

JEE MAIN 2026 · QUESTION PAPER

2 Apr 2026 **Shift 2**

74 questions in exam order, with answer key

Subject	Section A multiple choice	Section B numerical value
● Physics	20 Q1 to Q20	4 Q21 to Q24
● Chemistry	20 Q25 to Q44	5 Q45 to Q49
● Mathematics	20 Q50 to Q69	5 Q70 to Q74
In this PDF	74 questions · answer key at the end	

- 1 Set a 3 hour timer and attempt the paper in one sitting, like the real exam.
- 2 Check yourself against the answer key at the end. Every question names its chapter, so you can see where marks went.
- 3 Got one wrong? Tap “Step-by-step solution” at the top right of it for the full working, where available.

Attempt this paper online

The same questions in the same order, with instant answer checking and step-by-step solutions where available.

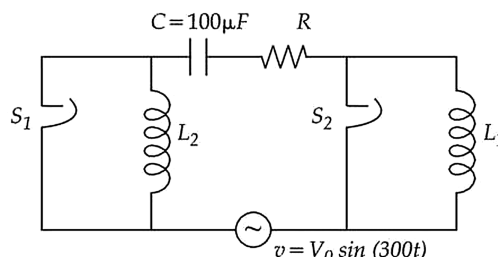
prepwiser.in/pyqs/paper/2026-04-02-evening · Free, no signup needed to start

Answers follow NTA's final answer keys. Typing errors are possible, so check doubtful answers against the official key. Spotted a mistake? prepwiser.in/feedback · Terms: prepwiser.in/terms

Q1 Alternating Current

[Step-by-step solution](#) · prepwisar.in/questions/tEzxtbTeyk

The figure given below shows an LCR series circuit with two switches S_1 and S_2 . When switch S_1 is closed keeping S_2 open, the phase difference (ϕ) between the current and source voltage is 30° and phase difference is 60° when S_2 is closed keeping S_1 open. The value of $(3L_1 - L_2)$ is _____ H.



- (A) $\frac{9}{2}$ (B) $\frac{2}{9}$ (C) $\frac{1}{3}$ (D) 3

Q2 Circular Motion

[Step-by-step solution](#) · prepwisar.in/questions/3MckbE_EIL

A 0.5 kg mass is in contact against the inner wall of a cylindrical drum of radius 4 m rotating about its vertical axis. The minimum rotational speed of the drum to enable the mass to remain stuck to the wall (without falling) is 5 rad/s. The coefficient of friction between the drum's inner wall surface and mass is _____. (Take $g = 10 \text{ m/s}^2$)

- (A) 0.1 (B) 0.5 (C) 0.7 (D) 0.3

Q3 Electromagnetic Waves

[Step-by-step solution](#) · prepwisar.in/questions/wslr2YvY44

An electromagnetic wave travels in free space along the x -direction. At a particular point in space and time, $\vec{B} = 2 \times 10^{-7} \hat{j}$ T is associated with this wave. The value of corresponding electric field $\vec{E}$ at this point is _____ V/m.

- (A) $60 \hat{k}$ (B) $-60 \hat{k}$ (C) $30 \hat{k}$ (D) $-600 \hat{k}$

Q4 Gravitation

[Step-by-step solution](#) · prepwisar.in/questions/7FeK-XCDLL

If a body of mass 1 kg falls on the earth from infinity, it attains velocity (v) and kinetic energy (k) on reaching the surface of earth. The values of v and k respectively are _____. (Take radius of earth to be 6400 km and $g = 9.8 \text{ m/s}^2$)

- (A) 11.2 km/s; $6.27 \times 10^7 \text{ J}$ (B) 11.2 km/s; $12.54 \times 10^7 \text{ J}$
(C) 8.8 km/s; $6.27 \times 10^7 \text{ J}$ (D) 8.8 km/s; $12.54 \times 10^7 \text{ J}$

Q5 Moving Charges & Magnetism

[Step-by-step solution](#) · prepwisar.in/questions/BK8-tD7Q6p

A particle having charge 10^{-9} C moving in x - y plane in fields of $0.4 \hat{j} \text{ N/C}$ and $4 \times 10^{-3} \hat{k} \text{ T}$ experiences a force of $(4\hat{i} + 2\hat{j}) \times 10^{-10} \text{ N}$. The velocity of the particle at that instant is _____ m/s.

- (A) $50\hat{i} + 100\hat{j}$ (B) $100\hat{i} + 50\hat{j}$ (C) $-50\hat{i} + 100\hat{j}$ (D) $50\hat{i} - 100\hat{j}$

Q6 Nuclear Physics

[Step-by-step solution](#) · prepwisar.in/questions/adBwKp2TIZ

The binding energy per nucleon of $^{209}_{83}\text{Bi}$ is _____ MeV.

[Take $m(^{209}_{83}\text{Bi}) = 208.980388 \text{ u}$, $m_p = 1.007825 \text{ u}$, $m_n = 1.008665 \text{ u}$, $1 \text{ u} = 931 \text{ MeV}/c^2$]

- (A) 7.48 (B) 7.84 (C) 8.79 (D) 6.94

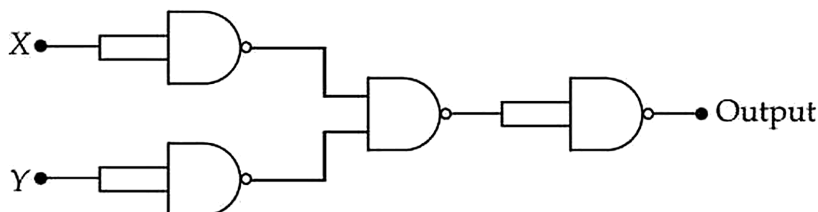
Q7 Current Electricity[Step-by-step solution](https://www.prepwisar.in/questions/EcrDtqQ5Nq)

Two resistors of $200\ \Omega$ and $400\ \Omega$ are connected in series with a battery of 100 V . A bulb rated at 200 V , 100 W is connected across the $400\ \Omega$ resistance. The potential drop across the bulb is _____ V.

- (A) 25 (B) 50 (C) 66.6 (D) 100

Q8 Semiconductors & Electronic Devices[Step-by-step solution](https://www.prepwisar.in/questions/7mBWMH0quw)

If X and Y are the inputs, the given circuit works as _____.



- (A) OR gate (B) AND gate (C) NAND gate (D) NOR gate

Q9 Kinetic Theory of Gases[Step-by-step solution](https://www.prepwisar.in/questions/0U409LeYIq)

A mixture of carbon dioxide and oxygen has volume 8310 cm^3 , temperature 300 K , pressure 100 kPa and mass 13.2 g . The number of moles of carbon dioxide and oxygen gases in the mixture respectively are _____.

(Assume both carbon dioxide and oxygen gases behave like ideal gases) [$R = 8.31\text{ J/mol K}$]

- (A) 0.15 and 0.18 (B) 0.25 and 0.08 (C) 0.21 and 0.12 (D) 0.13 and 0.20

Q10 Simple Harmonic Motion[Step-by-step solution](https://www.prepwisar.in/questions/OpwNy4_EN)

The equation of motion of a particle is given by $x = a \sin(50t + \pi/3)\text{ cm}$. The particle will come to rest at time t_1 and it will have zero acceleration at time t_2 . The t_1 and t_2 respectively are _____.

- (A) $\frac{\pi}{300}\text{ s}$, $\frac{\pi}{75}\text{ s}$ (B) $\frac{\pi}{75}\text{ s}$, $\frac{\pi}{300}\text{ s}$ (C) $\frac{\pi}{300}\text{ s}$, $\frac{\pi}{25}\text{ s}$ (D) $\frac{\pi}{50}\text{ s}$, $\frac{\pi}{100}\text{ s}$

Q11 Electrostatics I: Charges, Field & Gauss's Law[Step-by-step solution](https://www.prepwisar.in/questions/UhbirCMek8)

Two metal plates (A, B) are kept horizontally with separation of $\left(\frac{12}{\pi}\right)\text{ cm}$, with plate A on the top.

An atomizer jet sprays oil (density 1.5 g/cm^3) droplets of radius 1 mm horizontally. All oil droplets carry a charge 5 nC . The potentials V_A and V_B are required on plates A and B respectively in order to ensure the droplets do not descend. The values of V_A and V_B are _____.

(Neglect the air resistance to the droplets and take $g = 10\text{ m/s}^2$)

- (A) 100 V and 580 V (B) 580 V and 100 V (C) 60 V and 400 V (D) 0 V and -200 V

Q12 Electrostatics I: Charges, Field & Gauss's Law[Step-by-step solution](https://www.prepwisar.in/questions/HVXWWzOJEL)

Two point charges $8\mu\text{C}$ and $-2\mu\text{C}$ are located at $x = 2\text{ cm}$ and $x = 4\text{ cm}$, respectively on the x -axis. The ratio of electric flux due to these charges through two spheres of radii 3 cm and 5 cm with their centers at the origin is _____.

- (A) 4 : 1 (B) 3 : 4 (C) 4 : 3 (D) 4 : 5

Attempt this paper online with instant answer checking > [prepwisar.in/pyqs/paper/2026-04-02-evening](https://www.prepwisar.in/pyqs/paper/2026-04-02-evening)

Q13 Units, Dimensions & Errors[Step-by-step solution](#) > [prepwiser.in/questions/--i7-Y3BVy](#)

Dimensions of universal gravitational constant (G) in terms of Planck's constant (h), distance (L), mass (M) and time (T) are _____.

- (A) $[hTLM^{-2}]$ (B) $[hT^{-1}LM^{-2}]$ (C) $[hTL^2M^{-2}]$ (D) $[h^{-1}T^{-1}LM^{-2}]$

Q14 Experimental Skills[Step-by-step solution](#) > [prepwiser.in/questions/By6qYbmUE0](#)

In a screw gauge the zero of main scale reference line coincides with the fifth division of the circular scale when two studs are in contact. There are 100 divisions in circular scale and pitch of screw gauge is 0.1 mm. When diameter of a sphere is measured, the reading of main scale is 5 mm and 50th division of circular scale coincides with the reference line of main scale. The diameter of sphere is _____ mm.

- (A) 5.045 (B) 5.055 (C) 5.450 (D) 5.550

Q15 Work, Energy & Power[Step-by-step solution](#) > [prepwiser.in/questions/0_xJQUGdMP](#)

A spherical ball of mass 2 kg falls from a height of 10 m and is brought to rest after penetrating 10 cm into sand.

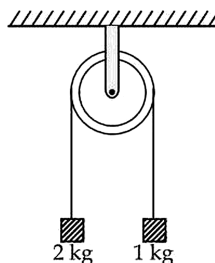
The average force exerted by sand on the ball is _____ N.

(Take $g = 10\text{ m/s}^2$)

- (A) 1980 (B) 2020 (C) 2000 (D) 1000

Q16 Centre of Mass & Linear Momentum[Step-by-step solution](#) > [prepwiser.in/questions/13TvmCCjrN](#)

Two blocks of masses 2 kg and 1 kg respectively, are tied to the ends of a string which passes over a light frictionless pulley as shown in the figure below. The masses are held at rest at the same horizontal level and then released. The distance traversed by the centre of mass in 2 s is _____ m. (Take $g = 10\text{ m/s}^2$)



- (A) 3.33 (B) 3.12 (C) 2.22 (D) 1.42

Q17 Electromagnetic Induction[Step-by-step solution](#) > [prepwiser.in/questions/Zk1p6CtLIF](#)

A circular current loop of radius R is placed inside square loop of side length L ($L \gg R$) such that they are co-planar and their centers coincide. The permeability of free space is μ_0 . The mutual inductance between circular loop and square loop is _____.

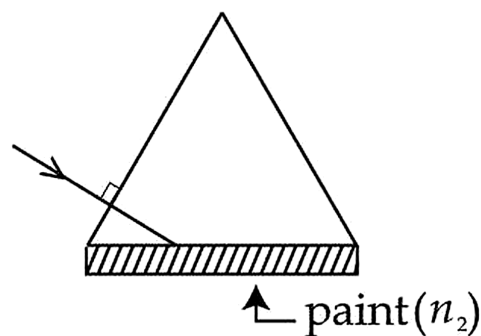
- (A) $2\sqrt{2}\frac{\mu_0 L^2}{R}$ (B) $\sqrt{2}\frac{\mu_0 L^2}{R}$ (C) $\sqrt{2}\frac{\mu_0 R^2}{L}$ (D) $2\sqrt{2}\frac{\mu_0 R^2}{L}$

Attempt this paper online with instant answer checking > [prepwiser.in/pyqs/paper/2026-04-02-evening](#)

Q18 Ray Optics[Step-by-step solution](https://www.prepwisar.in/questions/8qSajMcS0X)

One side of an equilateral prism is painted by a transparent material of refractive index n_2 . The refractive index of prism is 1.6. The minimum value of n_2 required for total internal reflection from painted face is _____.

- (A) $\frac{3\sqrt{3}}{1.6}$ (B) $\sqrt{3}$ (C) $\frac{3.2}{\sqrt{3}}$ (D) $\frac{4\sqrt{3}}{5}$

**Q19** Surface Tension[Step-by-step solution](https://www.prepwisar.in/questions/4og8JbCvkX)

The surface tension of a soap bubble is 0.03 N/m. The work done in increasing the diameter of bubble from 2 cm to 6 cm is $\alpha\pi \times 10^{-4}$ J. The value of α is _____. (Take $\pi = 3.14$)

- (A) 0.86 (B) 0.64 (C) 1.92 (D) 7.68

Q20 Fluid Mechanics[Step-by-step solution](https://www.prepwisar.in/questions/GPDHlclU2z)

If an air bubble of diameter 2 mm rises steadily through a liquid of density 2000 kg/m^3 at a rate of 0.5 cm/s, then the coefficient of viscosity of liquid is _____ Poise. (Take $g = 10 \text{ m/s}^2$)

- (A) 0.88 (B) 8.8 (C) 88.8 (D) 0.088

Physics Section B · Numerical value

Q21 to Q24

Q21 Wave Optics **NUMERICAL**[Step-by-step solution](https://www.prepwisar.in/questions/KxRfLiintH)

In a Young's double slit experiment, the intensity at some point on the screen is found to be $\frac{3}{4}$ times of the maximum of the interference pattern. The path difference between the interfering waves at this point is $\frac{\lambda}{x}$ where λ is wavelength of the incident light. The value of x is _____.

Q22 Atomic Physics **NUMERICAL**[Step-by-step solution](https://www.prepwisar.in/questions/Rns5et1NPj)

Using Bohr's model, calculate the ratio of the magnetic fields generated due to the motion of the electrons in the 2nd and 4th orbits of hydrogen atom _____.

Q23 Thermodynamics **NUMERICAL**[Step-by-step solution](https://www.prepwisar.in/questions/XPi3E4myC)

5 moles of unknown gas is heated at constant volume from 10°C to 20°C . The molar specific heat of this gas at constant pressure $c_p = 8 \text{ cal/mol}^\circ\text{C}$ and $R = 8.36 \text{ J/mol}^\circ\text{C}$. The change in the internal energy of the gas is _____ calorie.

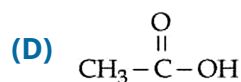
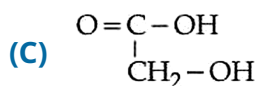
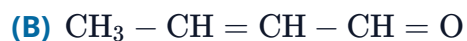
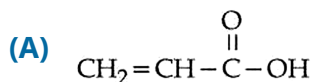
Q24 Ray Optics **NUMERICAL**[Step-by-step solution](https://www.prepwisar.in/questions/tB3cgEbsYj)

If sunlight is focused on a paper using convex lens, it starts burning the paper in shortest time when the lens is kept at 30 cm above the paper. If the radius of curvature of the lens is 60 cm then the refractive index of the lens material is $\frac{\alpha}{10}$. The value of α is _____.

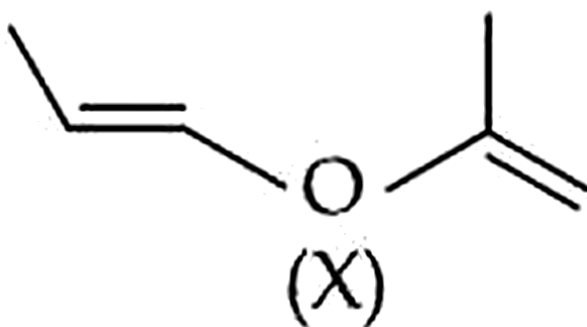
Q25 Aldehydes & Ketones[Step-by-step solution](#) · [prepwisar.in/questions/s2e5EBriPO](https://www.prepwisar.in/questions/s2e5EBriPO)

An organic compound "x" where molar ratio of C, O and H are equal, on treatment with 50% KOH under reflux followed by acidification produced "y". The most likely structure of "y" is:

[Molar mass of 'x' is 58 g mol^{-1}]

**Q26** Aldehydes & Ketones[Step-by-step solution](#) · [prepwisar.in/questions/l6lQCihG2J](https://www.prepwisar.in/questions/l6lQCihG2J)

A molecule (X) with following structure under mild acidic condition is hydrolysed to produce (Y) and (Z). Identify the correct statements about (Y) and (Z).



A. Both (Y) and (Z) have same molar mass.

B. (Y) and (Z) can be distinguished from each other by NaHCO_3 .

C. (Y) and (Z) react with HCN with same rates.

D. (Y) and (Z) undergo addition reaction with 2,4-DNP.

Choose the **correct** answer from the options given below:

(A) A, B and C Only

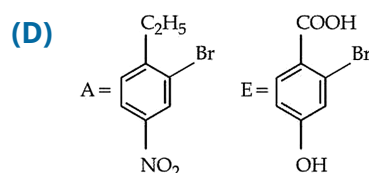
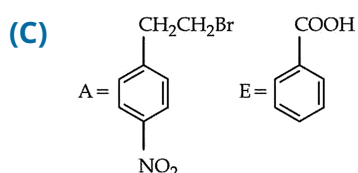
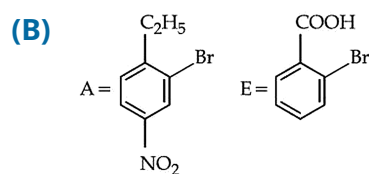
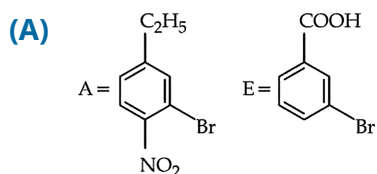
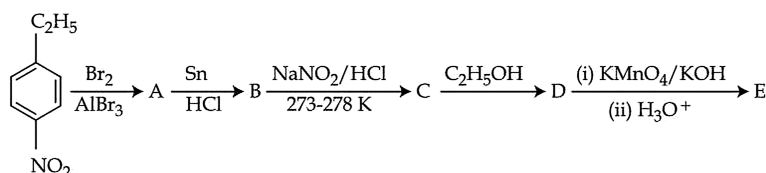
(B) B and C Only

(C) C and D Only

(D) A and D Only

Q27 Amines & Diazonium Salts[Step-by-step solution](#) · [prepwisar.in/questions/z4NErOMPqF](https://www.prepwisar.in/questions/z4NErOMPqF)

Identify compounds A and E in the following reaction sequence.



Given below are two statements:

Statement I: Among Zn, Mn, Sc and Cu, the energy required to remove the third valence electron is highest for Zn and lowest for Sc.

Statement II: The correct order of the following complexes in terms of CFSE is



In the light of the above statements, choose the **correct** answer from the options given below:

- (A) Both **Statement I** and **Statement II** are true (B) Both **Statement I** and **Statement II** are false
(C) **Statement I** is true but **Statement II** is false (D) **Statement I** is false but **Statement II** is true

Which of the following complexes will show coordination isomerism?

- A. $[\text{Ag}(\text{NH}_3)_2][\text{Ag}(\text{CN})_2]$
B. $[\text{Co}(\text{NH}_3)_6][\text{Cr}(\text{CN})_6]$
C. $[\text{Co}(\text{NH}_3)_6][\text{Co}(\text{CN})_6]$
D. $[\text{Fe}(\text{NH}_3)_6][\text{Co}(\text{CN})_6]$
E. $[\text{Co}(\text{NH}_3)_6][\text{Fe}(\text{CN})_6]$

Choose the **correct** answer from the options given below:

- (A) B, C and D Only (B) B, D and E Only (C) A, C and D Only (D) C, D and E Only

The first and second ionization constants of a weak dibasic acid H_2A are 8.1×10^{-8} and 1.0×10^{-13} respectively. 0.1 mol of H_2A was dissolved in 1 L of 0.1 M HCl solution. The concentration of HA^- in the resultant solution is:

- (A) 0.1M (B) $9.53 \times 10^{-6}\text{M}$ (C) $8.1 \times 10^{-8}\text{M}$ (D) $1.0 \times 10^{-13}\text{M}$

At 25°C , 20.0 mL of 0.2 M weak monoprotic acid HX is titrated against 0.2 M NaOH. The pH of the solution (a) at the start of the titration (when NaOH has not been added) and (b) when 10 mL of NaOH is added respectively, are:

Given:

$$K_a = 5 \times 10^{-4}$$

$$\text{p}K_a = 3.3$$

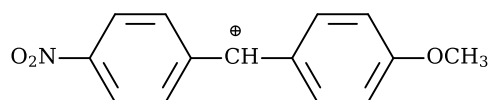
$$\alpha \ll 1$$

- | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| (A) | (a) | (b) | (B) | (a) | (b) | (C) | (a) | (b) | (D) | (a) | (b) |
| | 0.7 | 2.0 | | 2.0 | 3.3 | | 1.1 | 2.2 | | 3.0 | 2.2 |

Attempt this paper online with instant answer checking > [prepwisar.in/pyqs/paper/2026-04-02-evening](https://www.prepwisar.in/pyqs/paper/2026-04-02-evening)

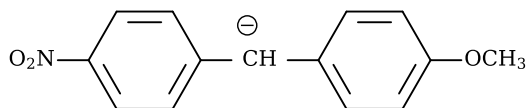
Given below are two statements:

Statement I: In



, the carbocation is stabilised by +R effect of $-\text{OCH}_3$ group.

Statement II: In



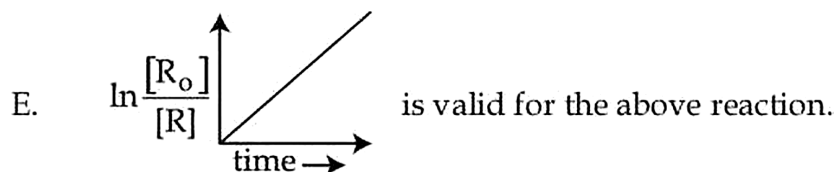
, the carbanion is stabilised by $-\text{R}$ effect of $-\text{NO}_2$ group.

In the light of the above statements, choose the **correct** answer from the options given below:

- (A) Both **Statement I** and **Statement II** are true (B) Both **Statement I** and **Statement II** are false
(C) **Statement I** is true but **Statement II** is false (D) **Statement I** is false but **Statement II** is true

Consider the reaction $a\text{X} \rightarrow b\text{Y}$, for which the rate constant at 30°C is $1 \times 10^{-3} \text{mol}^{-1} \text{Ls}^{-1}$. Which of the following statements are true?

- A. When concentration of 'X' is increased to four times, the rate of reaction becomes 16 times.
B. The reaction is a second order reaction.
C. The half-life period is independent of the concentration of X.
D. Decomposition of N_2O_5 is an example of the above reaction.
E.



vs time is valid for the above reaction.

Choose the **correct** answer from the options given below:

- (A) A and B Only (B) A, B and C Only (C) A, B, D and E Only (D) C and D Only

Among Fe^{2+} , Fe^{3+} , Cr^{2+} and Zn^{2+} , the ion that shows positive borax bead test and with highest ionisation enthalpy is:

- (A) Fe^{2+} (B) Zn^{2+} (C) Cr^{2+} (D) Fe^{3+}

Correct statements regarding alkyl halides (R-X) among the following are:

- A. Alcohol being less polar solvent as compared to water, alcoholic KOH favours elimination reaction with R-X.
- B. Order of reactivity towards S_N1 mechanism is $C_6H_5-CH_2-Cl > C_6H_5-CHCl-C_6H_5$.
- C. Non substituted aryl halides exhibit properties similar to alkyl halides.
- D. Vinyl chloride is an example of haloalkene and allyl chloride is an example of haloalkyne.
- E. R-Cl can be prepared by reacting R-OH with $SOCl_2$ but Ar-Cl cannot be prepared by reacting Ar-OH with $SOCl_2$.

Choose the **correct** answer from the options given below:

- (A) A, B and C Only (B) B and D Only (C) A and E Only (D) D and E Only

Complete combustion of X g of an organic compound gave 0.25 g of CO_2 and 0.12 g of H_2O . If the % of carbon is 25% and of hydrogen is 4.89%, then $X = \times 10^{-3}$ g. (Nearest integer)
(Molar mass of C, H and O are 12, 1 and 16 g mol^{-1} respectively.)

- (A) 273 (B) 27 (C) 2730 (D) 227

Identify the correct pair having amino acid (A) and the hormone (B) that is iodinated derivative of the amino acid (A).

(T and Y represent one letter code for amino acids)

- (A) Amino acid (A) - T Hormone (B) - Insulin (B) Amino acid (A) - T Hormone (B) - Thyroxine
(C) Amino acid (A) - Y Hormone (B) - Thyroxine (D) Amino acid (A) - Y Hormone (B) - Insulin

The compound (X) on

- (i) on heating in the presence of anhydrous $AlCl_3$ and HCl gas gives 2,4-dimethyl pentane
- (ii) aromatization gives toluene and
- (iii) cyclisation gives methyl cyclohexane

The correct name of compound (X) is:

- (A) Hept-2-ene (B) Hept-1,3,5-triene (C) Heptane (D) Hept-2,4,6-triene

Given below are two statements:

Statement I: The second ionization enthalpy of B, Al and Ga is in the order of $B > Al > Ga$.

Statement II: The correct order in terms of first ionization enthalpy is $Si < Ge < Pb < Sn$.

In the light of the above statements, choose the **correct** answer from the options given below:

- (A) Both **Statement I** and **Statement II** are true (B) Both **Statement I** and **Statement II** are false
(C) **Statement I** is true but **Statement II** is false (D) **Statement I** is false but **Statement II** is true

Solution A is prepared by dissolving 1 g of a protein (molar mass = $50,000 \text{ g mol}^{-1}$) in 0.5 L of water at 300 K. Its osmotic pressure is x bar. Solution B is made by dissolving 2 g of the same protein in 1 L of water at 300 K. Osmotic pressure of solution B is y bar. Entire solution of A is mixed with entire solution of B at the same temperature. The osmotic pressure of resultant solution is z bar. x , y and z respectively are:

($R = 0.083 \text{ L bar mol}^{-1} \text{ K}^{-1}$)

(A) 9.96×10^{-4} ; 9.96×10^{-4} ; 9.96×10^{-4}

(B) 9.96×10^{-4} ; 9.96×10^{-4} ; 19.92×10^{-4}

(C) 4.98×10^{-4} ; 4.98×10^{-4} ; 9.96×10^{-4}

(D) 4.98×10^{-4} ; 4.98×10^{-4} ; 4.98×10^{-4}

Gas 'A' undergoes change from state 'X' to state 'Y'. In this process, the heat absorbed and work done by the gas is 10 J and 18 J respectively. Now gas is brought back to state 'X' by another process during which 6 J of heat is evolved. In the reverse process of 'Y' to 'X',

(A) 18 J of the work is done by the gas 'A'.

(B) 2 J of the work is done by the gas 'A'.

(C) 12 J of the work is done on the gas 'A' by the surrounding.

(D) 14 J of the work is done on the gas 'A' by the surrounding.

SF_4 is isostructural with:



Choose the **correct** answer from the options given below:

(A) C Only

(B) C and E Only

(C) A and D Only

(D) B and E Only

The correct set that contains all kinds (basic, acidic, amphoteric and neutral) of oxides is:



The ratio of mass percentage (w/w) of C : H in a hydrocarbon is 12 : 1. It has two carbon atoms. The weight (in g) of $\text{CO}_2(\text{g})$ formed when 3.38 g of this hydrocarbon is completely burnt in oxygen is: (Given : Molar mass in g mol^{-1} C : 12, H : 1, O : 16)

(A) 5.68

(B) 11.44

(C) 22.74

(D) 17.05

Q45 Atomic Structure **NUMERICAL**[Step-by-step solution](#) › prepwiser.in/questions/_W_JQfhrGf

The surface of sodium metal is irradiated with radiation of wavelength x nm. The kinetic energy of ejected electrons is 2.8×10^{-20} J. The work function of sodium is 2.3 eV. The value of x is _____ $\times 10^2$ nm. (Nearest integer)

(Given: $h = 6.6 \times 10^{-34}$ J s; $1\text{eV} = 1.6 \times 10^{-19}$ J; $c = 3.0 \times 10^8$ m s $^{-1}$)

Q46 Chemical Kinetics **NUMERICAL**[Step-by-step solution](#) › prepwiser.in/questions/DEgfDTI5Ew

Consider the following gas phase reaction being carried out in a closed vessel at 25°C.

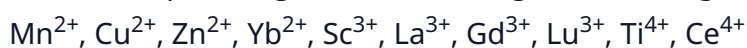


The pressure of C(g) at 30 minutes time interval would be _____ mm Hg. (nearest integer)

time (min)	total pressure of the system (mm Hg)
30	300
∞	600

Q47 d & f Block Elements **NUMERICAL**[Step-by-step solution](#) › prepwiser.in/questions/Yfx4QGICkS

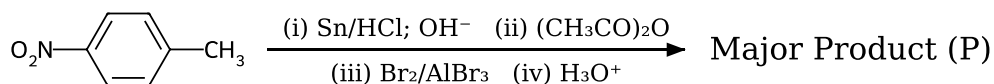
Number of paramagnetic ions among the following d- and f-block metal ions is _____.



(Atomic number of Mn = 25, Cu = 29, Zn = 30, Yb = 70, Sc = 21, La = 57, Gd = 64, Lu = 71, Ti = 22, Ce = 58)

Q48 Purification & Characterisation of Organic Compounds **NUMERICAL**[Step-by-step solution](#) › prepwiser.in/questions/g6zgFhju9G

Consider the following reactions sequence



When the product (P) is subjected to Carius analysis using AgNO_3 , 1.0 g of the product (P) will produce _____ g of the precipitate of AgBr. (Nearest Integer)

(Given : molar mass in g mol $^{-1}$ C : 12, H : 1, O : 16, N : 14, Br : 80, Ag : 108)

Q49 Electrochemistry **NUMERICAL**[Step-by-step solution](#) › prepwiser.in/questions/PCv0UfMcci

Consider the following two half-cell reactions along with the standard reduction potential given:



A fuel cell was set up using the above two reactions such that the cell operates under the standard condition of 1 bar pressure and 298 K temperature. The fuel cell works with 80% efficiency. If the work derived from the cell using 1 mol of CH_3OH is used to compress an ideal gas isothermally against a constant pressure of 1 kPa, then the change in the volume of the gas,

$\Delta V =$ _ m ^{3} . (nearest integer)

Given: $F = 96500$ C mol $^{-1}$

Q50 Applications of Derivatives

[Step-by-step solution](#) › [prepwiser.in/questions/q9frQgcnQ8](https://www.prepwiser.in/questions/q9frQgcnQ8)

Let $f(x)$ be a polynomial of degree 5, and have extrema at $x = 1$ and $x = -1$. If $\lim_{x \rightarrow 0} \left(\frac{f(x)}{x^3} \right) = -5$, then $f(2) - f(-2)$ is equal to:

- (A) 0 (B) 50 (C) 92 (D) 112

Q51 Complex Numbers

[Step-by-step solution](#) › [prepwiser.in/questions/eRzczykhkG](https://www.prepwiser.in/questions/eRzczykhkG)

Let the circles $C_1 : |z| = r$ and $C_2 : |z - 3 - 4i| = 5$, $z \in \mathbb{C}$, be such that C_2 lies within C_1 . If z_1 moves on C_1 , z_2 moves on C_2 and $\min |z_1 - z_2| = 2$, then $\max |z_1 - z_2|$ is equal to:

- (A) 12 (B) 17 (C) 22 (D) 24

Q52 Indefinite Integration

[Step-by-step solution](#) › [prepwiser.in/questions/7CFT570-BX](https://www.prepwiser.in/questions/7CFT570-BX)

Let $f(x) = \int \left(\frac{16x+24}{x^2+2x-15} \right) dx$. If $f(4) = 14 \log_e(3)$ and $f(7) = \log_e(2^\alpha \cdot 3^\beta)$, $\alpha, \beta \in \mathbb{N}$, then $\alpha + \beta$ is equal to:

- (A) 31 (B) 37 (C) 39 (D) 41

Q53 Determinants

[Step-by-step solution](#) › [prepwiser.in/questions/NG_Binup_o](https://www.prepwiser.in/questions/NG_Binup_o)

If the system of equations

$$x + 5y + 6z = 4$$

$$2x + 3y + 4z = 7$$

$$x + 6y + az = b$$

has infinitely many solutions, then the point (a, b) lies on the line

- (A) $y - x = 3$ (B) $x - y = 3$ (C) $x + y = 11$ (D) $x + y = 12$

Q54 Statistics

[Step-by-step solution](#) › [prepwiser.in/questions/LYIcQRs5dE](https://www.prepwiser.in/questions/LYIcQRs5dE)

The mean and variance of n observations are 8 and 16, respectively. If the sum of the first $(n - 1)$ observations is 48 and the sum of squares of the first $(n - 1)$ observations is 496, then the value of n is:

- (A) 21 (B) 16 (C) 13 (D) 7

Q55 Vectors

[Step-by-step solution](#) › [prepwiser.in/questions/uaF-Yq2oqh](https://www.prepwiser.in/questions/uaF-Yq2oqh)

Let the vectors $\vec{a} = -\hat{i} + \hat{j} + 3\hat{k}$ and $\vec{b} = \hat{i} + 3\hat{j} + \hat{k}$. For some $\lambda, \mu \in \mathbb{R}$, let $\vec{c} = \lambda\vec{a} + \mu\vec{b}$.

If $\vec{c} \cdot (3\hat{i} - 6\hat{j} + 2\hat{k}) = 10$ and $\vec{c} \cdot (\hat{i} + \hat{j} + \hat{k}) = -2$, then $|\vec{c}|^2$ is equal to:

- (A) 8 (B) 12 (C) 14 (D) 15

Q56 Vectors

[Step-by-step solution](#) › [prepwiser.in/questions/tj5VOzxGim](https://www.prepwiser.in/questions/tj5VOzxGim)

Two adjacent sides of a parallelogram PQRS are given by $\overrightarrow{PQ} = \hat{j} + \hat{k}$ and $\overrightarrow{PS} = \hat{i} - \hat{j}$. If the side PS is rotated about the point P by an acute angle α in the plane of the parallelogram so that it becomes perpendicular to the side PQ, then $\sin^2 \left(\frac{5\alpha}{2} \right) - \sin^2 \left(\frac{\alpha}{2} \right)$ is equal to:

- (A) $\frac{1}{2}$ (B) $\frac{\sqrt{3}}{2}$ (C) $\frac{\sqrt{3}}{4}$ (D) $\frac{2\sqrt{3}}{5}$

Attempt this paper online with instant answer checking › [prepwiser.in/pyqs/paper/2026-04-02-evening](https://www.prepwiser.in/pyqs/paper/2026-04-02-evening)

Q57 Definite Integration[Step-by-step solution](https://www.prepwiser.in/questions/bglaa19swx) › prepwiser.in/questions/bglaa19swx

The value of $\int_0^{20\pi} (\sin^4 x + \cos^4 x) dx$ is equal to:

- (A) $\frac{15\pi}{2}$ (B) 25π (C) 15π (D) $\frac{25\pi}{2}$

Q58 Parabola[Step-by-step solution](https://www.prepwiser.in/questions/7IGcBU6eIL) › prepwiser.in/questions/7IGcBU6eIL

Let the parabola $y = x^2 + px + q$ passing through the point $(1, -1)$ be such that the distance between its vertex and the x -axis is minimum. Then the value of $p^2 + q^2$ is:

- (A) 2 (B) 4 (C) 5 (D) 8

Q59 Quadratic Equations & Polynomial Inequalities[Step-by-step solution](https://www.prepwiser.in/questions/Xeds38FJ4w) › prepwiser.in/questions/Xeds38FJ4w

Let α, β be the roots of the equation $x^2 - 3x + r = 0$, and $\frac{\alpha}{2}, 2\beta$ be the roots of the equation $x^2 + 3x + r = 0$.

If the roots of the equation $x^2 + 6x = m$ are $2\alpha + \beta + 2r$ and $\alpha - 2\beta - \frac{r}{2}$, then m is equal to:

- (A) -135 (B) -567 (C) 135 (D) 567

Q60 Binomial Theorem[Step-by-step solution](https://www.prepwiser.in/questions/2fMpir1tHb) › prepwiser.in/questions/2fMpir1tHb

If for $3 \leq r \leq 30$, $\binom{30}{30-r} + 3\binom{30}{31-r} + 3\binom{30}{32-r} + \binom{30}{33-r} = {}^m C_r$, then m equals:

- (A) 31 (B) 32 (C) 33 (D) 34

Q61 Differential Equations[Step-by-step solution](https://www.prepwiser.in/questions/9-tZ8JfqjV) › prepwiser.in/questions/9-tZ8JfqjV

Let $x = x(y)$ be the solution of the differential equation $2y^2 \frac{dx}{dy} - 2xy + x^2 = 0$, $y > 1$, $x(e) = e$.

Then $x(e^2)$ is equal to:

- (A) $\frac{3}{2}e^2$ (B) $\frac{2}{3}e^2$ (C) e^2 (D) $2e^2$

Q62 Permutations & Combinations[Step-by-step solution](https://www.prepwiser.in/questions/A_FJ2vqHFn) › prepwiser.in/questions/A_FJ2vqHFn

Let p_n denote the total number of triangles formed by joining the vertices of an n -side regular polygon.

If $p_{n+1} - p_n = 66$, then the sum of all distinct prime divisors of n is:

- (A) 7 (B) 8 (C) 5 (D) 6

Q63 Sequences & Series[Step-by-step solution](https://www.prepwiser.in/questions/4dVslIauhM) › prepwiser.in/questions/4dVslIauhM

Let $a_1, a_2, a_3, \dots$ be an A.P. and $g_1 = a_1, g_2, g_3, \dots$ be an increasing G.P. If $a_1 = a_2 + g_2 = 1$ and $a_3 + g_3 = 4$, then $a_{10} + g_5$ is equal to:

- (A) 81 (B) 76 (C) 62 (D) 55

Q64 Sequences & Series[Step-by-step solution](https://www.prepwiser.in/questions/JKSolhuQyD) › prepwiser.in/questions/JKSolhuQyD

The sum $\frac{1^3}{1} + \frac{1^3+2^3}{1+3} + \frac{1^3+2^3+3^3}{1+3+5} + \dots$ up to 8 terms, is:

- (A) 70 (B) 71 (C) 72 (D) 73

Attempt this paper online with instant answer checking › [prepwiser.in/pyqs/paper/2026-04-02-evening](https://www.prepwiser.in/pyqs/paper/2026-04-02-evening)

Q65 Three Dimensional Geometry[Step-by-step solution](#) > [prepwiser.in/questions/-4eS59zueP](https://www.prepwiser.in/questions/-4eS59zueP)

Let the point A be the foot of perpendicular drawn from the point $P(a, b, 0)$ on the line

$$\frac{x-1}{2} = \frac{y-2}{1} = \frac{z-\alpha}{3}.$$

If the midpoint of the line segment PA is $(0, \frac{3}{4}, -\frac{1}{4})$, then the value of $a^2 + b^2 + \alpha^2$ is equal to:

- (A) 1 (B) 2 (C) 6 (D) 9

Q66 Circles[Step-by-step solution](#) > [prepwiser.in/questions/bYeUwtpiBi](https://www.prepwiser.in/questions/bYeUwtpiBi)

Let a circle pass through the origin and its centre be the point of intersection of two mutually perpendicular lines $x + (k-1)y + 3 = 0$ and $2x + k^2y - 4 = 0$. If the line $x - y + 2 = 0$ intersects the circle at the points A and B, then $(AB)^2$ is equal to:

- (A) 10 (B) 27 (C) 18 (D) 34

Q67 Hyperbola[Step-by-step solution](#) > [prepwiser.in/questions/_JthmPJeyA](https://www.prepwiser.in/questions/_JthmPJeyA)

Let O be the origin, and P and Q be two points on the rectangular hyperbola $xy = 12$ such that the midpoint of the line segment PQ is $(\frac{1}{2}, -\frac{1}{2})$. Then the area of the triangle OPQ equals:

- (A) $\frac{3}{2}$ (B) $\frac{5}{2}$ (C) $\frac{7}{2}$ (D) $\frac{9}{2}$

Q68 Probability: Basic[Step-by-step solution](#) > [prepwiser.in/questions/TBqK_rMyEB](https://www.prepwiser.in/questions/TBqK_rMyEB)

A man throws a fair coin repeatedly. He gets 10 points for each head he throws and 5 points for each tail he throws. If the probability that he gets exactly 30 points is $\frac{m}{n}$, $\gcd(m, n) = 1$, then $m + n$ is equal to:

- (A) 53 (B) 55 (C) 107 (D) 105

Q69 Trigonometric Ratios & Identities[Step-by-step solution](#) > [prepwiser.in/questions/3LTBXLCoLD](https://www.prepwiser.in/questions/3LTBXLCoLD)

Let $P = \{\theta \in [0, 4\pi] : \tan^2 \theta \neq 1\}$ and $S = \{a \in \mathbb{Z} : 2(\cos^8 \theta - \sin^8 \theta) \sec 2\theta = a^2, \theta \in P\}$. Then $n(S)$ is:

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

Mathematics Section B · Numerical value

Q70 to Q74

Q70 Ellipse **NUMERICAL**[Step-by-step solution](#) > [prepwiser.in/questions/iYCC4wPYI_](https://www.prepwiser.in/questions/iYCC4wPYI_)

Let A be the point (3, 0) and circles with variable diameter AB touch the circle $x^2 + y^2 = 36$ internally. Let the curve C be the locus of the point B. If the eccentricity of C is e , then $72e^2$ is equal to _____.

Q71 Matrices **NUMERICAL**[Step-by-step solution](#) > [prepwiser.in/questions/66Ltt8hLFU](https://www.prepwiser.in/questions/66Ltt8hLFU)

Consider the matrices $A = \begin{bmatrix} 2 & -2 \\ 4 & -2 \end{bmatrix}$ and $B = \begin{bmatrix} 3 & 9 \\ 1 & 3 \end{bmatrix}$. If matrices P and Q are such that $PA = B$ and $AQ = B$, then the absolute value of the sum of the diagonal elements of $2(P + Q)$ is _____.

Q72 Area Under Curves **NUMERICAL**[Step-by-step solution](#) > [prepwiser.in/questions/njQ5HSKqpI](https://www.prepwiser.in/questions/njQ5HSKqpI)

If the area of the region bounded by $16x^2 - 9y^2 = 144$ and $8x - 3y = 24$ is A, then $3(A + 6 \log_e(3))$ is equal to _____.

The number of points in the interval $[2, 4]$, at which the function $f(x) = [x^2 - x - \frac{1}{2}]$, where $[.]$ denotes the greatest integer function, is discontinuous, is _____.

Let $A = \{2, 3, 4, 5, 6\}$. Let R be a relation on the set $A \times A$ given by $(x, y)R(z, w)$ if and only if x divides z and $y \leq w$. Then the number of elements in R is _____.

Answer key: JEE Main 2026 · 2 Apr · Shift 2

Answers follow NTA's final answer keys. Typing errors are possible, so check doubtful answers against the official key. Spotted a mistake? prepwiser.in/feedback · Terms: prepwiser.in/terms

Numbers match the question numbers above. For full working, open the solution link at the top right of each question.

Attempt this paper online with instant answer checking › prepwiser.in/pyqs/paper/2026-04-02-evening

Physics

1.	B	2.	A	3.	B	4.	A	5.	A	6.	B	7.	B	8.	D	9.	C	10.	A
11.	A	12.	C	13.	B	14.	A	15.	B	16.	C	17.	D	18.	D	19.	C	20.	B
21.	6	22.	32	23.	300	24.	20												

Chemistry

25.	C	26.	D	27.	B	28.	A	29.	B	30.	C	31.	B	32.	A	33.	A	34.	D
35.	C	36.	A	37.	C	38.	C	39.	B	40.	A	41.	D	42.	B	43.	C	44.	B
45.	5	46.	20	47.	3	48.	1	49.	560										

Mathematics

50.	D	51.	C	52.	C	53.	B	54.	D	55.	B	56.	B	57.	C	58.	B	59.	D
60.	C	61.	B	62.	C	63.	D	64.	B	65.	A	66.	C	67.	C	68.	C	69.	A
70.	18	71.	34	72.	24	73.	10	74.	120										

PrepWiser is an independent practice platform and is not affiliated with the National Testing Agency (NTA). Questions are from official JEE Main papers; answers follow NTA's final answer keys.



Attempt this paper online

Done with the paper version? Take the same paper online: check each answer instantly and read step-by-step solutions where available. It is free, and you can start without signing up.



- 1 Scan the code to open this paper online, or go to prepwisser.in/pyqs/paper/2026-04-02-evening.
- 2 Mark the questions you got wrong. Each one names its chapter at the top left.
- 3 Practise those chapters next with the free chapter-wise PYQ PDFs at prepwisser.in/pyq-pdfs.

Also free on PrepWiser

All JEE Main 2026 papers

Every shift of 2026 as a PDF, and the year's questions chapter-wise: prepwisser.in/pyq-pdfs/jee-main/2026/

Chapter-wise PYQ PDFs

Every chapter with answer keys, 2020 to 2026: prepwisser.in/pyq-pdfs/

Daily Arena

10 questions from one chapter, every day: prepwisser.in/arena

Spotted a mistake in this PDF? Tell us at prepwisser.in/feedback.