

FIITJEE ADMISSION TEST

Class-XI (going to class XII)
Physics, Chemistry & Maths

Time: 3 Hours

Maximum Marks: 270

Instructions:

1. Attempt ALL the questions.
2. Answers have to be marked on the OMR sheet.
3. The Question Paper contains blank spaces for your rough work. No additional sheets will be provided for rough work.
4. Blank papers, clip boards, log tables, slide rule, calculator, cellular phones, pagers and electronic devices, in any form, are not allowed.
5. Write your **Name** and **Registration No.** in the space provided at the bottom of this sheet.
6. The questions paper consists of 3 parts:
 - Part -1 Physics (30 questions)
 - Part -2 Chemistry (30 questions)
 - Part -3 Mathematics (30 questions)
7. Each question carries **+3 marks** for correct answer and **-1 mark** for wrong answer.

Name of the Candidate :

Registration Number :

Physics**PART – 1****Straight Objective Type**

This section contains 30 multiple choice questions numbered 1 to 30. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

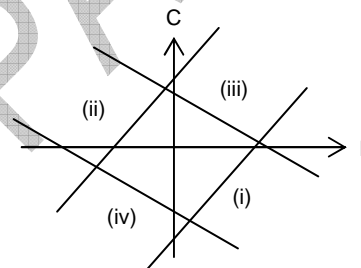
- A cracker rocket is ejecting 0.05 kg of gases per sec at a velocity of 400 m/s. The accelerating force on the rocket is

(A) 20 dynes
(B) 20 N
(C) 20 kg – wt.
(D) none of the above
- A light and a heavy body have equal momentum. Which of them has greater K.E.?

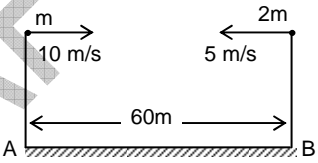
(A) The heavier body
(B) The lighter body
(C) Both have equal K.E.
(D) data is incomplete
- Sonar works on the principle of

(A) reflection of sound waves.
(B) momentum of sound waves.
(C) energy of sound waves
(D) refraction of sound waves.
- Which of the curves in figure represents the relation between Celcius and Farenheit temperature?

(A) (i)
(B) (ii)
(C) (iii)
(D) (iv)



Space for Rough Work

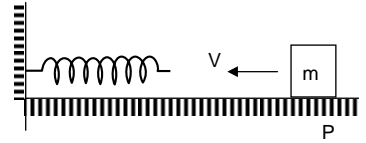
5. In perfectly inelastic collisions, the relative velocity of the bodies
 (A) before impact is zero (B) before impact is equal to that after impact
 (C) after impact is zero (D) is characterized by none of the above
6. A uniform rope of length L , resting on a frictionless horizontal surface is pulled at one end by a force F . What is the tension in the rope at a distance λ from the free end?
 (A) F (B) $F \times \left(1 + \frac{\lambda}{L}\right)$
 (C) $F \times (\lambda/L)$ (D) $F \left(1 - \frac{\lambda}{L}\right)$
7. The Young's modulus of a wire of length L and radius r is Y . If the length is reduced to $L/3$ and radius remains r , its Young's modulus will be
 (A) $Y/3$ (B) Y
 (C) $3Y$ (D) none of these
8. Two particles one of mass m and the other of mass $2m$ are projected horizontally towards each other from the same level above the ground with velocities 10 m/s and 5 m/s respectively. They collide in air and sticks to each other. The distance from A where the combined mass finally falls on the ground is
 (A) 40 m (B) 20 m
 (C) 30 m (D) zero
- 
9. If the range of a gun which fires a shell with muzzle speed v is R then the angle of elevation of the gun is
 (A) $\cos^{-1}\left(\frac{v^2}{gR}\right)$ (B) $\cos^{-1}\left(\frac{gR}{v^2}\right)$
 (C) $\frac{1}{2}\left(\frac{v^2}{gR}\right)$ (D) $\frac{1}{2}\sin^{-1}\left(\frac{gR}{v^2}\right)$

Space for Rough Work

10. The radius of a ring is R and its coefficient of linear expansion is α . If the temp of ring increases by θ then its circumference will increase by
 (A) $\pi R\alpha\theta$ (B) $2\pi R\alpha\theta$
 (C) $\pi R\alpha\theta/2$ (D) $\pi R\alpha\theta/4$
11. A satellite of mass 'm' initially at rest on the earth, is launched into a circular orbit of radius equal to twice the radius 'R' of the earth. The energy required is
 (A) $\frac{1}{2}gRm$ (B) $\frac{3}{4}gRm$
 (C) gRm (D) $\frac{1}{4}gRm$
12. A particle is kept at rest at a distance R (earth's radius) above the earth surface. The minimum speed with which it should be projected so that it does not return to earth's surface
 (A) $\sqrt{\frac{GM}{4R}}$ (B) $\sqrt{\frac{GM}{2R}}$
 (C) $\sqrt{\frac{GM}{R}}$ (D) $\sqrt{\frac{2GM}{R}}$
13. An aluminium rod (length λ_1 ; coefficient of linear expansion α_a) and a steel rod (length λ_2 ; coefficient of linear expansion α_s) are joined such that the total length becomes $(\lambda_1 + \lambda_2)$. If the increase in lengths of aluminium and steel rods is found to be same when the system is raised to a certain temperature, then the ratio $\lambda_1/(\lambda_1 + \lambda_2)$.
 (A) α_a/α_s (B) α_s/α_a
 (C) $\alpha_s/(\alpha_a + \alpha_s)$ (D) $\alpha_a/(\alpha_a + \alpha_s)$

Space for Rough Work

14. A body of mass m , moving on a frictionless surface with speed v strikes a spring as shown in the figure.

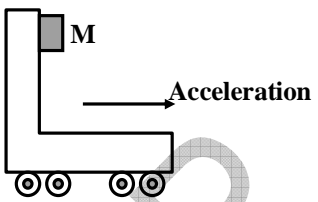


Assertion (A): The speed of the block when it returns back to P is equal to v

Reason (R): This is so because spring force is a conservative force.

- (A) Both A and R are true and R is correct explanation of A.
 (B) Assertion is true but Reason is not true.
 (C) Both A and R are wrong.
 (D) Both A and R are true but R is not correct explanation of A .
15. The equations of displacement of two waves are given as
 $y_1 = 20 \sin\left(3\pi t + \frac{\pi}{3}\right)$; $y_2 = 10 \left[\sin 3\pi t + \sqrt{3} \cos 3\pi t\right]$. The ratio of their amplitude is
 (A) 1 : 2 (B) 2 : 1
 (C) 1 : 1 (D) None of these.
16. The moment of a force is a measure of
 (A) the impulse of the force. (B) the stability of the body.
 (C) the capacity to turn a body. (D) the change in momentum of a body.
17. A particle is projected up from a point O with a velocity u in a direction making an angle α with the horizontal. After some time at point P it is moving parallel to the horizontal. The time of flight from O to P is
 (A) $\frac{u}{g \sin \alpha}$ (B) $\frac{u \cos \alpha}{g}$
 (C) $\frac{u \tan \alpha}{g}$ (D) $\frac{u \sin \alpha}{g}$
18. A shell is fired from a cannon with a velocity V at an angle θ with horizontal . At the highest point in its path, it explodes into two pieces of equal mass. One of the pieces retraces its path to the cannon and the speed of the other piece immediately after the explosion is
 (A) $3V \cos \theta$ (B) $2 V \cos \theta$
 (C) $\frac{3}{2} V \cos \theta$ (D) $\frac{\sqrt{3}}{2} V \cos \theta$

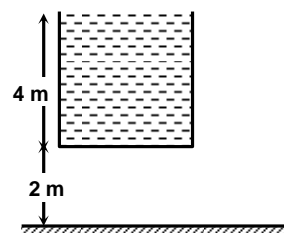
Space for Rough Work

19. A string 'A' has double the length, double the tension, double the diameter and double the density as another string 'B'. Their fundamental frequencies of vibration are n_A and n_B respectively. The ratio n_A/n_B is equal to
 (A) 1/4 (B) 1/2
 (C) 2 (D) 4
20. An accelerated system with a vertical wall has co-efficient of friction μ between block and walls as shown in the figure. A block M of mass 1 kg just remains in equilibrium with the vertical wall, when the system has an acceleration of 20 m/s^2 . The minimum value of co-efficient of friction will be
 (A) 0.10 (B) 0.25
 (C) 0.50 (D) 1
- 
21. A satellite in force free space sweeps stationary interplanetary dust at a rate $(dM/dt) = \alpha v$, where M is the mass and v is the velocity of satellite and α is a constant. What is the deceleration of the satellite?
 (A) $\frac{\alpha v^2}{M}$ (B) $-\alpha v^2 / M$
 (C) $-\frac{\alpha v^2}{2M}$ (D) $-\frac{2\alpha v^2}{M}$
22. A rectangular block is sliding down on a frictionless inclined plane making an angle 30° with the horizontal. A monkey in the box projects a stone at an angle θ with the plane and finds that stone again comes to his hands. The angle θ is equal to
 (A) 30° (B) 60°
 (C) 90° (D) 120°

Space for Rough Work

23. At what height from the ground a small hole should be cut in a tank to get a maximum range on horizontal ground?

(A) 3 m (B) 4 m
(C) 5 m (D) 6 m

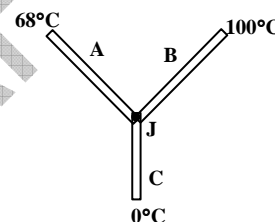


24. In a sonometer wire, the tension is maintained by suspending a 50.7 kg mass from the free end of the wire. The suspended mass has a volume of 0.0075 m^3 . The fundamental frequency of the wire is 260 Hz. If the suspended mass is completely submerged in water, the fundamental frequency will become
- (A) 200 Hz (B) 220 Hz
(C) 230 Hz (D) 240 Hz

25. The terminal velocity 'v' of a spherical body of radius 'r' in a liquid follows the relation (k is a constant).
- (A) $v = k r$ (B) $v = k/r$
(C) $v = k/r^4$ (D) $v = k r^2$

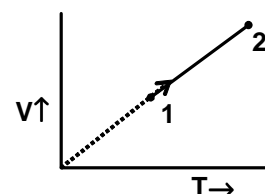
26. Three rods A, B and C of same material and same cross-sectional area having lengths in the ratio 3 : 3 : 2 are connected as shown. If the open end of rods A, B and C are maintained at temperature 68°C , 100°C and 0°C respectively. Then temperature of the junction J will be (assuming no loss of heat from the surfaces)

(A) 50°C (B) 25°C
(C) 48°C (D) 75°C



27. An ideal gas undergoes through the process $1 \rightarrow 2$ as shown in the figure, the heat supplied and work done in the process is ΔQ and ΔW respectively. The ratio $\Delta Q : \Delta W$ is

(A) $\gamma : \gamma - 1$ (B) γ
(C) $\gamma - 1$ (D) $\gamma - 1/\gamma$



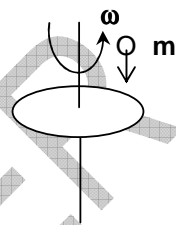
Space for Rough Work

28. A simple pendulum with a solid metal bob has a period T . The metal bob is now immersed in a liquid of density one tenth that of the bob. The liquid is non-viscous. Now the period of the same pendulum with its bob remaining all the time in the liquid will be

- (A) T (B) $\frac{9}{10}T$
 (C) $T\sqrt{\frac{10}{9}}$ (D) $T\sqrt{\frac{9}{10}}$

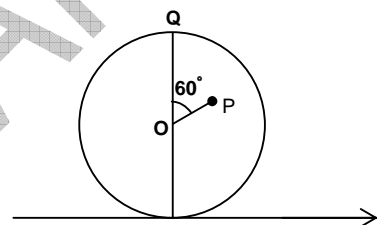
29. A uniform disc, rotating freely about a perpendicular axis passing through its centre, makes n_1 revolution per second. A small mass m falls vertically and sticks at a distance x from the axis of rotation. If rotational speed of the disc becomes n_2 revolution per second, the moment of inertia of the disc is

- (A) $\frac{n_1 mx^2}{n_1 + n_2}$ (B) $\frac{n_2 mx^2}{n_1 + n_2}$
 (C) $\frac{n_2 mx^2}{n_1 - n_2}$ (D) $\frac{n_1 mx^2}{n_1 - n_2}$



30. A disc of radius r rolls without slipping on a rough horizontal floor. If velocity of its centre of mass is v_0 , then velocity of point P whose radius vector makes an angle of 60° with the vertical, as shown in the figure ($OP = r/2$), is

- (A) v_0 (B) $\frac{v_0}{2}$
 (C) $\frac{v_0}{2}\sqrt{7}$ (D) $\frac{v_0}{2}\sqrt{3}$



Space for Rough Work

Chemistry**PART – 2****Straight Objective Type**

This section contains 30 multiple choice questions numbered 1 to 30. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

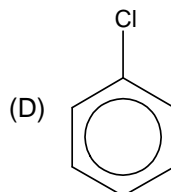
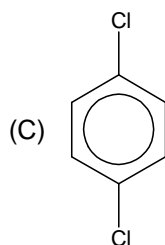
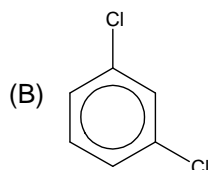
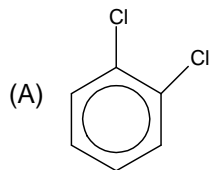
- Which quantum number is used to calculate the energy of electron in any shell?
 (A) l (B) s
 (C) m (D) n
- What designation is given to an orbital having $n = 2, l = 1$?
 (A) $2p$ (B) $3s$
 (C) $3p$ (D) $3d$
- Which is the correct electronic configuration of scandium (atomic number = 21) (Sc^+) ion?
 (A) $1s^2 2s^2 2p^6 3s^2 3p^6 4s^1 3d^1$ (B) $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2$
 (C) $1s^2 2s^2 2p^6 3s^2 3p^6 3d^2 4s^1$ (D) $1s^2 2s^2 2p^6 3s^2 3p^6$
- Which of the species are isoelectronic?
 (A) N, O (B) Cl^- , K^+
 (C) Mg^{++} , K^+ (D) H, He
- Which is not possible?
 (A) $n = 3, l = 0, m = 0$ (B) $n = 3, l = 1, m = -1$
 (C) $n = 3, l = -1, m = -1$ (D) $n = 3, l = 2, m = -1$
- Which solution will be strongly acidic?
 (A) $pH = 4.5$ (B) $pH = 1$
 (C) $pOH = 8.0$ (D) $pOH = 7.5$

Space for Rough Work

7. Which of the following acts as a Bronsted acid?
 (A) HCO_3^- (B) NH_3
 (C) Na_2CO_3 (D) NaCl
8. The H^+ ion concentration in 1 M CH_3COOH solution if K_a of CH_3COOH is 1.6×10^{-5} is
 (A) 4×10^{-3} M (B) 0.4×10^{-3} M
 (C) 4×10^{-4} M (D) 0.4×10^{-4} M
9. The conjugate base of CH_3OH is
 (A) CH_3^+ (B) CH_3^-
 (C) CH_3O^- (D) CH_3OH_2^+
10. The conjugate acid of NH_2^- is
 (A) NH_4^+ (B) N_2H_4
 (C) NH_2OH (D) NH_3
11. The number of moles of sodium in 53 g of Na_2CO_3
 (A) 0.5 mole (B) 1 mole
 (C) 2 mole (D) 3 mole
12. A solution containing 20 g NaOH in 200 cm^3 of volume will have molarity
 (A) 1.5 M (B) 2.0 M
 (C) 1.0 M (D) 2.5 M
13. A compound having empirical formula $\text{C}_2\text{H}_3\text{O}_2$ and molecular mass of 118 will be having molecular formula
 (A) $\text{C}_4\text{H}_8\text{O}_4$ (B) $\text{C}_2\text{H}_3\text{O}_2$
 (C) $\text{C}_4\text{H}_6\text{O}_4$ (D) $\text{C}_2\text{H}_6\text{O}$

Space for Rough Work

14. Which of the following has zero dipole moment?



15. The shape of H_2O molecule is

- (A) tetrahedral
(C) pyramidal

- (B) planar
(D) V-shape

16. Which bond is the least ionic?

- (A) H-F
(C) F-F

- (B) H-Cl
(D) Cl-F

17. The shape of PCl_5 molecule is

- (A) tetrahedral
(C) trigonal bipyramidal

- (B) linear
(D) planar

Space for Rough Work

18. 'Ozone hole' refers to the conversion of ozone (O_3) into
(A) Oxygen (B) CO_2
(C) NO_2 (D) SO_2
19. A colourless and odourless gas produced by incomplete combustion of fuels and is a serious air pollutant is
(A) carbon dioxide (B) carbon monoxide
(C) oxygen (D) methane
20. Kinetic molecular theory of gases is applicable to
(A) real gases (B) ideal gases
(C) both (D) none
21. 38 ml of moist N_2 gas at $27^\circ C$ is collected by downward displacement of water at 746.5 mm pressure. Find the actual pressure exerted by N_2 if aqueous tension of water is 26.5 mm.
(A) 746.5 mm (B) 740 mm
(C) 720 mm (D) 700 mm
22. The surface tension of a liquid with increase of temperature
(A) increases (B) decreases
(C) remains constant (D) becomes infinite
23. The ratio of rates of diffusion of helium to hydrogen is
(A) $1:\sqrt{2}$ (B) 2 : 1
(C) 4 : 1 (D) 1 : 2
24. Conjugation can be seen in
(A) $H_2C=CH-CH=CH_2$ (B) $H_3C-CH=CH-CH_3$
(C) $H_2C=CH-CH_2-CH=CH_2$ (D) $H_3C-CH_2-CH=CH_3$

Space for Rough Work

25. Which of the following hydrocarbon is most acidic?
(A) Alkanes (B) Alkenes
(C) Alkynes (D) Cycloalkanes
26. Maximum number of pi-bonds are present in
(A) benzene (B) butadiene
(C) propyne (D) propene
27. In the given reaction, which species is oxidized?
 $\text{MnO}_2 + 4\text{HCl} \rightarrow \text{MnCl}_2 + \text{Cl}_2 + 2\text{H}_2\text{O}$
(A) MnO_2 (B) Cl_2
(C) HCl (D) None
28. The oxidation number of sulphur in H_2SO_4
(A) +1 (B) +6
(C) +2 (D) 0
29. $\text{I}_2 + \text{H}_2\text{S} \rightarrow 2\text{HI} + \text{S}$
Which species is acting as a oxidizing agent?
(A) I_2 (B) H_2S
(C) Both (D) None
30. The homolytic fission of a bond gives rise to which kind of intermediates?
(A) Carbocations (B) Free radicals
(C) Carbanions (D) All of these

Space for Rough Work

Mathematics**PART – 3****Straight Objective Type**

This section contains 30 multiple choice questions numbered 1 to 30. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

1. If $\pi \leq x \leq 2\pi$, then $\cos^{-1}(\cos x)$ is equal to
(A) x (B) $-x$
(C) $2\pi + x$ (D) $2\pi - x$
2. If $\tan(x + y) = 33$ and $x = \tan^{-1}3$, then y will be
(A) 0.3 (B) $\tan^{-1}(1.3)$
(C) $\tan^{-1}(0.3)$ (D) $\tan^{-1}(1/18)$
3. The perimeter of a triangle ABC is 6 times the arithmetic mean of the sines of its angles. If the side a is 1, then the angle A is
(A) $\pi/6$ (B) $\pi/3$
(C) $\pi/2$ (D) π
4. If a, b, c are in G.P. then the equations $ax^2 + 2bx + c = 0$ and $dx^2 + 2ex + f = 0$ have a common root if $\frac{d}{a}, \frac{e}{b}, \frac{f}{c}$ are in
(A) A.P. (B) G.P.
(C) H.P. (D) None of these.
5. The sum to n terms of the series $1 + 2\left(1 + \frac{1}{n}\right) + 3\left(1 + \frac{1}{n}\right)^2 + \dots$ is given by
(A) $n^2 + 1$ (B) $n(n + 1)$
(C) $n\left(1 + \frac{1}{n}\right)^2$ (D) none of these.

Space for Rough Work

6. The circle passing through the points $(1, t)$, $(t, 1)$ and (t, t) for all values of t , passes through the point
(A) $(1, 2)$ (B) $(1, 3)$
(C) $(1, 1)$ (D) $(0, 1)$
7. The co-ordinates of the point on the parabola $y^2 = 8x$, which is at minimum distance from the circle $x^2 + (y + 6)^2 = 1$ are :
(A) $(2, -4)$ (B) $(18, -12)$
(C) $(2, 4)$ (D) None of these
8. The angle between the tangents drawn from the origin to the parabola $y^2 = 4a(x - a)$ is
(A) 90° (B) 45°
(C) 60° (D) $\tan^{-1}2$.
9. The number of common tangents that can be drawn to the circles $x^2 + y^2 - 4x - 6y - 3 = 0$ and $x^2 + y^2 + 2x + 2y + 1 = 0$ is
(A) 1 (B) 2
(C) 3 (D) 4
10. If the roots of the equation $ax^3 - x^2 + ax - 16 = 0$ form a G.P. then the value of a is
(A) 1 (B) 2
(C) -2 (D) 4
11. Numbers of numbers of more than one digit in which digits are in decreasing order from left to right is
(A) 502 (B) 512
(C) 1024 (D) 1013
12. If z_1 and z_2 are two complex number such that $|z_1 - z_2| = ||z_1| - |z_2||$, then $\arg z_1 - \arg z_2$ is equal to
(A) $-\pi$ (B) $-\pi/2$
(C) $\pi/2$ (D) 0
13. The point of intersection of the tangents of the circle $x^2 + y^2 = 10$, drawn at end points of the chord $x + y = 2$ is
(A) $(-5, -5)$ (B) $(-5, -4)$
(C) $(-4, -5)$ (D) None of these

Space for Rough Work

14. The maximum distance of the point (4, 4) from the circle $x^2 + y^2 - 2x - 15 = 0$ is
 (A) 10 (B) 9
 (C) 5 (D) None of these
15. The coefficient of x^{13} in the expansion of $(1 - x)^5 (1 + x + x^2 + x^3)^4$ is
 (A) 4 (B) -4
 (C) 0 (D) None of these
16. Equation of common tangent to the parabola $y^2 = 8x$ and the hyperbola $3x^2 - y^2 = 3$ is
 (A) $2x + y + 1 = 0$ (B) $2x + y + 2 = 0$
 (C) $2x - y - 1 = 0$ (D) none of these
17. The inequality $|Z - 4| < |Z - 2|$ represents the region given by
 (A) $\text{Re}(Z) > 0$ (B) $Z + \bar{Z} > 8$
 (C) $\text{Re}(Z) > 2$ (D) $\text{Re}(Z) > 3$
18. The number of lines that can be formed from 12 points in a plane of which 6 points lie on a line is
 (A) 45 (B) 52
 (C) 50 (D) 46
19. If $u = \cot^{-1}(\sqrt{\cos \theta}) - \tan^{-1}(\sqrt{\cos \theta})$ then $\sin u$ equals to
 (A) $\tan \frac{\theta}{2}$ (B) $\frac{1 + \cos \theta}{1 - \cos \theta}$
 (C) $\tan^2 \frac{\theta}{2}$ (D) $\cot^2 \frac{\theta}{2}$
20. If the difference between the roots of $x^2 + ax - b = 0$ is equal to the difference between the roots of $x^2 - px + q = 0$ then $p^2 - a^2$ in terms of b and q is
 (A) $-4(b + q)$ (B) $4(b + q)$
 (C) $4(b - q)$ (D) None of these
21. The shortest distance between the circles $x^2 + y^2 = 1$ and $x^2 + y^2 - 10x - 10y + 41 = 0$ is
 (A) $\sqrt{41} - 1$ (B) 0
 (C) $\sqrt{41}$ (D) $5\sqrt{2} - 4$

Space for Rough Work

22. The minimum value of $3\tan^2\theta + 12\cot^2\theta$ is
(A) 12 (B) 15
(C) 24 (D) 6
23. The range of the function $\sin^2 x - 5\sin x - 6$ is
(A) $[-10, 0]$ (B) $[-1, 1]$
(C) $[0, \pi]$ (D) $[-49/4, 0]$
24. The minimum value of $2^{\sin x} + 2^{\cos x}$ is
(A) $2^{1/2}$ (B) 2
(C) $2^{1-1/\sqrt{2}}$ (D) None
25. If $\sin^{-1}x + \sin^{-1}y = \pi$, then $x = \lambda y$ where $\lambda =$
(A) 1 (B) -1
(C) 2 (D) -2
26. Equation of a circle with centre (4, 3) touching the circle $x^2 + y^2 = 1$ is
(A) $x^2 + y^2 - 8x - 6y - 9 = 0$ (B) $x^2 + y^2 - 8x - 6y + 11 = 0$
(C) $x^2 + y^2 - 8x - 6y - 11 = 0$ (D) none of these
27. If the line $x + y = 1$ touches the parabola $y^2 - y + x = 0$, then the co-ordinates of the point of contact are
(A) (1, 1) (B) $\left(\frac{1}{2}, \frac{1}{2}\right)$
(C) (0, 1) (D) (1, 0)

Space for Rough Work

28. If $\sin x = \cos^2 x$, then $\cos^2 x (1 + \cos^2 x)$ equal to
(A) 0 (B) 1
(C) 2 (D) none of these
29. If $\tan 2\theta \cdot \tan \theta = 1$, then θ is equal to
(A) $n\pi + \frac{\pi}{6}$ (B) $n\pi \pm \frac{\pi}{6}$
(C) $2n\pi \pm \frac{\pi}{6}$ (D) none of these
30. The angle between two tangents from the origin to the circle $(x - 7)^2 + (y + 1)^2 = 25$ is
(A) $\frac{\pi}{3}$ (B) $\frac{\pi}{6}$
(C) $\frac{\pi}{2}$ (D) none of these

Space for Rough Work

FIITJEE ADMISSION TEST

Class-XI (going to class XII)

PHYSICS, CHEMISTRY & MATHS

ANSWERS

PART - 1 (PHYSICS)

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

PART - 2 (CHEMISTRY)

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

PART - 3 (MATHEMATICS)

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