IIIT-H UGEE (SUPR & REAP) — Top 30 Practice Questions

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Interactive Practice & Step-by-Step Solutions: Practice chapter-wise PYQs with timer & full explanation on The Crucible.

Open on The Crucible ↗

Semiconductors — Special purpose diodes · IIIT-H UGEE · SUPR — Practice on Crucible ↗

1. Which of the following statement is wrong while comparing Liquid Crystal Display (LCD) monitors with Cathode-Ray Tubes (CRT)?

(A) CRT consumes more power than LCD monitors.
(B) CRT costs more than a LCD monitor.
(C) CRT is larger in size than LCD.
(D) CRT resolution is lower than LCD.
(E) CRT is smaller than in size than LCD.

Ray Optics · IIIT-H UGEE · SUPR — Practice on Crucible ↗

2. A mirror that has parabolic reflecting surface suffers with

(A) Spherical aberration only
(B) Chromatic aberration only
(C) Both spherical and chromatic aberration
(D) Neither spherical nor chromatic aberration
(E) data inadequate

Atomic Physics — Atomic Spectrum · IIIT-H UGEE · SUPR — Practice on Crucible ↗

3. In the discharge tube as the density of atom increases, the intensity of spectral lines

(A) Decreases continuously
(B) Increases continuously
(C) Remains constant
(D) Will diminish
(E) Will become 0

Alcohols Phenols and Ethers — Reactions of Ethers · IIIT-H UGEE · SUPR — Practice on Crucible ↗

4. In esterification of an acid, the other reagent is

(A) Aldehyde
(B) Acetone
(C) Amine
(D) Water
(E) Alcohol

General Principles and Processes of Isolation of Metals — Minerals and ores · IIIT-H UGEE · SUPR — Practice on Crucible ↗

5. Identify the correct set of sulphide ores from the following

(A) Fool's gold, Calamine, Kaolinite
(B) Fool's gold, Chalcopyrites,Siderite
(C) Copper glance, Siderite, Malachite
(D) Bauxite, Magnetite, Zincite
(E) Sphalerite, Fool's gold, Chalcopyrites

Thermodynamics (C) — Third law of thermodynamics · IIIT-H UGEE · SUPR
Practice on Crucible ↗

6. Third law of thermodynamics is used to determine the

(A) spontaneity of a process.
(B) enthalpy of a substance.
(C) absolute values of entropy of a substance.
(D) free energy of a substance
(E) internal energy of a process

Wave Optics — Polarization of Light · IIIT-H UGEE · SUPR
Practice on Crucible ↗

7. In a plane polarised electromagnetic wave, the angle between the planes of vibration and polarisation is

(A) 0°
(B) 30°
(C) 60°
(D) 90°
(E) 45°

Alternating Current · IIIT-H UGEE · SUPR
Practice on Crucible ↗

8. Average value of A.C. current in a half time period may be

(A) positive
(B) negative
(C) zero
(D) will be always positive or negative but never 0
(E) can be positive, negative or zero

Work Power Energy — Power · IIIT-H UGEE · SUPR
Practice on Crucible ↗

9. The height of the dam, in an hydroelectric power station is 10 m. In order to generate 1 MW of electric power, the mass of water (in kg) that must fall per second on the blades of the turbine is

(A) 10^6
(B) 10^5
(C) 10^3
(D) 10^4
(E) 10^2

Center of Mass Momentum and Collision — momentum · IIIT-H UGEE · SUPR
Practice on Crucible ↗

10. A space craft of mass 2000 kg moving with a velocity of 600m/s suddenly explodes into two pieces. One piece of mass 500 kg is left stationary. The velocity of the other part must be

(A) 600 m/s
(B) 500 m/s
(C) 1500 m/s
(D) 1000 m/s
(E) 800 m/s

Chemical Bonding and Molecular Structure — Molecular Orbital Theory · IIIT-H UGEE · SUPR
Practice on Crucible ↗

11. Number of lone pair(s) on Xe in $XeOF_4$ is / are

(A) 0 **(B)** 2 **(C)** 4
(D) 3 **(E)** 1

Amines · IIIT-H UGEE · SUPR
Practice on Crucible ↗

12. Which of the following substances on treatment with P_2O_5 gives ethanenitrile ?

(A) Propanamide **(B)** Methamide **(C)** Ethanoic acid
(D) N-Methylethyl amine **(E)** Ethanamide

Sequences and Series · IIIT-H UGEE · SUPR
Practice on Crucible ↗

13. n arithmetic means are inserted between the numbers 7 and 49. If the sum of these means be 364 then the sum their squares is -

(A) 10380 **(B)** 11380 **(C)** 11830
(D) 18130 **(E)** 12130

Gravitation · IIIT-H UGEE · SUPR
Practice on Crucible ↗

14. At perihelion, the gravitational potential energy of Pluto in its orbit has:

(A) it's maximum value **(B)** it's minimum value **(C)** the same value as at every other point in the orbit
(D) the value which depends on the sense of rotation **(E)** None of these

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Some Basic Concepts of Chemistry — Concentration terms · IIIT-H UGEE · SUPR
Practice on Crucible ↗

15. The mole fraction of a solute in one molal ethanolic solution would be

(A) 0.21 **(B)** 0.52 **(C)** 0.044
(D) 0.75 **(E)** 0.35

Permutation Combination — Combination · IIIT-H UGEE · REAP

Practice on Crucible ↗

16. In an election, a voter may vote for any number of candidates not greater than the number to be chosen. There are 7 candidates and 4 members are to be chosen. In how many ways can a person vote?

(A) 89 **(B)** 98 **(C)** 79

(D) 101 **(E)** 108

Theory Of Equations · IIIT-H UGEE · REAP

Practice on Crucible ↗

17. Find the value of x, if $x = 1 + \cfrac{1}{3+\cfrac{1}{2+\cfrac{1}{3+\cfrac{1}{2+\ldots\infty}}}}$

(A) $\pm\sqrt{5/3}$ **(B)** $\pm\sqrt{5/2}$ **(C)** $\sqrt{5/3}$

(D) $\sqrt{8/5}$ **(E)** $\sqrt{8/3}$

Time and Work · IIIT-H UGEE · REAP

Practice on Crucible ↗

18. Pipe A can fill a tank in 36 minutes and pipe B can fill it in 45 minutes. If both the pipes are opened to fill an empty tank, in how many minutes will it be full?

(A) 15 **(B)** 18 **(C)** 20

(D) 25 **(E)** 30

Probability · IIIT-H UGEE · REAP

Practice on Crucible ↗

19. The digits $1, 2, 3, 4, 5, 6, 7, 8, 9$ are written in random order to form a nine digit number. Find the probability that this number is divisible by 4 :

(A) $\frac{4}{9}$ **(B)** $\frac{2}{9}$ **(C)** $\frac{17}{81}$

(D) $\frac{9}{4}$ **(E)** $\frac{2}{3}$

Sequences Series — Arithmetic Progression · IIIT-H UGEE · REAP

Practice on Crucible ↗

20. Divide 20 into four parts which are in AP and such that the product of the first and fourth is to the product of the second and third in the ratio $2 : 3$. Find the product of the first and fourth term of the AP :

(A) 12 **(B)** 16 **(C)** 20

(D) 25 **(E)** 66

Geometry · IIIT-H UGEE · REAP Practice on Crucible ↗

21. A hemispherical bowl of internal radius $6\ \text{cm}$ contains alcohol. This alcohol is to be filled into cylindrical shaped small bottles of diameter $6\ \text{cm}$ and height $1\ \text{cm}$. How many bottles will be needed to empty the bowl?

(A) 36 **(B)** 27 **(C)** 16
(D) 4 **(E)** 26

Time and Clock · IIIT-H UGEE · REAP Practice on Crucible ↗

22. At what time between 9 and 10 will the hands of a watch be together ?

(A) 45 minutes past 9 **(B)** 50 minutes past 9 **(C)** $49\frac{1}{11}$ minutes past 9
(D) $48\frac{2}{11}$ minutes past 9 **(E)** 40 minutes past 9

Number and Ranking · IIIT-H UGEE · REAP Practice on Crucible ↗

23. Some boys are sitting in a line. Mahendra is on 17 th place from left and Surendra is on 18 th place from right. There are 8 boys in between them. How many boys are there in the line?

(A) 40 **(B)** 42 **(C)** 41
(D) 44 **(E)** 43

Direction Sense · IIIT-H UGEE · REAP Practice on Crucible ↗

24. Ravi wants to go to the university. He starts from his home which is in the East and come to a crossing. The road to the left ends is a theatre, straight ahead is the hospital. In which direction is the university?

(A) North **(B)** South **(C)** East
(D) West **(E)** north-east

Mathematical Operations · IIIT-H UGEE · REAP Practice on Crucible ↗

25. If ' $+$ ' means ' divided by', '-' means ' added to', ' x ' means ' subtracted from' and $\div$ means ' multiplied by', then what is the value of $24 \div 12 - 18 + 9$?

(A) -300 **(B)** -150 **(C)** 150
(D) 290 **(E)** -290

Series · IIIT-H UGEE · REAP

Practice on Crucible ↗

26. KM5, IP8, GS11, EV14,?

(A) BX17 **(B)** BY17 **(C)** CY18

(D) CY17 **(E)** BX18

Basic of Mathematics — Logarithm · IIIT-H UGEE · REAP

Practice on Crucible ↗

27. If a, b, c are in GP , then $\log_a d, \log_b d, \log_c d$ are in:

(A) AP **(B)** HP **(C)** GP

(D) AGP **(E)** both HP and GP

Sequences and Series — Summation of Series · IIIT-H UGEE · REAP

Practice on Crucible ↗

28. What is the sum of 100 terms of the series $1 - 2 + 3 - 4 + 5 - 6 + \ldots$?

(A) 100 **(B)** 50 **(C)** 550

(D) -50 **(E)** -550

Profit Loss Discount · IIIT-H UGEE · REAP

Practice on Crucible ↗

29. A milkman purchases the milk at Rs. x per litre and sells it at Rs. 2x per litre still he mixes 2 litres water with every 6 litres of pure milk. What is the profit percentage?

(A) 116% **(B)** 166.66% **(C)** 60%

(D) 100% **(E)** 50%

Missing Character · IIIT-H UGEE · REAP

Practice on Crucible ↗

30. What number should replace the question mark ? 4322: 48 $4172 : 56$ $7615 :?$

(A) 336 **(B)** 210 **(C)** 49

(D) 52 **(E)** 69

Answer Key (Q1 to Q30)

Click any question number below to practice chapter-wise PYQs on The Crucible ↗

1: (B)	2: (D)	3: (B)	4: (E)	5: (E)	6: (C)	7: (D)	8: (D)	9: (D)	10: (E)
11: (E)	12: (E)	13: (C)	14: (B)	15: (C)	16: (B)	17: (C)	18: (C)	19: (B)	20: (B)
21: (C)	22: (C)	23: (E)	24: (A)	25: (D)	26: (D)	27: (B)	28: (D)	29: (B)	30: (B)

Sample Solution — Question 2 (IIIT-H UGEE · SUPR · Correct Option: D)

Open on The Crucible ↗

Q2. A mirror that has parabolic reflecting surface suffers with

A mirror that has parabolic surface suffers with neither spherical nor chromatic aberration.

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