FIITJEE (JEE-Advanced)

BATCHES – NWCM721O1S, NWCM921X1W, NWCM921A1W & PANINI921-XIIG1

PHYSICS, CHEMISTRY & MATHEMATICS

Pattern - CPT-1 | **QP Code:** | **PAPER - 1**

Time Allotted: 3 Hours **Maximum Marks: 198**

- Please read the instructions carefully. You are allotted 5 minutes specifically for this purpose.
- You are not allowed to leave the Examination Hall before the end of the test.

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. Blank Papers, clip boards, log tables, slide rule, calculator, cellular phones, pagers and electronic devices, in any form, are not allowed.

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 HB pencil 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.

C. Marking Scheme For All Two Parts.

(i) **Part-A (01-06) –** Contains six (06) multiple choice questions which have ONLY ONE CORRECT answer Each question carries **+3 marks** for correct answer and **-1 marks** for wrong answer.

(ii) **Part-A (07-12) –** Contains seven (06) multiple choice questions which have **One or More** correct answer.
Full Marks: **+4** If only the bubble(s) corresponding to all the correct options(s) is (are) darkened.
Partial Marks: **+1** For darkening a bubble corresponding **to each correct option,** provided NO incorrect option is darkened.
Zero Marks: **0** If none of the bubbles is darkened.
***Negative Marks*: –2 In all other cases.**
For example, if **(A), (C) and (D)** are all the correct options for a question, darkening all these three will result in **+4 marks**; darkening only **(A) and (D)** will result in **+2 marks**; and darkening **(A) and (B)** will result in **–2** marks, as a wrong option is also darkened.

(ii) **Part-B (01-06)** contains Six (06) Numerical based questions, the answer of which maybe positive or negative numbers or decimals (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 :_____

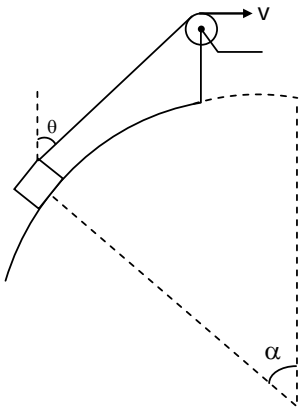
SECTION-1 : PHYSICS

PART – A

(Single Correct Choice Type)

This section contains **6 multiple choice questions**. Each question has four choices (A), (B), (C) and (D) out of which **ONLY ONE is correct.**

1. A block is dragged on smooth curved plane with the help of a rope which moves with a speed v as shown in figure. The speed of block at this instant will be



(A) $\frac{V}{\sin(\theta+\alpha)}$

(B) $\frac{V}{\cos(\theta+\alpha)}$

(C) $\frac{V}{\sin(\theta-\alpha)}$

(D) none of the above

1. **A**

2. The magnitude of a vector '$\vec{a}$' is constant, but its direction is not constant then

(A) $\frac{d\vec{a}}{dt}$ and $\vec{a}$ are in same direction.

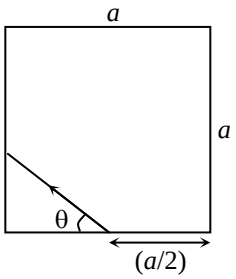
(B) $\frac{d\vec{a}}{dt}$ is opposite to $\vec{a}$

(C) $\frac{d\vec{a}}{dt}$ is perpendicular to $\vec{a}$

(D) none of these

2. **C**

3. There is a square carom board of side *a*. A striker is projected in hole after two successive collisions. Assuming the collisions to be perfectly elastic and the surface to be smooth. The angle of projection of striker is

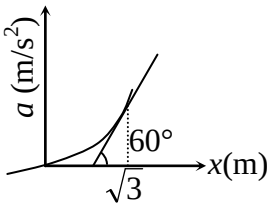


(A) $\cot^{-1}\left(\frac{3}{4}\right)$ (B) $\cos^{-1}\left(\frac{3}{4}\right)$

(C) $\sin^{-1}\left(\frac{3}{4}\right)$ (D) none of these

3. **A**

4. A particle starts moving with initial velocity of 3 m/s along *x*-axis from origin. Its acceleration is varying with position (*x*) in parabolic nature as shown in figure. A tangent to the graph is drawn at $x=\sqrt{3}$ m. The tangent makes an angle of 60° with the *x*-axis. At this position the velocity of particle is



(A) $\sqrt{\sqrt{3}+9}$ m/s (B) $\sqrt{\sqrt{3}+6}$ m/s (C) $\sqrt{3}$ m/s (D) $\sqrt{6}$ m/s

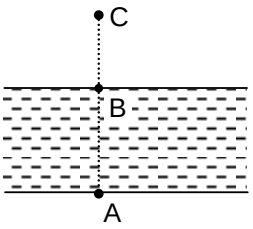
4. **A**

5. Two particles *A* and *B* are separated from each other by a distance *l*. At time *t* = 0, particle *A* starts moving with uniform acceleration *a* along a line perpendicular to the initial line joining *A* and *B*. At the same moment, particle *B* starts moving with acceleration of constant magnitude *b* (> *a*) such that particle *B* always points towards the instantaneous position of *A*. The distance travelled by *B* till the moment *B* converges with *A* will be

(A) $\frac{b^2 l}{b^2 - a^2}$ (B) $\frac{a^2 l}{b^2 - a^2}$ (C) $\frac{(b^2 + a^2) l}{b^2 - a^2}$ (D) $\frac{(b^2 - a^2) l}{b^2 + a^2}$

5. **A**

6. A river of width d is flowing with uniform velocity u. A boat starts moving from point A (one bank of river) with speed u relative to the river. The direction of resultant velocity is always perpendicular to line joining boat and fixed point C (see figure). Point B is on the opposite side of the river and A, B, C are in straight line. If AB = BC = d. The time taken by the boat to cross the river is



(A) $\frac{d}{u}$ (B) $\frac{d}{u}\ln\left[2+\sqrt{3}\right]$ (C) $\frac{d}{u}\ln\left[2-\sqrt{3}\right]$ (D) $\frac{2d}{u}$

6. **B**

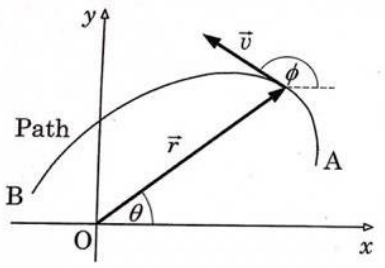
(Multi Correct Choice Type)

This section contains 6 **multiple choice questions.** Each question has four choices (A), (B), (C) and (D) out of which **ONE OR MORE** may be correct.

7. Particle A moves with a constant speed 2 m/s on a circular path of radius 4 m, whereas particle B moves on a straight-line coinciding with a diameter of the circular path, maintaining a constant distance 4 m from the particle A. Which of the following conclusions can be drawn?
(A) Maximum speed of B is 4 m/s.
(B) Maximum acceleration of B is 2 m/s^2
(C) During one revolution of A, distance travelled by B is 32 m.
(D) Modulus of velocity of a particle relative to the other is a constant.

7. **ABCD**

8. At a particular instant of time, position vector $\vec{r}$, velocity vector $\vec{v}$ and angular position θ of a particle traversing a path AB are shown in the figure. Here ϕ is the angle made by the velocity vector with the positive x-axis. Which of the following statements is/are correct?



(A) Modulus of angular velocity is $\frac{d\theta}{dt} = \frac{v\sin(\phi - \theta)}{r}$.

(B) Modulus of tangential component of acceleration is $r\frac{d^2\theta}{dt^2}$.

(C) Modulus of normal component of acceleration is $v\frac{d\theta}{dt}$.

(D) Modulus of normal component of acceleration is $v\frac{d\phi}{dt}$.

8. **AD**

9. A model rocket fired from the ground ascends with a constant upward acceleration. A small bolt is dropped from the rocket 1.0 s after the firing and fuel of the rocket is finished 4.0 s after the bolt is dropped. Air-time of the bolt is 2.0 s. Acceleration of free fall is 10 m/s^2. Which of the following statements is/are correct?
(A) Acceleration of the rocket while ascending on its fuel is 8.0 m/s^2.
(B) Fuel of the rocket was finished at a height 100 m above the ground.
(C) Maximum speed of the rocket during its upward fight is 40 m/s.
(D) Total air-time of the rocket is 15 s.

9. **ABCD**

10. A cylindrical pipe of radius r is rolling towards a frog sitting on the horizontal ground. Centre of the pipe is moving with a constant velocity v. To save itself, the frog jumps off and passes over the pipe touching it only at the top. Denoting air-time of the frog by T, horizontal range of the jump by R and acceleration due to gravity by g, which of the following conclusions can you make?

(A) $T = 4\sqrt{\frac{r}{g}}$ (B) $T \geq 4\sqrt{\frac{r}{g}}$

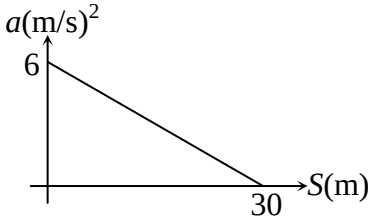
(C) $R = 4(\sqrt{gr} - v)\sqrt{\frac{r}{g}}$ (D) $R \geq 4(\sqrt{gr} - v)\sqrt{\frac{r}{g}}$

10. **AD**

11. The magnitude of component of a vector may be
(A) greater than the magnitude of that vector.
(B) equal to the magnitude of that vector
(C) smaller then the magnitude of that vector
(D) zero

11. **ABCD**

12. A train starts from rest at S = 0 and is subjected to acceleration as shown



(a) Change in velocity at the end of 10 m displacement is 50 m/s.

(b) Velocity of the train for S = 10 m is 10 m/s.

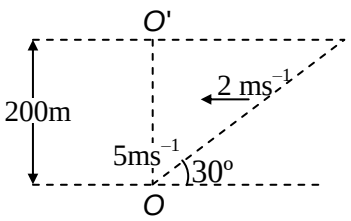
(c) The maximum velocity attained by train is not greater than 14 m/s

(d) The maximum velocity of the train is between 15 m/s and 16 m/s.

12. **BC**

PART – B
(Numerical based)

1. A boy swims in a straight line to reach the other side of a river. His velocity is 5 ms^{-1} and the angle of swim with shore is 30º. Flow of river opposes his movement at 2 ms^{-1}. If width of river is 200 m, where does he reach the other bank.



1. **186.6**

2. A particle is projected with a velocity $2\sqrt{ag}$ so that it just clears two walls of equal height '*a*', which are at a distance 2*a* apart. Find the time of passing between the walls if "a" = 20 m .

2. **2.82**

3. A bottle was released from rest from a height of 60 m above the ground. Simultaneously, a stone was thrown from a point on the ground 60 m distant horizontally from the bottle, with a velocity *u* at an angle of projection of θ, in a vertical plane containing the bottle. If the stone strikes the bottle 3 s after the instant of projection, find the velocity *u* of projection.

3. **28.2**

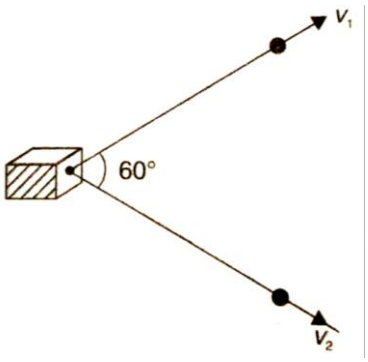
4. A terrorist places a bomb at a horizontal distance of 6 m from the foot of building of height 8 m. When the bomb explodes its fragments fly in all directions with a velocity upto 20 m/s. Find how long a man on the top of the building will be in danger. ($g = 10\ ms^{-2}$)

4. **2.96**

5. A man starts running a race with a velocity 2.5 π m/s. When he starts running he finds the wind is blowing at an angle 45^0 with the track. As he progresses on the straight horizontal track he finds wind is rotating with uniform angular velocity and by the time he completes the race wind rotates through an angle 45^0. If the wind always blows perpendicular to the track and time of race is $\frac{10}{\ln\left(\sqrt{2}\right)}$ s, find the length of the race.

5. **100**

6. Two persons are pulling a heavy block with the help of horizontal inextensible strings. At the instant shown, the velocities of the two persons are v_1 and v_2 directed along the respective strings with the strings making an angle of 60° between them. Find the speed of the block at the instant shown.
(Given v_1 = 2m/sec v_2 = 1m/s)



6. **2**

SECTION-2 : CHEMISTRY

PART – A

(Single Correct Choice Type)

This section contains **6 multiple choice questions**. Each question has four choices (A), (B), (C) and (D) out of which **ONLY ONE is correct.**

1. 1.2 g of carbon is burnt completely in oxygen (limited supply) to produce CO and CO_2. This mixture of gases is treated with solid I_2O_5 (to know the amount of CO produced). The liberated iodine required 120 mL of 0.1 M hypo solution for complete titration. The % of carbon converted into CO is :
   (A) 60% (B) 100%
   (C) 50% (D) 30%

1. D

2. x gram of pure As_2S_3 is completely oxidised to respective highest oxidation states by 50 mL of 0.1 M hot acidified $KMnO_4$, then mass of As_2S_3 taken is : (Molar mass of As_2S_3 = 246)
   (A) 22.4 g (B) 43.92 g
   (C) 64.23 g (D) None of these

2. D

3. The volume occupied by 2.0 mole of N_2 at 200 K and 8.21 atm pressure, $\frac{P_C V_C}{RT_C} = \frac{3}{8}$ and $\frac{P_r V_r}{T_r} = 2.4$ is
   (A) 3.6 L (B) 4.7 L
   (C) 6.3 L (D) 7.4 L

3. A

4. $N_2 + 3H_2 \longrightarrow 2NH_3$. 1 mol N_2 and 4 mol H_2 are taken in 15 L flask at 27°C. After complete conversion of N_2 into NH_3, 5 L of H_2O is added. Pressure set up in the flask is:
   (A) $\frac{3\times 0.0821\times 300}{15}$ atm (B) $\frac{2\times 0.0821\times 300}{10}$ atm
   (C) $\frac{1\times 0.0821\times 300}{15}$ atm (D) $\frac{1\times 0.0821\times 300}{10}$ atm

4. D

5. H_2O_2 acts as both oxidising as well as reducing agent. As oxidising agent, its product is H_2O but as reducing agent, its product is O_2. Volume strength has great significance for chemical reactions. The strength of '10V' means 1 volume (or litre) of H_2O_2 on decomposition
   $\left(H_2O_2 \longrightarrow H_2O + \frac{1}{2}O_2\right)$ gives 10 volumes (or litre) of oxygen at NTP.
   15 g $Ba(MnO_4)_2$ sample containing inert impurity is completely reacting with 100 mL of '11.2 V' H_2O_2, then what will be the % purity of $Ba(MnO_4)_2$ in the sample:
   (Atomic mass : Ba = 137, Mn = 55)
   (A) 5% (B) 10%
   (C) 50% (D) none of these

5. C

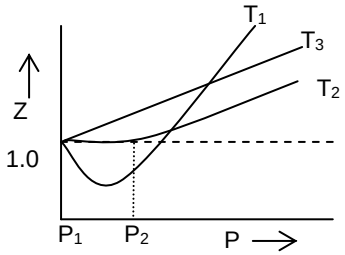
6. A mixture of 0.02 mole of $KBrO_3$ and 0.01 mole of KBr was treated with excess of KI and acidified. The volume of 0.1 M $Na_2S_2O_3$ solution required to consume the liberated iodine will be:
(A) 1000 mL (B) 1200 mL
(C) 1500 mL (D) 800 mL

6. B

(Multi Correct Choice Type)

This section contains 6 **multiple choice questions.** Each question has four choices (A), (B), (C) and (D) out of which **ONE OR MORE** may be correct.

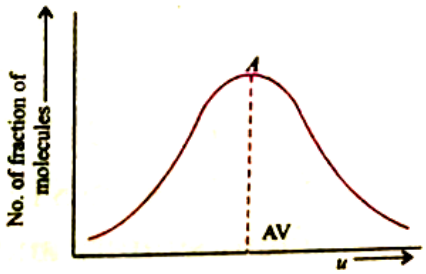
7. Following graph is plotted in between compressibility factor(z) versus pressure for a particular gas at different temperatures.



Which of the following statements is /are correct
(A) T_1 is less than Boyle temperature of the gas
(B) T_2 is the Boyle temperature of the gas in the range of P_1 and P_2
(C) T_3 is higher than Boyle temperature of the gas
(D) At the Boyle temp, the net attractive force is counterbalanced by net repulsive force and so there will be no net force and gas obeys ideal gas equation.

7. ABCD

8. Point A in the given curve shifts to higher value of velocity if
(A) T is increased
(B) P is decreased
(C) V is decreased
(D) Molecular weight M is decreased



8. AD

9. Select the correct statements
(A) Vapour may be condensed to liquid by the application of pressure.
(B) To liquefy a gas one must lower the temperature below T_C and apply pressure.
(C) At T_C, there is not distinction between liquid and vapour states.
(D) At the T_C, density of liquid is very high as compared to its gaseous state.

9. ABC

10. The hardness of water due to HCO_3^- is 122 ppm. Select the correct statement(s)
(A) The hardness of water in terms of $CaCO_3$ is 200 ppm
(B) The hardness of water in terms of $CaCO_3$ is 100 ppm
(C) The hardness of water in terms of $CaCl_2$ is 222 ppm
(D) The hardness of water in terms of $MgCl_2$ is 95 ppm

10. BD

11. To a 25 ml H_2O_2 solution excess acidified solution of KI was added. The iodine liberated 20 ml of 0.3 N sodium thiosulphate solution. Use these data to choose the correct statements from the following :
(A) The weight of H_2O_2 present in 25 ml solution is 0.102 g
(B) The molarity of H_2O_2 solution is 0.12 M
(C) The weight of H_2O_2 present in 1 L of the solution is 0.816 g
(D) The volume strength of H_2O_2 is 1.344 L

11. ABD

12. There are two sample of HCl having molarity 1N and 0.25 N. Find volume of these sample taken in order to prepare 0.75 N HCl solution. (Assume no water is used) :
(A) 20 mL, 10 mL (B) 100 mL, 50 mL
(C) 40 mL, 20 mL (D) 50 mL, 25 mL

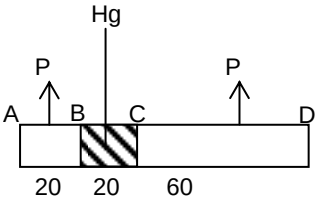
12. ABCD

PART – B
(Numerical based)

1. The average speed of 0.1 mole of gas A at 300 K was 460 m/s. The average speed of 0.2 mol of another gas B at 400K was 510 m/s. The above two samples were mixed without any transfer of energy with the surrounding. Calculate the average speed of gas mixture. Assume gases A and B do not react.

1. 493.9 m/s

2. A glass tube AD of uniform cross section of length 100 cm sealed at both ends contains two column's of ideal gas AB and CD separated by a column of mercury of length 20cm. When the tube is held horizontally AB = 20 cm and CD = 60 cm as picture -1. When the tube is held vertically with the end A up, the mercury column moves down 10 cm. What will be the length of the gas column AB when the tube is held vertically with the end D up?



picture - 1

2. 13.88 cm

3. At 1200°C, mixture of Cl_2 and Cl atoms (both in gaseous state) effuses 1.16 times as fast as krypton effuses under identical conditions. Calculate the fraction of chlorine molecules dissociated into atoms. M(Kr) = 83.8 g mol^{-1}.

3. 62.28

4. If 1 mL of a $KMnO_4$ solution react with 0.140 g Fe^{2+} and if 1 mL of $KHC_2O_4 . H_2C_2O_4$ solution react with 0.1 mL of previous $KMnO_4$ solution, how many millilitres of 0.20 M NaOH will react with 1 mL of previous $KHC_2O_4 . H_2C_2O_4$ solution in which all the protons (H^+) are ionisable?

4. 0.93 (Range 0.93 to 1.00)

5. What will be the volume strength of 100 mL of H_2O_2 required to react completely with 61 mL of $KMnO_4$ in acidic medium ? (Given that 61 mL of $KMnO_4$ reacts completely with 5 mL of 1 M $K_4[Fe(CN)_6]$, where it converts into K^+, Fe^{3+}, CO_3^{2-} and NO_3^-) :

5. 17.08 V

6. Oxalic acid decomposes in presence of UO_2^{2+} and loses its property This is used in estimating the amount of decomposed acid and quantum efficiency of the process. Here the efficiency is given to 50%. 1 L of 0.005 M oxalic acid solution was irradiated with light in the presence of UO_2^{2+} ion. 20 ml of the irradiated solution on titration required 25 ml of 0.005 N $KMnO_4$ solution. $X \times 10^{18}$ photons are absorbed per second if the solution was irradiated for 10.5 min. What is the value of X?

6. 3.58
(range 3.5 to 3.6)

SECTION-3 : MATHEMATICS

PART – A

(Single Correct Choice Type)

This section contains **6 multiple choice questions**. Each question has four choices (A), (B), (C) and (D) out of which **ONLY ONE is correct.**

1. If a, b $\in$ R and a + b $\geq$ 0, let P = $(a^2 + b^2)^3$ and Q = $32(a^3 + b^3)$ (ab – a – b), Then
   (A) P < Q $\forall$ a, b
   (B) P $\leq$ Q $\forall$ a, b
   (C) P $\geq$ Q $\forall$ a, b
   (D) none of the above

1. C

2. Let f(x, y, z) = cos x + cos y + cos z. The general solution of
   $f\left(x, \frac{2\pi}{3} - x, \frac{2\pi}{3} + x\right) = f(x, 2x, 3x)$ and $f(x, x, x) = \frac{3}{\sqrt{2}}$ is:
   (A) $x = (2n\pi + 1)\frac{\pi}{4}, n \in I$
   (B) $x = \frac{n}{4}, n \in z$
   (C) $x = 2n\pi \pm \frac{\pi}{4}, n \in z$
   (D) $x = 2n\pi \pm \frac{3\pi}{4}, n \in z$

2. C

3. The number of solution of the equation: $|\ell n|x|| = |\sin x|$ is:
   (A) 0
   (B) 2
   (C) 4
   (D) infinite

3. C

4. The number of solution of the equation 2[x] = x + 2 {x} (where [.] is G.I.F and {.} is fractional part)
   (A) 0
   (B) 2
   (C) 3
   (D) 5

4. C

5. For the curve represented implicitly as $\pi^x - e^y = \pi$, then value of $\lim_{x\to\infty}\left(\frac{dy}{dx}\right)$ is:
   (A) 1
   (B) 0
   (C) $\ell n\pi$
   (D) does not exist

5. C

6. Let "n" be an integer with n $\geq$ 2, then the value of the product
   $\left(\prod_{K=1}^{n} \tan\left(\frac{\pi}{3}\left(1 + \frac{3^K}{3^n - 1}\right)\right)\right)\left(\prod_{K=1}^{n} \tan\left(\frac{\pi}{3}\left(1 - \frac{3^K}{3^n - 1}\right)\right)\right)$ is
   (A) 0
   (B) 1
   (C) $\sqrt{3}$
   (D) $\frac{1}{\sqrt{3}}$

6. B

(Multi Correct Choice Type)

This section contains 6 **multiple choice questions.** Each question has four choices (A), (B), (C) and (D) out of which **ONE OR MORE** may be correct.

7. The value of $\cot 7\frac{1^\circ}{2} - \cot 37\frac{1^\circ}{2} - \cot 52\frac{1^\circ}{2} + \cos 82\frac{1^\circ}{2}$ is not equal to

(A) $4\sqrt{2}$ (B) $2\sqrt{2}$

(C) $\sqrt{2}$ (D) 4

7. BCD

8. For $f(x) = e^x + e^{-x} - 2\cos x$, identify correct option(s):

(A) $\lim\limits_{x\to 0} \frac{f(x)}{\ell n(1-x^2)} = -2$

(B) $\lim\limits_{x\to 0} \frac{f(x)}{\ell n(1-x^2)}$ does not exist

(C) least value of 'n', for which $\frac{d^n}{dx^n}\left(f(x) - 2x^2\right)$ at x = 0 is non-zero, is 4

(D) least value of 'n', for which $\frac{d^n}{dx^n}\left(f(x) - 2x^2\right)$ at x = 0 is non-zero, is 6

($\frac{d^n}{dx^n}$ denotes nth derivative)

8. AD

9. If the equation $x^4 + px^3 + qx^2 + rx + 5 = 0$ has four positive real root's. Then

(A) P can be –10 (B) r can be –20

(C) $pr \geq 80$ (D) none of these

9. ABC

10. If Radii of three concentric circles are related as $r_1(r_2 + r_3) + r_2(r_3 + r_1) + r_3(r_1 + r_3) = 118$ and $\sum \frac{r_1^2 + r_2^2}{r_1 r_2} = \frac{44}{5}$, then area of enclosed region between any two circles can be:

(A) 21π (B) 45π

(C) 32π (D) 19π

10. AB

11. $1 - \cos^2(\alpha+\beta) \geq \frac{1}{1+\cos^2(\alpha+\beta)}$, then $\cos\alpha + \sin\beta$ is: (where $\sin(\alpha+\beta) \neq 1$)

(A) 1 (B) 0

(C) -1 (D) All Of Above

11. B

12. A hexagon inscribed in a circle has three consecutive sides of length 3 units and other three consecutive sides of length 5 units, then the radius of circle is:

(A) $\frac{7}{\sqrt{3}}$ units (B) $\frac{5}{\sqrt{2}}$ units

(C) $2\sqrt{3}$ units (D) 4 units

12. A

PART – B
(Numerical based)

13. If $\lim_{x\to\infty} x^a\left(\sqrt{x^2+\sqrt{x^4+1}}-\sqrt{2}x\right)$ exist and has value non-zero finite real number L, then the value of $100-\frac{a}{L^2}$ is:

13. 4

14. Let ABCD is Parallelogram whose acute angle is $\frac{\pi}{3}$, then ratio of lengths of sides of Parallelogram, if the ratio of square of the lengths of the diagonal is 1 : 3 is $\lambda:1$. Then value of λ is:

14. 1

15. If $x^{2015}+7x^3+6x^2+5x$ is divided by (x^2-1) and get q(x) as a quotient. Then coefficient of "x" in q(x) is:

15. 8

16. Value Of $\sum_{r=1}^{160}\left(\frac{(\log_{r+1}3)(\log_{r+2}3)}{\log_{\left(\frac{r+2}{r+1}\right)^3}}\right)(\log_3 162)(\log_3 2)$ is:

16. 4

17. The least value of x satisfying $\frac{1}{[x]}+\frac{1}{[x]}=\{x\}+\frac{1}{3}$ (where {x} is G.I.F and {.} is fractional part)

17. 2.41

18. Number of ordered pair(s) (x, y) that satisfying. The inequation $y-|x|>,1+\sqrt{x^2+y^2-1}$ is/are

18. 1

ANSWERS

SECTION-1 : PHYSICS

PART – A

PART – B

SECTION – 2 : CHEMISTRY

PART – A

PART – B

SECTION – 3 : MATHEMATICS

PART – A

PART – B