

FIITJEE - JEE (Main)

PHYSICS, CHEMISTRY & MATHEMATICS

BATCH: NWCMSW425A1

PHASE TEST – II

Q.P. CODE: 100808

Time Allotted: 3 Hours

Maximum Marks: 300

- Do not open this Test Booklet until you are asked to do so.
- Please read the instructions carefully. You are allotted 5 minutes specifically for this purpose.

Important Instructions

Caution: Question Paper CODE as given above MUST be correctly marked in the answer OMR sheet before attempting the paper. Wrong CODE or no CODE will give wrong results.

A. General Instructions

1. Attempt ALL the questions. Answers have to be marked on the OMR sheets.
2. This question paper contains **Three Sections**.
3. **Section-I** is Physics, **Section-II** is Chemistry and **Section-III** is Mathematics.
4. Each **Section** is further divided into **Two Parts: Part-A & B** in the OMR.
5. Rough spaces are provided for rough work inside the question paper. No additional sheets will be provided for rough work.
6. No candidate is allowed to carry any textual material, printed or written, bits of papers, clip boards, log tables, slide rule, calculator, cellular phones, pagers and electronic devices ext. except the Admit Card inside the examination hall / room.

B. Filling of OMR Sheet:

1. Ensure matching of OMR sheet with the Question paper before you start marking your answers on OMR sheet.
2. On the OMR sheet, darken the appropriate bubble with **Blue/Black Ball Point Pen** for each character of your Enrolment No. and write in ink your Name, Test Centre and other details at the designated places.
3. OMR sheet contains alphabets, numerals & special characters for marking answers.
4. **Do not fold or make any stray marks on the Answer Sheet.**

C. Marking Scheme for All Two Parts:

- (i) **Part-A (01-20)** – Contains Twenty (20) multiple choice objective questions which have four (4) options each and only one correct option. Each question carries **+4 marks** which will be awarded for every correct answer and **-1 mark** will be deducted for every incorrect answer.
- (ii) **Part-B (01-05)** contains five (05) Numerical based questions, the answer of which maybe positive or negative numbers or decimals **Two decimal Places** (e.g. 6.25, 7.00, -0.33, -.30, 30.27, -127.30) and each question carries **+4 marks** for correct answer and **there will be no negative marking.**

Name of the Candidate : _____

Batch : _____ Date of Examination : _____

Enrolment Number : _____

Physics

PART – A

Straight Objective Type

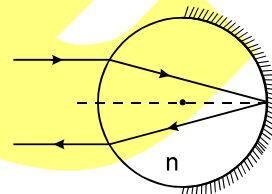
This part contains **20 multiple choice questions**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

1. A particle of charge q and mass m starts moving from the origin under the action of an electric field $\vec{E} = E_0 \hat{i}$ and magnetic field $\vec{B} = B_0 \hat{i}$ with a velocity $\vec{v} = v_0 \hat{j}$. The speed of the particle will become $2v_0$ after time t :

(A) $t = \frac{2mv_0}{qE_0}$ (B) $t = \frac{2Bq}{mv_0}$ (C) $t = \frac{\sqrt{3} Bq}{mv_0}$ (D) $t = \frac{\sqrt{3} mv_0}{qE_0}$

2. The magnetic flux linked with a coil is ϕ and the emf induced in it is e
 (A) If $\phi = 0$; e must be 0 (B) If $\phi \neq 0$; e can not be 0
 (C) If e is not 0, ϕ may or may not be 0 (D) none of the above is correct

3. A transparent cylinder has its right half polished so as to act as a mirror. A paraxial light ray is incident from left that is parallel to principal axis, exits parallel to the incident ray as shown. The refractive index n of the material of the cylinder is :

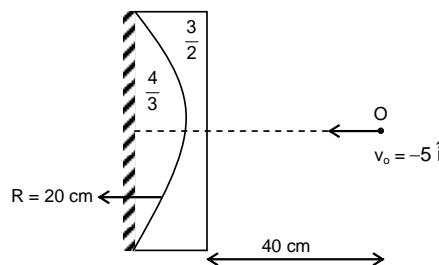


- (A) 1.2 (B) 1.5
 (C) 1.8 (D) 2.0

4. An alternating e.m.f. $100\cos 100t$ volt is connected in series to a resistance of 10 ohm and inductance 100 mH. What is the phase difference between the current in the circuit and the e.m.f.?

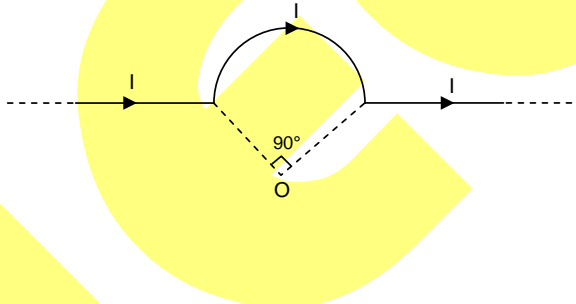
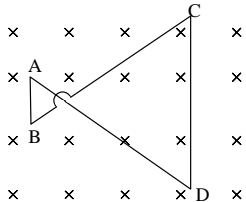
(A) $\frac{\pi}{4}$ (B) zero (C) π (D) $\frac{\pi}{2}$

5. The lens combination having refractive indices $\frac{4}{3}$ & $\frac{3}{2}$ as shown in the figure, is silvered. The velocity of image will be?



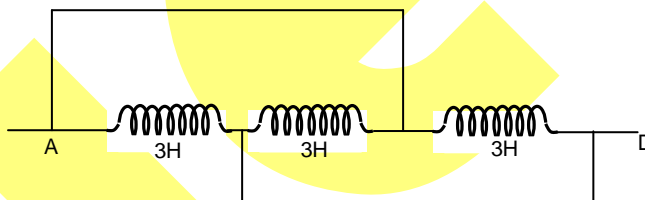
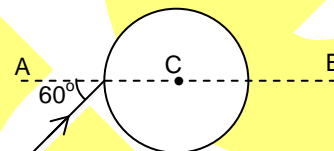
- (A) $1.8 \hat{i}$ (B) $3 \hat{i}$
 (C) $3.6 \hat{i}$ (D) $5 \hat{i}$

Space For Rough Work

6. Electrons with de-Broglie wavelength λ fall on the target in an X-ray tube. The cut-off wavelength of the emitted X-rays is
 (A) $\lambda_o = \frac{2mc\lambda^2}{h}$ (B) $\lambda_o = \frac{2h}{mc}$ (C) $\lambda_o = \frac{2m^2c^2\lambda^3}{h^2}$ (D) $\lambda_o = \lambda$
7. A fish looking up through the medium $\left(\mu = \frac{5}{3}\right)$ sees the out side world contained in a circular horizon. If the fish is 12cm below the surface, what is the radius of this circle in cm?
 (A) 9 (B) 4 (C) 7 (D) $\frac{36}{\sqrt{7}}$
8. The magnetic field at the centre O of the arc is shown in given figure
 (A) $\frac{\mu_o I}{4\pi \times r} [\sqrt{2} + \pi]$
 (B) $\frac{\mu I}{2\pi r} \left[\frac{\pi}{4} + (\sqrt{2} - 1)\right]$
 (C) $\frac{\mu_o}{4\pi} \times \frac{I}{r} [(\sqrt{2} - \pi)]$
 (D) $\frac{\mu_o}{4\pi} \times \frac{I}{r} \left[\sqrt{2} + \frac{\pi}{4}\right]$
- 
9. An alternating emf of 200 volts at 50 Hz is connected to a circuit of resistance 1Ω and inductance 0.01 H. What is the phase difference between the current and the emf in the circuit?
 (A) $\tan^{-1}(\pi/2)$ (B) $\tan^{-1}(\pi/4)$ (C) $\tan^{-1}(\pi)$ (D) $\tan^{-1}(2\pi)$
10. A conducting wire frame is placed in a magnetic field which is directed into the plane of the paper. The magnetic field is increasing at a constant rate. The directions of induced currents in wires AB and CD are
 (A) B to A and D to C (B) A to B and C to D
 (C) A to B and D to C (D) B to A and C to D
- 
11. In ac LCR series a.c. circuit, the voltage across each of the components L, C and R is 50 V. The voltage across the LC combination will be
 (A) 50 V (B) $50\sqrt{2}V$
 (C) 100 V (D) 0 V (zero)

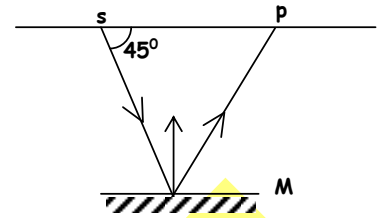
Space For Rough Work

12. A nuclear fusion reaction is given ${}_1\text{H}^2 + {}_1\text{H}^2 \rightarrow \text{He}^3 + {}_0\text{n}^1 + Q(\text{energy})$. If 2 moles of deuterium are fused, then total released energy is
 (A) 2Q (B) 4Q
 (C) $Q \times 6.02 \times 10^{23}$ (D) $Q \times 2 \times 6 \times 10^{23}$
13. A magnetic needle of magnetic moment $6.7 \times 10^{-2} \text{ Am}^2$ and moment of inertia $7.5 \times 10^{-6} \text{ kg m}^2$ is performing simple harmonic oscillations in a magnetic field of 0.01 T. Time taken for 10 complete oscillations is:
 (A) 8.76 s (B) 6.65 s
 (C) 8.89 s (D) 6.98 s
14. A ray of light falls on a transparent sphere with centre of C as shown in figure. The ray emerges from the sphere parallel to line AB. The refractive index of the sphere is
 (A) $\sqrt{3/2}$ (B) $2/\sqrt{3}$
 (C) 2 (D) $\sqrt{3}$
15. The inductance between A and D is
 (A) 3.66 H
 (B) 9 H
 (C) 0.66 H
 (D) 1 H
16. When a hydrogen atom emits a photon in going from $n = 2$ to $n = 1$, its recoil speed approximately is
 (A) 12.8 m/s (B) 960 m/s (C) 6.4 m/s (D) 3.2 m/s
17. Light of wavelength 3500 \AA is incident on two metals A and B, A of work function 4.2 eV and B of work function 1.19 eV respectively. The photoelectrons will be emitted by
 (A) metal A (B) metal B
 (C) both A and B (D) neither metal A nor metal B
18. A charged particle moves in a uniform magnetic field perpendicular to it, with a radius of curvature 4 cm. On passing through a metallic sheet, it loses half of its kinetic energy. Then, the radius of curvature of the particle's path is
 (A) 2 cm (B) 4 cm
 (C) 8 cm (D) $2\sqrt{2}$ cm



Space For Rough Work

19. A flat mirror M is arranged parallel to a wall and light from a point source S on the wall is reflected back to the wall. With what velocity will the spot move along the wall if the mirror is brought up to the wall with a velocity v ?
- (A) Zero (B) $2v$
 (C) $v/2$ (D) v

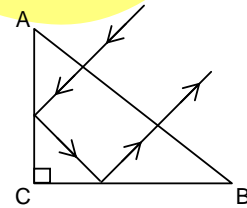


20. The work function of metal is 1 eV. Light of wavelength 3000 \AA is incident on this metal surface. The velocity of emitted photo-electrons will be
- (A) 10 m/s (B) $1 \times 10^3 \text{ m/s}$ (C) $1 \times 10^4 \text{ m/s}$ (D) $1 \times 10^6 \text{ m/s}$

PART-B
Numerical Type

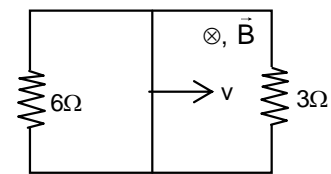
1. The coercivity of a small magnet where the ferromagnet gets demagnetized is $3 \times 10^3 \text{ Am}^{-1}$. The current required to be passed in a solenoid of length 10 cm and number of turns 100, so that the magnet gets demagnetized when inside the solenoid, is:
2. A concave mirror of focal length 10 cm and a convex mirror of focal length 15 cm are placed facing each other 40 cm apart. A point object is placed between the mirrors, on their common axis and 15 cm from the concave mirror. Find the position of the image with respect to object, produced by the successive reflections, first at concave mirror and then at convex mirror (in m).

3. A ray of light incident normally on face AB of an isosceles prism as shown in figure. The least value of refractive index of the prism must have \sqrt{k} , then 'k' is



4. A coil, a capacitor and an AC source of rms voltage 24 V are connected in series. By varying the frequency of the source, a maximum rms current of 6A is observed. If coil is connected to a battery of emf 12 volt and internal resistance 4Ω , then current through it in steady state in Amperes is _____

5. A rectangular loop with a sliding connector of length $\ell = 1.0 \text{ m}$ is situated in a uniform magnetic field $B = 2\text{T}$ perpendicular to the plane of loop. Resistance of connector is $r = 2\Omega$. Two resistances of 6Ω and 3Ω are connected as shown in figure. The external force required to keep the connector moving with a constant velocity $v = 2 \text{ m/s}$ is



Space For Rough Work

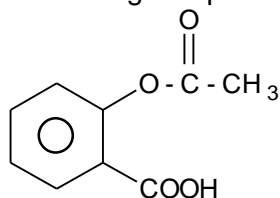
Chemistry

PART – A

Straight Objective Type

This part contains **20 multiple choice questions**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

- Which aqueous solution shows maximum depression in freezing point [Assume complete dissociation of the salts in water]
 (A) 0.01 M NaCl (B) 0.005 M C₂H₅OH
 (C) 0.005 M MgCl₂ (D) 0.005 M MgSO₄
- In a mixture of CH₃COOH and CH₃COONa, the ratio of salt to acid concentration is increased by ten-folds. The pH of the solution will increase by:
 (A) zero (B) 1
 (C) 2 (D) 3
- The following compound is used as:

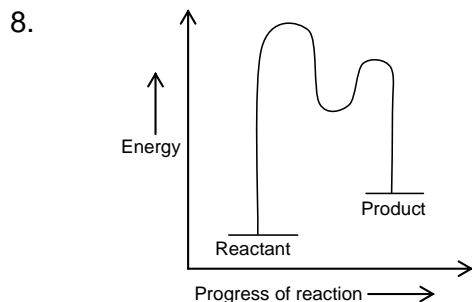


- (A) Antibiotic (B) Analgesic
 (C) Pesticide (D) Antiseptic
- If the edge length of NaCl unit cell is 'a', what will be the distance between Na⁺ and Cl⁻ ions in the unit cell?
 (A) $\frac{a}{\sqrt{2}}$ (B) $\frac{a}{2}$
 (C) $\frac{a}{2\sqrt{2}}$ (D) $\frac{a}{\sqrt{3}}$
- Which of the following statement is not correct for a zero order reaction?
 (A) The half-life is directly proportional to concentration of reactant.
 (B) The rate of reaction does not change with progress of reaction.
 (C) Time required for 75% completion of the reaction is equal to two times of the half-life period.
 (D) The rate constant does not change with concentration of reactant.

Space For Rough Work

6. The pH of the aqueous solution of which salt does not change by adding water?
 (A) CH_3COONa (B) NH_4Cl
 (C) NH_4CN (D) KCN

7. Which of the following solid may be affected by Schottky defect?
 (A) Sodium (B) Silica
 (C) Potassium chloride (D) Boron nitride



Which of the following statement is correct for the reaction which energy profile is given above?

- (A) It is an exothermic reaction
 (B) It is an elementary reaction
 (C) An intermediate is formed in the reaction
 (D) The product is formed by combination of free radical intermediates
9. The vapour pressure of a solution of two liquids A and B is expressed as
 $V.P = (300 X_A + 200)$ cm of Hg
 What is the vapor pressure of the pure liquid 'A' in cm of Hg unit?
 (A) 500 (B) 200
 (C) 700 (D) 100
10. Which of the following can decrease the freezing of water by maximum extent?
 (A) $\text{CH}_3\text{CH}_2\text{CH}_2\text{NH}_2$ (B) $\text{H}_2\text{NCH}_2\text{CH}_2\text{CH}_2\text{NH}_2$
 (C) $\begin{array}{c} \text{CH}_2\text{CHCH}_2 \\ | \quad | \quad | \\ \text{OH} \text{OH} \text{OH} \end{array}$ (D) $\begin{array}{c} \text{CH}_3\text{CHCH}_2\text{OH} \\ | \\ \text{OH} \end{array}$
11. Which of the following solution mixture in 1 : 1 molar ratio can consume H^+ and OH^- ions which are added from outside?
 (A) $\text{NaOH} + \text{NaCl}$ (B) $\text{CH}_3\text{COOH} + \text{CH}_3\text{COONa}$
 (C) $\text{CH}_3\text{COOH} + \text{NaOH}$ (D) $\text{HCl} + \text{NaOH}$

Space For Rough Work

12. The ionic product of a salt is x and its solubility product is y . Which of the following is correct for the saturated solution of the salt?
(A) $x > y$ (B) $x < y$
(C) $x = y$ (D) unpredictable
13. $4X(s) \rightleftharpoons 2Y(g) + Z(g)$
The equilibrium constant K_P of above reaction is 32 atm^3 . What is the equilibrium partial pressure of Z gas?
(A) 8 atm (B) 4 atm
(C) 10.3 atm (D) 2 atm
14. The unit cell of a metal has $a = b = c$ as the cell parameters and $\alpha = \beta = \gamma = 90^\circ$ as the interfacial angles. The coordination number of the metal is six. So the metal atoms are present at the
(A) corners of a cube
(B) corners and face centres of a cube
(C) body centre and corners of a cube
(D) corners, body centre and face centres of a cube
15. An ideal solution of liquids A and B contain vapours above it. The vapour pressure of the vapour is equal to
[p_A and p_B are the vapour pressure of A and B above the liquid p_A^0 and p_B^0 are vapour pressure of A and B in pure state]
(A) $p_A + p_B$ (B) $p_A^0 + p_B^0$
(C) $p_A^0 + p_A$ (D) $p_B^0 + p_B$
16. Which electrolyte is required by minimum quantity to coagulate a negative sol?
(A) KCl (B) KBr
(C) $AlCl_3$ (D) $CaCl_2$
17. No oxy-acid contains phosphorus in
(A) +3 oxidation state (B) +5 oxidation state
(C) +1 oxidation state (D) +1.4 oxidation state
18. Sulphur is formed when H_2S gas is passed through water saturated with
(A) O_2 gas (B) SO_2 gas
(C) S_2 gas (D) CO_2 gas

Space For Rough Work

19. Which reaction forms I_2 ?
(A) $IO_3^- + I^- + H^+ \longrightarrow$ (B) $NaI + HCl \longrightarrow$
(C) $I^- + OH^- \longrightarrow$ (D) $IO_3^- + H^+ \longrightarrow$
20. Hybridization of Xenon in XeO_4 is
(A) sp^3 (B) dsp^3
(C) d^2sp^3 (D) d^4sp^3

PART-B
Numerical Type

1. In body centre cubic(bcc) unit cell of a metal, how many atoms of the metal contribute 100% to the weight of the unit cell?
2. An aqueous solution was prepared by dissolving two moles of NaCl in 18 moles of water. NaCl undergoes 20% ionization in it. If the relative lowering of vapour pressure of the solution is expressed as $\frac{x}{51}$, what is the value of x?
3. $P_4O_{10} + H_2O \longrightarrow$ Oxy – acid of phosphorus
If the oxidation number of phosphorus in the oxy-acid +x, what is the value of x?
4. The simplest species of sulphur that exists at the highest temperature is S_2 . How many unpaired electrons are present in it according to molecular orbital theory?
5. What is the pH of 0.001 M HCl?

Space For Rough Work

Mathematics

PART – A

Straight Objective Type

This part contains **20 multiple choice questions**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

- From origin, chords are drawn to the circle $x^2 + y^2 - 2y = 0$. The locus of the middle points of these chords is
 (A) $x^2 + y^2 - y = 0$ (B) $x^2 + y^2 - x = 0$
 (C) $x^2 + y^2 - 2x = 0$ (D) $x^2 + y^2 - x - y = 0$
- Co-ordinate of the focus of the parabola $x^2 - 4x - 8y - 4 = 0$ are
 (A) (0, 2) (B) (2, 1)
 (C) $\left(-3, \frac{-71}{10}\right)$ (D) (2, -1)
- If line $y = 2x + \frac{1}{4}$ is tangent to $y^2 = 4ax$, then a is equal to
 (A) $\frac{1}{2}$ (B) 1
 (C) 2 (D) None of these
- The perimeter of a triangle is 20 and the point $(-2, -3)$ and $(-2, 3)$ are two of the vertices of it. Then the locus of third vertex is:
 (A) $\frac{(x-2)^2}{49} + \frac{y^2}{40} = 1$ (B) $\frac{(x+2)^2}{49} + \frac{y^2}{40} = 1$
 (C) $\frac{(x+2)^2}{40} + \frac{y^2}{49} = 1$ (D) $\frac{(x-2)^2}{40} - \frac{y^2}{49} = 1$
- A normal to $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$ meets the axes in L and M. The perpendicular to the axes through L and M intersect at P. Then the equation to the locus of P is
 (A) $a^2x^2 - b^2y^2 = (a^2 + b^2)^2$ (B) $a^2x^2 + b^2y^2 = (a^2 + b^2)^2$
 (C) $b^2x^2 - a^2y^2 = (a^2 - b^2)^2$ (D) $a^2x^2 + b^2y^2 = (a^2 - b^2)^2$

Space For Rough Work

6. If the straight line $y = mx$ is outside the circle $x^2 + y^2 - 20y + 90 = 0$, then
 (A) $|m| = 3$ (B) $|m| < \frac{1}{9}$
 (C) $|m| > 3$ (D) $|m| < 3$
7. If the point $P(2, -2)$ is the one end of the focal chord PQ of the parabola $y^2 = 2x$ then the slope of the tangent at Q is
 (A) -2 (B) 2
 (C) $\frac{1}{2}$ (D) $-\frac{1}{2}$
8. An ellipse has OB as semi minor axis and F, F' as foci. If $\angle FBF' = \pi/2$, then the eccentricity $e =$
 (A) $\frac{4}{5}$ (B) $\frac{1}{\sqrt{2}}$
 (C) $\frac{3}{5}$ (D) $\frac{1}{2}$
9. The locus of point $P(x, y)$ satisfying $\sqrt{(x-1)^2 + (y-2)^2} + \sqrt{(x-3)^2 + (y-6)^2} = \lambda$ will be an ellipse if
 (A) $\lambda > 2\sqrt{5}$ (B) $\lambda > 3\sqrt{5}$
 (C) $\lambda < 2\sqrt{5}$ (D) $\lambda < 3\sqrt{5}$
10. The angle between the tangents drawn from the point $(1, 4)$ to the parabola $y^2 = 4x$ is
 (A) $\frac{\pi}{6}$ (B) $\frac{\pi}{4}$
 (C) $\frac{\pi}{3}$ (D) $\frac{\pi}{2}$
11. Equation of common tangents to parabolas $y = x^2$ and $y = -x^2 + 4x - 4$ is/are:
 (A) $y = 4(x-1); y = 0$ (B) $y = 0, y = -4(x-1)$
 (C) $y = 0, y = -10(x+5)$ (D) None of these
12. The value of k for which one of the roots of $x^2 - x + 3k = 0$ is double of one of the roots of $x^2 - x + k = 0$ is:
 (A) 1 (B) -2
 (C) 2 (D) none of these

Space For Rough Work

13. If tangents are drawn to the ellipse $x^2 + 2y^2 = 2$, then the locus of the mid point of the intercept made by the tangents between the coordinates axes is
- (A) $\frac{1}{2x^2} + \frac{1}{4y^2} = 1$ (B) $\frac{1}{4x^2} + \frac{1}{2y^2} = 1$
 (C) $\frac{x^2}{2} + \frac{y^2}{4} = 1$ (D) $\frac{x^2}{4} + \frac{y^2}{2} = 1$
14. A value of b for which the equations $x^2 + bx - 1 = 0$ and $x^2 + x + b = 0$ have one root in common is ($i = \sqrt{-1}$)
- (A) $-\sqrt{2}$ (B) $-i\sqrt{3}$
 (C) $i\sqrt{5}$ (D) $\sqrt{2}$
15. Normal at a point to the parabola $y^2 = 4ax$, when abscissa is equal to ordinate, will meet the parabola again at a point
- (A) $(6a, -9a)$ (B) $(-9a, 6a)$
 (C) $(-6a, 9a)$ (D) $(9a, -6a)$
16. Let $z = 1 - t + i\sqrt{(t^2 + t + 2)}$, where t is a real parameter. The locus of z in the Argand plane is a part of
- (A) a hyperbola (B) an ellipse
 (C) a straight line (D) none of these
17. If $|z| \geq 3$, the least value of $\left|z + \frac{1}{z}\right|$ is
- (A) $\frac{8}{3}$ (B) $\frac{3}{8}$
 (C) $\frac{10}{3}$ (D) none of these
18. For $x_1, x_2, y_1, y_2 \in \mathbb{R}$, if $0 < x_1 < x_2$, $y_1 = y_2$ and $z_1 = x_1 + iy_1$, $z_2 = x_2 + iy_2$ and $z_3 = \frac{z_1 + z_2}{2}$ then z_1, z_2 and z_3 satisfy
- (A) $|z_1| < |z_3| < |z_2|$ (B) $|z_1| > |z_3| > |z_2|$
 (C) $|z_1| < |z_2| < |z_3|$ (D) $|z_1| = |z_2| = |z_3|$

Space For Rough Work

19. If $\frac{z-1}{z+1}$ is purely imaginary, then $|z|$ is
 (A) equal to 1 (B) > 1
 (C) < 1 (D) > 2
20. The equation $z\bar{z} + (4-3i)z + (4/3i)\bar{z} + 5 = 0$ represents a circle of radius
 (A) $2\sqrt{5}$ (B) $\sqrt{5}$
 (C) 5 (D) $\frac{5}{2}$

PART-B
Numerical Type

1. If $m(x-2) + \sqrt{1-m^2} \cdot y = 3$, is tangent to a circle for all $m \in [-1, 1]$ then the radius of the circle.
2. Number of points on the ellipse $\frac{x^2}{50} + \frac{y^2}{20} = 1$ from which pair of perpendicular tangents are drawn to the ellipse $\frac{x^2}{16} + \frac{y^2}{9} = 1$ is
3. Let Z satisfies $|Z + 2(1+i)| = \sqrt{2}$ then maximum value of argument of $z = \frac{k\pi}{12}$ then k is
4. The point $(1, 2)$ is one extremity of focal chord of parabola $y^2 = 4x$. The length of this focal chord is
5. A rectangle is inscribed in a circle with a diameter lying along the line $3y = x + 7$. If the two adjacent vertices of the rectangle are $(-8, 5)$ and $(6, 5)$ then the area of the rectangle (in sq. units) is

Space For Rough Work

FIITJEE INTERNAL TEST**BATCH: NWCMSW425A1-PT-2****PHYSICS, CHEMISTRY & MATHEMATICS****JEE MAIN-PHASE****Paper Code
100808****ANSWER KEY****SECTION – I****(PHYSICS)****PART – A**

- | | | | |
|-------|-------|-------|-------|
| 1. D | 2. C | 3. D | 4. A |
| 5. A | 6. A | 7. A | 8. B |
| 9. C | 10. A | 11. D | 12. C |
| 13. B | 14. D | 15. D | 16. D |
| 17. B | 18. D | 19. B | 20. D |

PART – B

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|------|---------|------|---------|
| 1. 3 | 2. 0.31 | 3. 2 | 4. 1.50 |
| 5. 2 | | | |

SECTION – II**(CHEMISTRY)****PART – A**

- | | | | |
|-------|-------|-------|-------|
| 1. A | 2. B | 3. B | 4. B |
| 5. C | 6. C | 7. C | 8. C |
| 9. A | 10. B | 11. B | 12. C |
| 13. D | 14. A | 15. A | 16. C |
| 17. D | 18. B | 19. A | 20. A |

PART – B

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|------|------|------|------|
| 1. 1 | 2. 6 | 3. 5 | 4. 2 |
| 5. 3 | | | |

**SECTION – III
(MATHEMATICS)****PART – A**

- | | | | |
|-------|-------|-------|-------|
| 1. A | 2. B | 3. A | 4. C |
| 5. D | 6. D | 7. B | 8. B |
| 9. D | 10. C | 11. A | 12. B |
| 13. A | 14. B | 15. D | 16. A |
| 17. A | 18. A | 19. A | 20. A |

PART – B

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|-------|------|-------|------|
| 1. 3 | 2. 4 | 3. 13 | 4. 4 |
| 5. 84 | | | |