${}^{12}Ar_{18}$  and  ${}^{35}Cl_{17}$  and  ${}^{37}Cl_{17}$ 

- **Q2.** Four bottles of chemicals have lost their labels. The four chemicals are HYDROGEN PEROXIDE, ANTIMONY TRIOXIDE, CALCIUM OXIDE, POTASSIUM OXIDE. Chemical testing of the contents of the bottles indicates that:
- i. Neither bottle 1 nor bottle 4 is hydrogen peroxide.
- ii. Bottles 2 and 3 do not contain calcium oxide .
- iii. Bottle 3 does not contain antimony trioxide nor hydrogen peroxide .
- iv. Bottle 4 is neither antimony oxide nor potassium oxide.

What is chemical in 1?

(A) Calcium oxide

(B) Antimony trioxide

(C) Potassium oxide

#### (D) Hydrogen peroxide

- Q3. Atom is the basic of all matter. They are very small and consist of even tinier particles. Neutrons, protons, and electrons are the basic particles making up the atom. Write the number of proton, neutron and electron of  $^{80}_{35}\text{Br}$ ?
  - (A) Proton =35, electron =35, neutron =45
  - (B) Proton =35, electron = 45, neutron = 35
  - (C) Proton =45, electron = 35, neutron = 35
  - (D) Proton =35, electron = 35, neutron = 35
- Q4. Homologous series refers to a series of compounds with the same functional group and also similar chemical properties .This series is certainly an important topic within the field of organic chemistry. The compounds are identical with the notable exception of the number of  $CH_2$  units existing in the compound. Organic

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TEST - 1

compounds certainly have functional groups. Moreover, these groups define the fundamental and basic properties of the compound .

Which of the following are members of a homologous series?

(A) Methane, ethane, propene, butane

(B) Methanal, ethanal, propanol, butanal

(C) Ethane, propane, butane, pentene

(D) Methanol, ethanol, propanol, butanol.

Q5. Dozen, score, gross and mole are all terms used to describe a certain number of items. Dozen = 12 ; score = 20 gross = 144 and mole =  $6 \ge 10^{23}$ .

In five mole of calcium carbonate, find the moles of carbon atoms.

(A) 1/3 mole of carbon atoms. (B) 1 mole of carbon atoms

(C) 6 mole of carbon atoms (D) 5 moles of carbon atoms

Q6. The equation for the reaction between calcium oxide and water is incomplete.  $CaO+H_2O \rightarrow Complete$  the reaction and calculate the atomicity of the product formed. (A) 2 (B) 8 (C) 4 (D) 5

- Q7. When a substance such as cobalt (II) nitrate,  $[Co(NO_3)_2]$  dissolves in water it forms cobalt (Co<sup>2+</sup>) and nitrate  $(NO_3^-)$  ions in solution. The solution of cobalt (II) nitrate contains:-
  - (A) An equal number of cobalt and nitrate ions.
  - (B) An equal number of cobalt ions and nitrogen atoms.
  - (C) Twice as many nitrate ions as cobalt ions.
  - (D) Six times as many nitrate ions as cobalt.
- **Q8**. The formula of sodium acetate is CH<sub>3</sub>COONa.What is the formula for Beryllium acetate ?

(A)  $Be_2(CH_3COO)$  (B)  $Be(CH_3COO)$  (C)  $Be(CH_3COO)_2$  (D) BeCHOOH

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## CLASS24

### ICQ CLASS - IX & X

TEST - 1

<b>Q9</b> .	Which of the following statements is incor	rect about the state	of matter?								
	(A) The force of attraction between the gas	s particles is very les	SS.								
	(B) Plasma consists of super energetic and super excited particles.										
	(C) The plasma glows with a special colour depending on the nature of the gas.										
	(D) Bose-Einstein condensate is formed by	heating gas of extr	emely low density.								
Q.10	The equation for the reaction between aluminium carbide and water is										
	$Al_4C_3 + 12 H_2O = 4Al (OH)_3 + 3CH_4$										
	The number of oxygen atoms represented by 4 Al(OH) <sub>3</sub>										
	(A) 3 (B) 4	(C) 12	((D) 24								
Q.11	The heating of ammonium chloride (NH40	Cl) is an example of	:								
	(A) Boiling (B) Evaporation	(C) Melting	(D) Sublimation								
Q.12	The element nitrogen forms seven differ	ent compounds with	h oxygen. Ten gram								
	samples of each of the following four o	xides were analyse	d. Which compound								
	would contain the least mass of nitrogen?										
	$(A) NO \qquad (B) N_2O$	(C) $N_2O_3$	(D) $N_2O_5$								
	Matter undergoes a change. The changes	are of two types: pl	hysical and chemical								
	change. A physical change is a change that	at involves only a cl	nange in the physical								
	state of matter. Its chemical properties re	main the same. A c	chemical change is a								
	change that involves a change in the cl	hemical compositio	n of matter. A new								
	substance is formed.										
Q.13	Snow formation is a										
	(A) chemical change	(B) physical chang	e								
	(C) no change takes place	(D) gravitational p	henomenon								
Q.14	In a physical change the properties that change are										
	(A) chemical only	(B) physical only									
	(C) temporary	(D) both physical a	and temporary								
Q.15	When sodium carbonate is heated and cool	led, the change that	are observed are								
	(A) physical	(B) nuclear change	es								
	(C) first chemical and then physical	(D) first physical a	nd then chemical								

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### CLASS24

#### ICQ CLASS - IX & X

TEST - 1

- **Q.16** The discovery of neutron didn't happen until the year 1932. James Chadwick discovered the neutron. He used scattered particle to calculate the mass of the neutral particle. The subatomic particle "neutron" is present in an atom's nucleus. "n" represents neutron. It is a neutral particle. The mass of a neutron is  $1.6 \times 10^{-24}$  g. The charge to mass ratio of a neutron is :-
  - (A) 1.75x 10 <sup>-11</sup> C/Kg
    (B) 7.5x 10 <sup>-11</sup> C/Kg
    (C) zero
    (D) -1 C/Kg

Q.17 One of the most commonly used methods for expressing the concentrations is molarity. It is the number of moles of solute dissolved in one litre of a solution. Suppose a solution of <u>ethanol</u> is marked 0.25 M, this means that in one litre of the given solution 0.25 moles of ethanol is dissolved.

To calculate the molarity of a solution when the solute is given in grams and the volume of the solution is given in millilitres, you must

(A) Convert grams to moles, but leave the volume of solution in millilitres

- (B) Convert volume of solution in millilitres to litres, but leave the mass in grams
- (C) Convert grams to moles, and convert volume of solution in millilitres to litres(D) leave the mass in grams and volume in millilitres.

**Q.18** Metallurgy is defined as a process that is used for the extraction of metals in their pure form. The compounds of metals mixed with soil, limestone, sand, and rocks are known as minerals. Metals are commercially extracted from minerals at low cost and minimum effort. These minerals are known as ores.

Aluminium, Iron, Copper and Zinc are extracted from:-

- (A) Bauxite, Magnetite, Malachite and Calamine respectively.
- (B) Magnetite, Bauxite, Malachite and Calamine respectively.
- (C) Calamine, Malachite, Magnetite and Bauxite respectively.
- (D) Malachite, Magnetite, Bauxite and Calamine respectively.



## CLASS24 ICQ CLASS - IX & X T

- **TEST** 1
- **Q.19** Corrosion, in general, is a process through which refined metals are converted into more stable compounds such as metal oxides, metal sulphides, or metal hydroxides. Likewise, the rusting of iron involves the formation of iron oxides via the action of atmospheric moisture and oxygen. Among the following, metal which is resistant to corrosion is-

(A) Iron (B) Chromium (C) Magnesium (D) Copper

**Q.20** Benzene  $C_6H_6$  is used for making explosive, plastics, dyes and fuels. Figure 1 shows the way structure of benzene can be represented. Note that each carbon atom has four bonds and each hydrogen atom one bond.



Figure 2 shows the structure of anthracene, a chemical found in coal tar . It was often used in to make dyes, plastics and pesticides. It has been used to make smoke screens and scintillation counter crystals. The formula of anthracene is

(A)  $C_{12}H_{12}$  (B)  $C_{13}H_{15}$  (C)  $C_{10}H_{10}$  (D)  $C_{14}H_{10}$ Q.21 Molecular formula gives the short form representation of the formula of a compound. It represent one unit or molecules of the compound. Molecular formula tells about the elements present in the compound. Its gives the actual number of atom of each element that are combined chemically to form the one molecules of the compound. An empirical formula on the other hand gives the simple ratio of the number of atom of each elements present in the compound. The molecular formula is a whole number multiple of the empirical formula. Assertion (A):- The empirical mass of ethene is half of its molecular mass.

Reasons (R):- The empirical mass of ethene is 14u while the molecular mass is 28u.

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TEST - 1

	(A) Both (A) and (R) are true and (R) is the correct explaination of (A).								
	(B) Both (A) and (R) are true and (R) is not the correct explaination of (A).								
	(C) is true but (R) is false								
	(D) is false but (R) is true								
Q.22	The empirical formula of $C_{12}H_{24}O_{12}$ is								
	(A) $C_3H_8O_3$ (B) $C_2H_4O_2$ (C) $CH_3O$ (D) $CH_2O$								
Q.23	Dylan did some research about the solubility of carbon dioxide gas in cold drink. To maximize								
	the amount of carbon dioxide dissolved in a litre of cold drink, Dylan should								
	(A) Decrease the pressure and decreases the temperature.								
	(B) Decreases the pressure and increases the temperature.								
	(C) Increase the pressure and decreases the temperature.								
	(D) Increase the pressure and increase the temperature.								
Q.24	The equation for the reaction between aluminium and sulphuric acid is								
	$a Al + b H_2 SO_4 = c Al_2 (SO_4)_3 + d H_2$								
	The sum of a+b+c+d is								
	(A) 9 (B) 6 (C) 8 (D) 10								
Q.25	Glucose is your body's primary source of energy. It comes from the food you eat.								
-	Your body breaks down most of that food into glucose and releases it into your								
	bloodstream. Your body breaks down most of that food into glucose and releases								
	it into your bloodstream. The formula of one type of glucose is given in the								

diagram. Which of the following formula can represent the same.



(A) C <sub>6</sub>H <sub>12</sub>O <sub>6</sub>

(B) C 7H 12O 6

(C) C <sub>6</sub>H <sub>10</sub>O <sub>7</sub>

(D) C 8H 12O 8





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Q.26	Some of the jumb	led words are giv	ven belo	w for the nat	me of some ele	ments. The				
	number of non-me	etals can be form	ed from	these words	are					
	NIOR, SHPSORU	JSP, LEINKC, I	DIINOE,	POERPC,	DGLO, ERVIS	SL, ILEHUM,				
	CBARON									
	(A) 3	(B) 5		(C) 4	(D) 6					
Q.27	Radhe studied abo	out Rutherford's	atomic r	nodel. He w	rote the drawba	acks of the				
	model as given									
	I. Presence of nuc	leus was not exp	lained.							
	II. Stability of ato	ms could not be	explaine	d.						
	III The distributio	n of electrons are	ound the	nucleus was	s not explained					
	IV. Nothing could be said about the mass of the atom.									
	Among the drawb	oacks written by H	Radhe.							
	(A) only II is cor	rect.		(B) only IV	is correct.					
	(C) both I and II a	ire correct.		(D) both II	and III are cor	rect.				
Q.28	A glass jar con	tains one molec	ule eac	h of rock	salt (NaCl),	washing soda				
	(Na <sub>2</sub> CO <sub>3</sub> ), sodiun	n sulphate (Na <sub>2</sub> S	O <sub>4</sub> ) and	chalk (CaC	$(O_3)$ . The maximum maxim maximum ma	imum number				
	of atoms are pres	ent in								
	(A) rock salt			(B) sodium	sulphate					
	(C) washing soda			(D) chalk						
Q.29	Match the follow	ing with the corr	ect respo	onse		7				
	(A) Cinnabar		(A) A	luminium		-				
	(B) Zinc carbo	nate	(B) Sı	alphide ore		_				
	(C) Thermite r	eaction	(C) El	ectrolytic re	duction					

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

(D) Sodium chloride

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

(D) Calcination

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

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

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TEST - 1

- **Q.30** Pure iron, like cobalt and nickel, is attracted to magnets. Steel is made by mixing, other elements with iron. It is usually magnetic, but large amounts of elements other than cobalt or nickel mixed with it can make it non-magnet. Greater amounts of other elements make the steel less likely to be magnetic. Which of the following kinds and amounts of additives to iron would be least likely to make a magnetic steel?
  - (A) 1.5% carbon, 1.5% tungsten.
  - (B) 2% vanadium, 1.5% chromium.
  - (C) 12.5% cobalt, 10% aluminium, 17% nickel.
  - (D) 1% carbon, 14% nickel, 18% chromium, 4% molybdenum.



## CLASS24

**ANSWER KEY** 

TEST : 1 (9TH & 10TH)

MOCK TEST # 01

Chemistry															
Ques.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	С	В	А	D	D	D	С	С	D	С	D	D	В	D	С
Ques.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	С	С	А	В	D	А	D	С	А	А	С	D	В	В	D

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CLASS24 TEST : 1 (9TH & 10TH)															
ANSWER KEY MOCK											СК ТЕ	ST #	01		
Chemistry															
Ques.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	С	В	А	D	D	D	С	С	D	С	D	D	В	D	С
Ques.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	С	С	А	В	D	А	D	С	А	А	С	D	В	В	D

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