FIITJEE - JEE (Main)

PHYSICS, CHEMISTRY & MATHEMATICS

BATCHES: PANINI426-G1 & PANINI426-A1-A2

PHASE TEST – II

Q.P. CODE: 100814

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

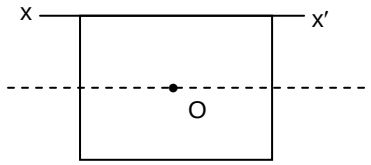
PART – A

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 block of mass m is moving with a constant acceleration a on a frictional plane. If the coefficient of friction between the block and ground is μ, the power delivered by the external agent after a time t from the beginning is equal to:
   (A) ma^2t (B) $\mu mgat$
   (C) $\mu m(a+\mu g)gt$ (D) $m(a+\mu g)at$

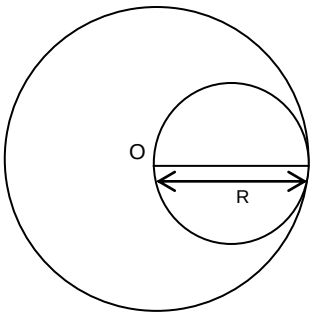
2. A thin wire of length ℓ and uniform linear mass density 'μ' is bent into a square loop with centre at O as shown. The moment of inertia of the loop about the axis XX′ is



   (A) $\frac{\mu\ell^2}{64}$ (B) $\frac{5\mu\ell^3}{192}$
   (C) $\frac{\mu\ell^3}{24}$ (D) $\frac{1}{3}\mu\ell^3$

3. A solid sphere of mass M, radius R and having moment of inertia about an axis passing through the centre of mass as I, is recast into a disc of thickness t whose moment of an axis passing through its edge and perpendicular to its plane remains I. Then radius of the disc will be
   (A) $\frac{2R}{\sqrt{15}}$ (B) $R\sqrt{\frac{2}{15}}$ (C) $\frac{4R}{\sqrt{14}}$ (D) $\frac{R}{4}$

4. A spherical hollow is made in a lead sphere of radius R, such that its surface touches the outside surface of lead sphere and passes through the centre. What is the shift in the centre of mass of lead sphere due to the hollowing?
   (A) $\frac{R}{7}$ (B) $\frac{R}{14}$
   (C) $\frac{R}{2}$ (D) R



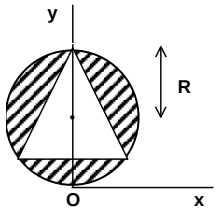
Space For Rough Work

5. A force $\vec{F} = -K(y\ \hat{i} + x\ \hat{j})$ (where k is a positive constant) acts on a particle moving in the X-Y plane. Starting from the origin, the particle is taken along the positive X-axis to the point (a, 0) and then parallel to the Y-axis to the point (a, a). The total work done by the force $\vec{F}$ on the particle is

(A) $-2Ka^2$ (B) $2Ka^2$

(C) $-Ka^2$ (D) Ka^2

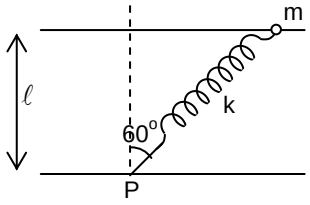
6. From a uniform disc of radius R an equilateral triangle of side $\sqrt{3}$ R is cut as shown. The new position of centre of mass is



(A) (0, 0) (B) (o, R)

(C) (R, 0) (D) $\left(0, \frac{\sqrt{3}}{2R}\right)$

7. One end of a spring of natural length ℓ and spring constant k is fixed at the ground and the other is fitted with a smooth ring of mass m which is allowed to slide on a horizontal rod fixed at a height ℓ as shown. Initially, the spring makes an angle of 60^o with the vertical when the system is released from rest. Find the speed of the ring when the spring becomes vertical.



(A) $\ell\sqrt{\frac{k}{m}}$ (B) $\sqrt{\frac{k^2\ell}{m}}$ (C) $\sqrt{\frac{k^2\ell^2}{m^2}}$ (D) $\sqrt{\frac{k\ell^2}{m}}$

8. A rod of length ℓ is standing vertically on a frictionless surface. It is disturbed slightly from this position. Let ω and α be the angular speed and angular acceleration of the rod, when the rod turns through an angle θ with the vertical, then the value of acceleration of centre of mass of the rod is

(A) $\frac{\ell\alpha}{2}\sin\theta + \frac{\omega^2\ell}{2}\cos\theta$ (B) $\frac{\omega^2\ell}{2}\sin\theta + \frac{\ell\alpha}{2}\cos\theta$

(C) $\frac{\ell\alpha}{2}\cos\theta$ (D) $\frac{\omega^2\ell}{2}\sin\theta$

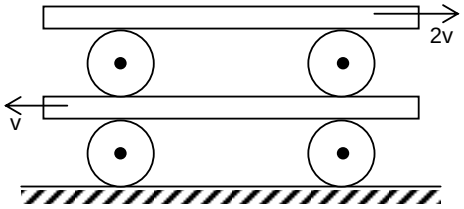
9. The relation between the displacement x and the time t for a body of mass 2 kg moving under the action of a force is given by $x = \frac{t^3}{3}$, where x is in meters and t is in seconds. The work done by the body in the first 2 seconds is

(A) 1.6 J (B) 16 J

(C) 160 J (D) 1600 J

Space For Rough Work

10. All cylinders are identical and no slipping at any contact. The ratio of angular speeds of upper cylinders to lower cylinders is

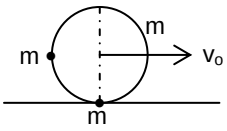


(A) 1/3 (B) 3
(C) 1 (D) none

11. A heavy particle hanging from a fixed point by a string of length 'l' is projected horizontally with speed $\sqrt{gl}$. The speed when tension in string is equal to weight of body

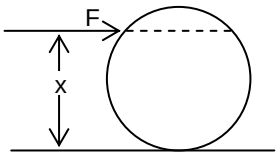
(A) $\sqrt{3gl}$ (B) $\sqrt{\frac{gl}{2}}$ (C) $\sqrt{2gl}$ (D) $\sqrt{\frac{gl}{3}}$

12. Two particles of mass m each are rigidly attached to a disc of same mass and radius R at its periphery as shown. Disc at this moment is rolling without slipping on a fixed horizontal surface. If the speed of the centre of disc is v_o, the total kinetic energy of the system at this instant will be



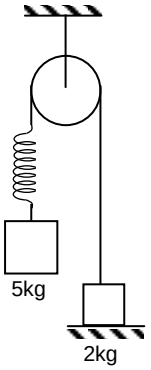
(A) mv_o^2 (B) $\frac{5}{4}mv_o^2$ (C) $\frac{7}{4}mv_o^2$ (D) $\frac{11}{4}mv_o^2$

13. A constant horizontal force F is applied on a solid sphere. The solid sphere is placed on rough horizontal surface, if $x = \frac{8R}{5}$, then direction of friction force that exist between sphere and ground is



(A) forward (towards right) (B) backward (towards left)
(C) friction force is zero (D) it can be in any direction

14. System shown in figure is released from rest. Pulley and spring are massless and the friction is absent every where. The speed of 5kg block when 2kg block leaves the contact with ground is (Take force constant of spring K = 40 N/m and g = 10 m/s^2)



(A) $\sqrt{2}$ m/s (B) $2\sqrt{2}$ m/s
(C) 2 m/s (D) $4\sqrt{2}$ m/s

Space For Rough Work

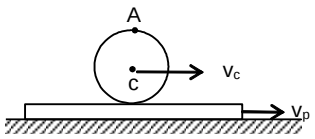
15. The M.I. of a body (initially at rest) about a given axis is 1.2 kgm^2. In order to produce a rotational K.E. of 1500 J, an angular acceleration of 25 rad/s^2 must be applied about that axis for a period of

(A) 8 sec (B) 2 sec
(C) 1 sec (D) 10 sec

16. Two particles of equal mass ,m, at 'A' and 'B' are connected by a rigid light rod AB lying on a smooth horizontal table. An impulse 'J' is applied at 'A' in the plane of the table and perpendicular at AB. Then the velocity of particle at 'A' is

(A) $\frac{J}{2m}$ (B) $\frac{J}{m}$ (C) $\frac{2J}{m}$ (D) zero

17. In the shown figure velocities are in ground frame and the cylinder is performing pure rolling on plank, velocity of point 'A' would be

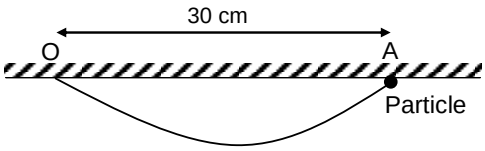


(A) $2V_c$ (B) $2V_C + V_P$
(C) $2V_C - V_P$ (D) $2(V_C - v_P)$

18. Find the distance of centre of mass of the uniform rod of length $\frac{\pi R}{3}$ if it is bent into circular arc of radius R from the center C.

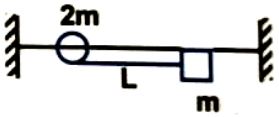
(A) $\frac{2R}{\pi}$ (B) $\frac{3R}{\pi}$ (C) $\frac{R}{\pi}$ (D) R

19. A small ball of mass 100 g is attached to a light and inextensible string of length 50 cm. The string is ties to a support O and the mass m released from point A which is at a horizontal distance of 30 cm from the support. Calculate the speed of the ball at its lowest point of the trajectory.



(A) 2.2 m/s (B) 2.5 m/s (C) 3.2 m/s (D) 3.5 m/s

20. A bead can slide on a smooth straight wire and particle of mass m is attached to the bead by a light string of length L. The particle is held in contact with the wire with the string taut and is then let fall. If the bead has mass 2 m. Then, when the string makes an angle θ with the wire then bead would have slipped a distance:

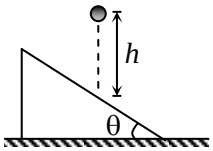


(A) L (1 – cos θ) (B) $\frac{L}{2}(1-\cos\theta)$
(C) $\frac{L}{3}(1-\cos\theta)$ (D) $\frac{L}{6}(1-\cos\theta)$

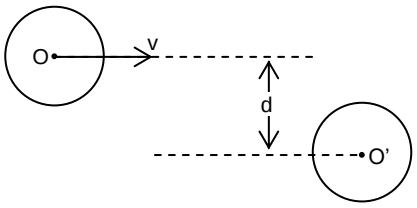
Space For Rough Work

PART-B
Numerical Type

1. A ball after falling through a distance h collides with an inclined plane of inclination $\theta = 60^\circ$ as shown. It moves horizontally after the impact. The co-efficient of restitution between inclined plane and ball is (inclined surface is friction less)

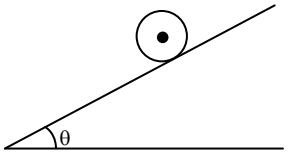


2. A disc of radius r and mass m moving on perfectly smooth surface at a speed v= $\frac{15}{\sqrt{17}}$ m/s undergoes an elastic collision with an identical stationary disc of mass 2m. the magnitude of velocity (in m/s) of the first disc after the collision will be(given d= $\frac{8r}{5}$)



3. A train of mass M = π kg is moving on a circular track of radius R = 5 m with constant speed v = 1.27 m/s. The length of train is half the perimeter of track. The linear momentum of the train will be

4. A uniform disc of mass m=1.5 kg and radius R=40 cm. is rolling without slipping up a rough inclined plane which makes an angle 30^0 with the horizontal. If the coefficient of static and kinetic friction are each equal to μ and the only force acting on the disc are gravitational and frictional force then find the magnitude of the frictional force acting on it.



5. A horse pulls a wagon of 5000 kg from rest against a constant resistance of 90 N. The pull exerted initially is 600 N and it decreases uniformly with the distance covered to 400 N at a distance of 15 m from start. Find the velocity of wagon at this point.

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.

1. Which molecule contains only sigma bond according to valence bond theory?
   (A) F_2 (B) O_2
   (C) N_2 (D) CO_2

2. $A(g) \longrightarrow$ Product

   In the above first order reaction the concentration of A(g) changes from 0.1 M to 0.001 M in 23.03 sec from the start of the reaction. The rate constant of the reaction in s^{-1} unit is
   (A) 0.01 (B) 0.2
   (C) 0.02 (D) 0.1

3. The strongest interparticle force that can exist in a liquid is
   (A) dipole-dipole (B) ion-dipole
   (C) hydrogen bond (D) London force

4. The condensation of the molecules of an ideal gas results in
   (A) increase in entropy change of system
   (B) decrease in the number of intermolecular collisions
   (C) gain of heat from the surrounding
   (D) increase in intermolecular distance

5. $H_2(g) + Cl_2(g) \longrightarrow 2HCl(g) + x\,kJ$ heat

   The standard heat of formation $\Delta_f H^o$ of HCl(g) in the reaction in kJ unit is
   (A) –x (B) $-\frac{x}{2}$
   (C) +x (D) $+\frac{x}{2}$

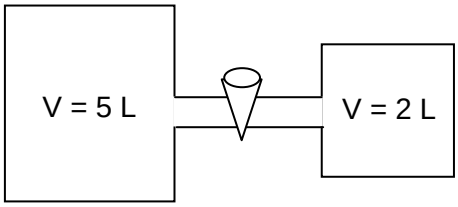
6. Which of the following is not a linear molecule?
   (A) CO_2 (B) Discrete molecule of BeF_2
   (C) CH_4 (D) XeF_2

7. In which thermodynamic process all the heat supplied to a system containing an ideal gas, is completely converted to work as per the first law of thermodynamics?
   (A) Isothermal process (B) Adiabatic process
   (C) Isobaric process (D) Isochoric process

Space For Rough Work

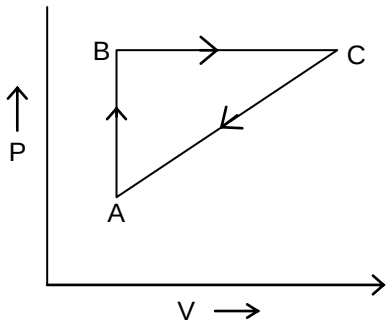
8. What is the hybridization of phosphorus in PCl_3?
(A) sp (B) sp^2
(C) sp^3 (D) dsp^2

9. Rate = $k[A]^{1/2}[B]^2$
How many times will the rate of above reaction will increase by increasing the concentration of A four times and that of B by two times?
(A) 4 times (B) 8 times
(C) 12 times (D) 6 times

10. 

The 5 L container contains an ideal gas at 400 K and 700 mm of Hg. When the stop cock is opened the gas rushes to the empty 2 L container till the pressure becomes equal in both containers.
If x = Initial pressure in the larger container in mm Hg unit
y = Pressure in the larger container when the stop cock is opened
What is the value of (x - y)?
(A) 600 (B) 500
(C) 200 (D) 400

11. $AO(g) + O_2(g) \xrightarrow[298K,1bar]{\Delta} AO_3(g)$
The enthalpy change in above reaction is called standard
(A) heat of formation of $AO_3(g)$ (B) heat of combustion of AO(g)
(C) heat of combustion of A(g) (D) heat of formation of $O_2(g)$ and AO(g)

12. 

A thermodynamic system is subjected to a cyclic process. Along which path no PV-work is carried out?
(A) AB (B) BC
(C) CA (D) AB + BC

Space For Rough Work

13. The central atom of which ion contains more number of lone pair(s)?
(A) CO_3^{2-} (B) I_3^-
(C) SO_3^{2-} (D) NO_2^-

14. In Arrhenius equation, $k = Ae^{-E_a/RT}$, which term represent the maximum value of rate constant(k_{max}) and the favouring condition for this
(A) k_{max} = A, when E_a = infinity (B) $k_{max} = e^{-E_a/RT}$, When A = 1
(C) k_{max} = A, when T = zero (D) k_{max} = A, when E_a = 0

15. A cylinder contains 10 g of H_2 and 20 g of He gases(both are ideal gases) at 400 K and 400 mm Hg pressure. The correct relation between their partial pressures is
(A) $p_{H_2} > p_{He}$ (B) $p_{H_2} < p_{He}$
(C) $p_{H_2} = p_{He}$ (D) $\left(p_{H_2} + p_{He}\right) > 400$ mm Hg

16. For which of the following reaction, the enthalpy change(ΔH) and internal energy change(ΔE) are identical?
(A) Formation of H_2O from H_2 and O_2 (B) Formation of NO from N_2 and O_2
(C) Combustion of CO into CO_2 (D) Decomposition of SO_3 into SO_2 and O_2

17. In which case the entropy change of the surrounding is positive; $\Delta S_{surr} > 0$.
(A) in an endothermic reaction
(B) in an exothermic reaction
(C) expansion work done in a reversible adiabatic process
(D) (A) and (C) are correct

18. In a first order chemical reaction involving one reactant, 75% of reactant is consumed in 40 sec. What is the half-life period of the reaction in sec?
(A) 60 (B) 40
(C) 20 (D) 10

19. According to molecular orbital theory, which species contains maximum number of unpaired electron(s)?
(A) N_2^+ (B) O_2
(C) O_2^+ (D) N_2^-

20. For which order reaction, the rate of reaction does not change by changing concentration of reactant?
(A) Zero order (B) First order
(C) Second order (D) Third order

Space For Rough Work

PART-B
Numerical Type

1. How many hybridized orbitals does nitrogen need to form ammonia?

2. $2A(g) \longrightarrow 4B(g) + C(g)$

   If the rate of above reaction is 0.4 mol L^{-1} s^{-1}, what will be the rate of formation of (B) in mol $L^{-1}s^{-1}$ unit?

3. $A(g) \longrightarrow$ Products

   $[A]_0$ = Initial concentration of A(g)
   $[A]_t$ = Concentration of 'A' after 98 sec from the start of reaction

   If the ratio of $\frac{[A]_t}{[A]_0}$ is $\frac{1}{128}$, then the half-life period of the reaction in sec unit is

4. If the value of $\frac{P}{RT}$ of Ne gas under ideal condition is 0.01 g/L. What is the density of the gas in g/L unit?

5. A thermodynamic system containing 10 moles of an ideal gas is heated from 400 to 420 K at constant volume. How much heat in kJ unit is absorbed by the gas?

   $\left[C_v = \frac{5R}{2}, R = 8\,JK^{-1}mol^{-1}\right]$

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.

1. Consider a family of straight lines $(x+y)+\lambda(2x-y+1)=0$. Equation of the straight line belonging to this family that is the farthest from (1, –3) is :-
   (A) $13y+6x=7$ (B) $15y+6x=7$
   (C) $13y-6x=7$ (D) $15y-6x=7$

2. If $(-4, 3)$ and (12, –1) are the ends of diameter of a circle which makes an intercept of 2λ on the y – axis, then λ is
   (A) $\sqrt{13}$ (B) $4\sqrt{13}$
   (C) $3\sqrt{13}$ (D) $2\sqrt{13}$

3. Equation of a circle passing through (1, 2) and (2, 1) and for which line $x+y=2$ is a diameter is;
   (A) $x^2+y^2+2x+2y-11=0$ (B) $x^2+y^2-2x-2y-1=0$
   (C) $x^2+y^2-2x-2y+1=0$ (D) None of these

4. The line x = y touches a circle at the point (1, 1). If the circle also passes through the point (1, –3), then its radius is
   (A) $3\sqrt{2}$ (B) 3
   (C) 2 (D) $2\sqrt{2}$

5. Area of parallelogram formed by the lines $x+y+1=0,\ x+y+3=0, 3x+4y-1=0$ and $3x+4y-5=0$ is:
   (A) $4\sqrt{2}$ (B) 8
   (C) $8\sqrt{2}$ (D) 16

Space For Rough Work

6. The circle passing through the point (–1, 0) and touching the y – axis at (0, 2) also passes through the point

(A) $\left(\frac{-3}{2}, 0\right)$ (B) $\left(\frac{-5}{2}, 2\right)$

(C) $\left(\frac{-3}{2}, \frac{5}{2}\right)$ (D) $(-4, 0)$

7. Let the orthocentre and centroid of a triangle be A (–3, 5) and B (3, 3) respectively. If C is the circumcentre of this triangle, then the radius of the circle having line segment AC as diameter, is:

(A) $\frac{3\sqrt{5}}{2}$ (B) $\sqrt{10}$

(C) $2\sqrt{10}$ (D) $3\sqrt{\frac{5}{2}}$

8. Through a point A on the x – axis a straight line is drawn parallel to y – axis so as to meet the pair of straight lines $ax^2 + 2hxy + by^2 = 0$ in B and C. If AB = BC then

(A) $h^2 = 4ab$ (B) $8h^2 = 9ab$

(C) $9h^2 = 8ab$ (D) $4h^2 = ab$

9. Tangents drawn from the point P (1, 8) to the circle $x^2 + y^2 - 6x - 4y - 11 = 0$ touch the circle at the points A and B. The equation of the circumcircle of the triangle PAB is

(A) $x^2 + y^2 + 4x - 6y + 19 = 0$ (B) $x^2 + y^2 - 4x - 10y + 19 = 0$

(C) $x^2 + y^2 - 2x + 6y - 29 = 0$ (D) $x^2 + y^2 - 6x - 4y + 19 = 0$

10. The mean deviation from the mean of the A.P. $a, a+d, a+2d, ..., a+2nd$ is:

(A) $n(n+1)d$ (B) $\frac{n(n+1)d}{2n+1}$

(C) $\frac{n(n+1)d}{2n}$ (D) $\frac{n(n-1)d}{2n+1}$

11. The mirror image of the parabola $y^2 = 4x$ in the tangent to the parabola at the point (1, 2) is:

(A) $(x-1)^2 = 4(y+1)$ (B) $(x+1)^2 = 4(y+1)$

(C) $(x+1)^2 = 4(y-1)$ (D) $(x-1)^2 = 4(y-1)$

Space For Rough Work

12. 5 students of a class have an average height 150 cm and variance 18 cm^2. A new student, whose height is 156 cm, joined them. The variance (in cm^2) of the height of these six students is:
(A) 22 (B) 20
(C) 16 (D) 18

13. If equation $4x^2\sin^2\theta - 4x\sin\theta + 1 = 0$ and $a^2\left(b^2 - c^2\right)x^2 + b^2\left(c^2 - a^2\right)x + c^2\left(a^2 - b^2\right) = 0$ has a common root and second equation has equal roots, then $\theta = ?$
(A) $\frac{\pi}{6}$ (B) $\frac{\pi}{3}$
(C) π (D) $\frac{\pi}{2}$

14. Let a, b are two arbitrary numbers. Find least possible integral value of 'b' for which the equation $x^2 + 2(a+b)x + (a-b+8)$ has real and distinct roots for $\forall\, a \in R$
(A) 5 (B) –4
(C) 3 (D) 4

15. The number of possible values of $n \in N$ in interval (1, 100) such that equation $x^2 + x - n = 0$ has integral roots.
(A) 19 (B) 18
(C) 10 (D) 9

16. If $p(q-r)x^2 + q(r-p)x + r(p-q) = 0$ has equal roots, then:
(A) $q^2 = pr$ (B) $q = \frac{p+r}{2}$
(C) $\frac{2}{q} = \frac{1}{p} + \frac{1}{r}$ (D) $\frac{2}{p} = \frac{1}{q} + \frac{1}{r}$

17. The vertex of right angle of a right angled triangle lies on the straight line $2x + y - 10 = 0$ and the two other vertices, at points (2, –3) and (4, 1) then the area of triangle in sq. units is
(A) $\sqrt{10}$ (B) 3
(C) $\frac{33}{5}$ (D) 11

18. The least value of $|\alpha|$, for which the lines $x = \alpha + m, y = -2$ and $y = mx$ are concurrent, is
(A) $\sqrt{2}$ (B) $2\sqrt{2}$
(C) 0 (D) 1

Space For Rough Work

19. If the algebraic sum of distances of points (2, 1) (3, 2) and (–4, 7) from the line $y = mx + c$ is zero, then this line will always pass through a fixed point whose coordinate is

(A) (1, 10) (B) (1, 3)

(C) (1, 6) (D) $\left(\frac{1}{3}, \frac{10}{3}\right)$

20. Two tangents on a parabola are $x - y = 0$ and $x + y = 0$. If (2, 3) is focus of the parabola, then the equation of tangent at vertex is:

(A) $4x - 6y + 5 = 0$ (B) $4x - 6y + 3 = 0$

(C) $4x - 6y + 1 = 0$ (D) $4x - 6y + \frac{3}{2} = 0$

PART-B
Numerical Type

1. A ray of light is sent along the line which passes through the point (2, 3). The ray is reflected from the point P on x – axis. If the reflected ray passes through the point (6, 4), and the coordinates of P are $\left(\frac{\alpha}{7}, 0\right)$ then the value of $'\alpha'$ is

2. The number of common tangents to the circle $x^2 + y^2 = 4$ and $x^2 + y^2 - 6x - 8y = 24$ is

3. Find the area of the triangle formed by the line $x + y = 3$ and the angle bisectors of pair of straight lines $x^2 - y^2 + 2y = 1$.

4. If both roots of the equation $x^2 + 3x + a - 5 = 0$ are negative and distinct, then find the sum of integral values of a.

5. $f(x) = ax^2 + bx + c;\ a,b,c \in Z$ (Integers)
Suppose (i) $a \neq 0$ (ii) $f(1) = 0$ (iii) $50 < f(7) < 60$ (iv) $70 < f(8) < 80$
The value of $f(10)$ is _____.

Space For Rough Work

FIITJEE INTERNAL TEST

BATCHES: PANINI426-XI & PANINI426-A1-A2_PT-2

PHYSICS, CHEMISTRY & MATHEMATICS

JEE MAIN-PHASE

Paper Code 100814

ANSWER KEY

SECTION – I

(PHYSICS)

PART – A

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

PART – B

1.	3	2.	3	3.	2.54	4.	2.50
5.	1.57						

SECTION – II

(CHEMISTRY)

PART – A

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

PART – B

1.	4	2.	1.6	3.	14	4.	0.2
5.	4						

SECTION – III
(MATHEMATICS)

PART – A

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

PART – B

1.	26	2.	1	3.	2	4.	13
5.	135						