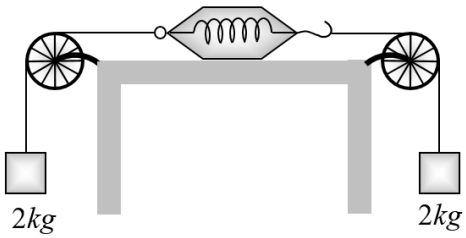
## Section-I (PHYSICS)

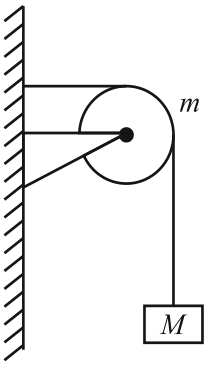
***Single Correct Type Question* (1 *to* 20)**

**1.** As shown in the figure, two equal masses each of 2 *kg* are suspended from a spring balance. The reading of the spring balance will be



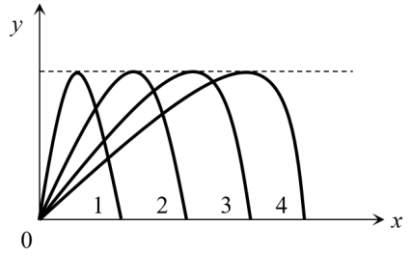

(1) Zero (2) 2 kg
(3) 4 kg (4) Between zero and 2 kg

**2.** A string of negligible mass going over a clamped pulley of mass *m* supports a block of mass *M* as shown in the figure. The force on the pulley by the clamp is given by




(1) $\sqrt{2}Mg$
(2) $\sqrt{2}mg$
(3) $\sqrt{(M+m)^2+m^2}\,g$
(4) $\sqrt{(M+m)^2+M^2}\,g$

**3.** Figure shows four paths for a kicked football. Ignoring the effects of air on the flight, rank the paths according to initial horizontal velocity component, highest first

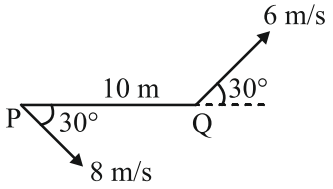



(1) 1, 2, 3, 4
(2) 2, 3, 4, 1
(3) 3, 4, 1, 2
(4) 4, 3, 2, 1

**4.** Two bodies are thrown up at angles of 45° and 60° respectively, with the horizontal. If both bodies attain same vertical height, then the ratio of velocities with which these are thrown is

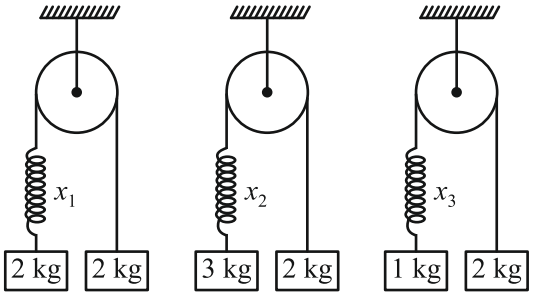
(1) $\sqrt{\frac{2}{3}}$ (2) $\frac{2}{\sqrt{3}}$
(3) $\sqrt{\frac{3}{2}}$ (4) $\frac{\sqrt{3}}{2}$

**5.** Two moving particle P and Q are 10 m apart at a certain instant. The velocity of P is 8m/s making an angle 30° with the line joining P and Q and that of Q is 6m/s making an angle 30° with PQ as shown in the figure. Then angular velocity of P with respect to Q is



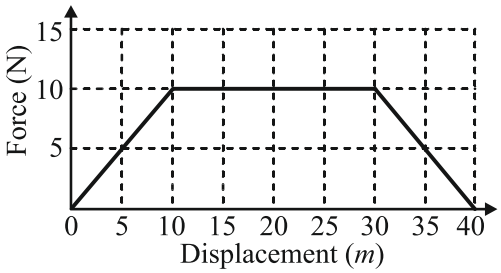

(1) Zero (2) 0.1 rad/sec
(3) 0.4 rad/sec (4) 0.7 rad/sec

**6.** Same spring is attached with 2kg, 3kg and 1 kg blocks in three different cases as shown in figure. If $x_1$, $x_2$ and $x_3$ be the extensions in the spring in these three cases then



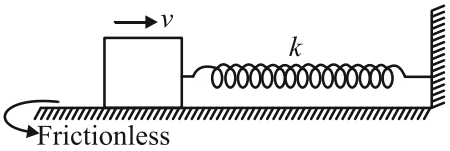

(1) $x_1 = 0$, $x_3 > x_2$ (2) $x_2 > x_1 > x_3$
(3) $x_3 > x_1 > x_2$ (4) $x_1 > x_2 > x_3$

**7.** Adjacent figure shows the force-displacement graph of a moving body. The work done in displacing body from $x = 0$ to $x = 35$ m is equal to



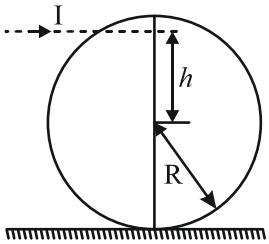

(1) 50 J (2) 25 J
(3) 287.5 J (4) 200 J

**8.** A block of mass *m* is given a speed *v* when spring of constant *k* is in its natural length as shown in figure. Remaining kinetic energy of the block when spring is compressed by half of maximum compression is




(1) 25%
(2) 50%
(3) 75%
(4) Any value less than 50%

**9.** A solid sphere rests on a horizontal surface. A horizontal impulse is applied at height $h$ from centre. The sphere starts rolling just after the application of impulse. The ratio $h/r$ will be




(1) $\frac{1}{2}$ (2) $\frac{2}{5}$

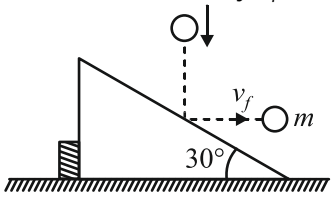
(3) $\frac{1}{5}$ (4) $\frac{2}{3}$

**10.** A spring, which is initially in its unstretched condition, is first stretched by a length $x$ and then again by a further length $x$. The work done in the first case is $W_1$ and in the second case is $W_2$. Then,

(1) $W_2 = W_1$ (2) $W_2 = 2W_1$

(3) $W_2 = 3W_1$ (4) $W_2 = 4W_1$

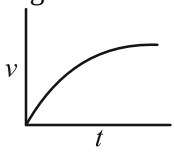
**11.** As shown in the figure, a body of mass m moving vertically with speed 3 m/s hits a smooth fixed inclined plane and rebounds with a velocity $v_f$ in the horizontal direction. If angle of plane with horizontal is 30°, the velocity $v_f$ will be

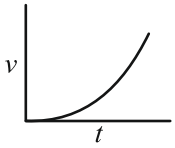


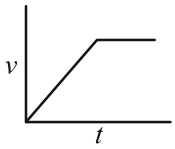

(1) 3 m/s (2) $\sqrt{3}$ m/s

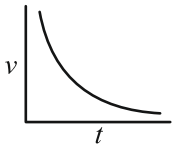
(2) $\frac{1}{\sqrt{3}}$ m/s (4) 2 m/s

**12.** A piece of cork starts from rest at the bottom of a lake and floats up. Its velocity $v$ is plotted against time $t$. Which of the following best represents the resulting curve?

(1) 


(2) 


(3) 

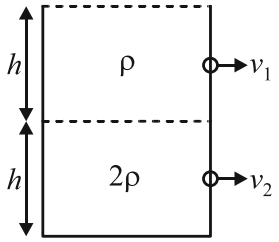

(4) 


**13.** Two soap bubbles with radii $r_1$ and $r_2$ ($r_1 > r_2$) come in contact. Their common surface has a radius of curvature $r$.

(1) $r = \frac{r_1 + r_2}{2}$ (2) $r = \frac{r_1 r_2}{r_2 - r_1}$

(3) $r = \frac{r_1 r_2}{r_1 + r_2}$ (4) $r = \sqrt{r_1 r_2}$

**14.** Equal volume of two immiscible liquids of densities $\rho$ and $2\rho$ are filled in a vessel as shown in figure. Two small holes are punched at depth $\frac{h}{2}$ and $\frac{3h}{2}$ from the surface of lighter liquid. If $v_1$ and $v_2$ are the velocities of efflux at these two holes, then $\frac{v_1}{v_2}$ is




(1) $\frac{1}{4}$ (2) $\frac{1}{2}$

(3) $\frac{1}{\sqrt{2}}$ (4) $\frac{1}{2\sqrt{2}}$

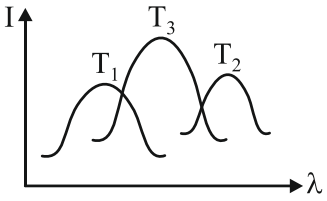
**15.** Assuming the sun to be a spherical body of radius $R$ at a temperature of $T$ K, evaluate the total radiant power, incident on the Earth, at a distance $r$ from the Sun

(1) $\frac{R^2\sigma T^4}{r^2}$ (2) $\frac{4\pi r_0^2 R^2 \sigma T^4}{r^2}$

(3) $\frac{\pi r_0^2 R^2 \sigma T^4}{r^2}$ (4) $\frac{r_0^2 R^2 \sigma T^4}{4\pi r^2}$

(Where $r_0$ is the radius of the Earth and $\sigma$ is Stefan's constant.)

**16.** The plots of intensity radiation versus wavelength of three black bodies at temperatures $T_1$, $T_2$ and $T_3$ are shown. Then:




(1) $T_3 > T_2 > T_1$

(2) $T_1 > T_2 > T_3$

(3) $T_2 > T_3 > T_1$

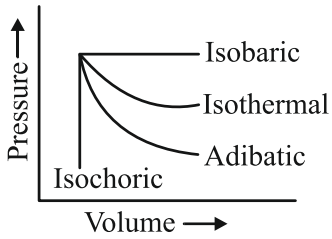
(4) $T_1 > T_3 > T_2$

**17.** The coefficient of linear expansion of crystal in one direction is $\alpha_1$ and that in every direction perpendicular to it $\alpha_2$. The coefficient of cubical expansion is:

(1) $\alpha_1 + \alpha_2$ (2) $2\alpha_1 + \alpha_2$

(3) $\alpha_1 + 2\alpha_2$ (4) none of these

**18.** The amount of work done (in P-V diagram) by the gas during expansion is greatest for



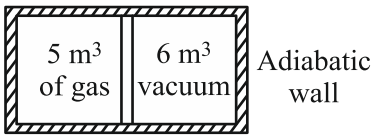

(1) Isobaric process

(2) Isothermal process

(3) Adiabatic process

(4) Same in each process

**19.** A movable piston separates a sample of gas from vacuum. In this state, pressure of gas is $P$, then find pressure after piston is released




(1) $P$

(2) $6P$

(3) $\frac{5P}{11}$

(4) Pressure is not defined because it is a free expansion

**20.** A sound wave of frequency 245 Hz travels with the speed of 300 $ms^{-1}$ along the positive x-axis. Each point of the wave moves to and fro through a total distance of 6 cm. What will be the mathematical expression of this travelling wave?

(1) $Y(x, t) = 0.06\ [\sin 0.8x - (0.5 \times 10^3)^t]$

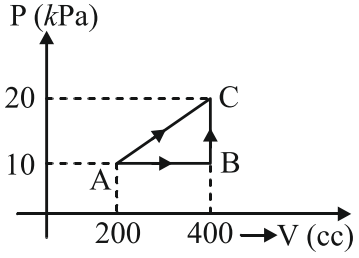
(2) $Y(x, t) = 0.03\ [\sin 5.1x - (1.5 \times 10^3)t]$

(3) $Y(x, t) = 0.03\ [\sin 5.1x - (0.2 \times 10^3)^t]$

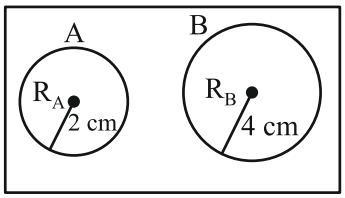
(4) $Y(x, t) = 0.06\ [\sin 5.1x - (1.5 \times 10^3)t]$

***Integer Type Question* (21 to 30)**

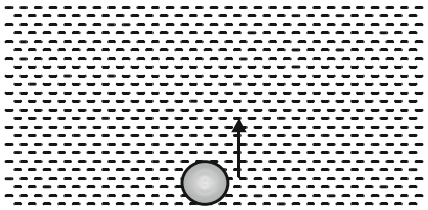
**21.** If a gas is taken from $A$ to $C$ through $B$ then heat absorbed by the gas is 8 J. Heat (in J) absorbed by the gas in taking it from $A$ to $C$ directly is




**22.** Two soap bubbles $A$ and $B$ are kept in a closed chamber where the air is maintained at pressure 8 $N/m^2$. The radii of bubbles $A$ and $B$ are 2 cm and 4 cm, respectively. Surface tension of the soap water used to make bubbles is 0.04 N/m. Find the ratio $n_B/n_A$, where $n_A$ and $n_B$ are the number of moles of air in bubbles $A$ and $B$, respectively. (Neglect the effect of gravity.)

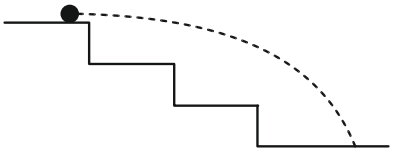



**23.** An air bubble doubles its radius on raising from the bottom of water reservoir to be the surface of water in it. If the atmospheric pressure is equal to 10 m of water, the height (in metre) of water in the reservoir is

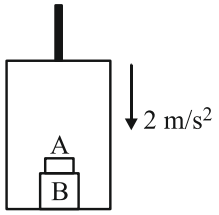


**24.** A physical quantity $P$ is given by the relation. $P = P_0 e^{(-\alpha t^2)}$. If $t$ denotes the time, the dimensions of constant $\alpha$ are $[T^{-x}]$ then find value of $x$.

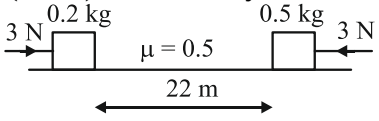
**25.** A staircase contains three steps each 10 cm high and 20 cm wide (figure). What should be the minimum horizontal velocity of a ball rolling off the uppermost plane so as to hit directly the lowest plane?



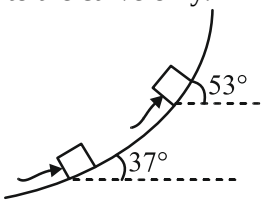
**26.** The elevator shown in figure is descending with an acceleration of 2 $m/s^2$. The mass of the block A is 0.5 kg. What force is exerted by the block A on the block B?



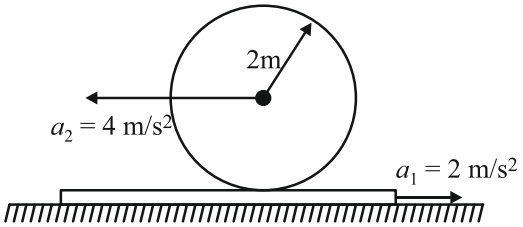

**27.** Two blocks of mass 0.2 kg and 0.5 kg, which are placed 22 m apart on a rough horizontal surface ($\mu = 0.5$), are acted upon by two forces of magnitude 3 N each as shown in figure at time $t = 0$. Then, find the time $t$ (in sec) at which they collide each other.



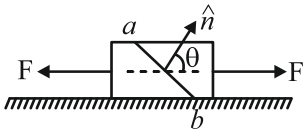
**28.** A man can just push a box on 37° concrete slope. When he keeps it at the point where the angle increases to 53°, he can just hold it from sliding back. If the coefficient of friction between the box and the concrete slope is μ, find $\frac{1}{\mu}$. Assume that the man is applying same magnitude of force along the tangent to the curve only.




**29.** In Fig., a sphere of radius 2 m rolls on a plank. The accelerations of the sphere and the plank are indicated. The value of α (in rad/s$^2$) is




**30.** A rod of area of cross-section *A* is being acted upon by two forces *F* – *F* as shown in figure. Consider a section *ab* of rod whose normal makes angle θ with horizontal. The shear stress upon this section is maximum when $\theta = \frac{180^o}{n}$. Find *n*.




## Section-II (CHEMISTRY)

***Single Correct Type Question* (31 *to* 50)**

**31.** The molarity of aqueous NaCl solution which contains 5.85 g NaCl in 500 ml solution is:

(1) $\frac{1}{5}$ (2) $\frac{1}{2}$

(3) $\frac{3}{5}$ (4) $\frac{2}{5}$

**32.** Square planar molecule among the following is:

(1) $CH_4$ (2) $SF_4$

(3) $XeF_4$ (4) $ClF_3$

**33.** Maximum critical temperature is of:

(1) $CO_2$ (2) $N_2$

(3) $H_2$ (4) $NH_3$

**34.** If $K_c$ for the reaction $N_2(g) + O_2(g) \rightleftharpoons 2NO(g)$ is *x*, then $K_c$ for the reaction

$NO(g) \rightleftharpoons \frac{1}{2}N_2(g) + \frac{1}{2}O_2(g)$ will be:

(1) $x^2$ (2) $\frac{1}{x}$

(3) $\frac{1}{x^2}$ (4) $\frac{1}{\sqrt{x}}$

**35.** Which of the following is not a permanent effect?

(1) Inductive effect

(2) Electromeric effect

(3) Resonance effect

(4) No bond resonance

**36.** Match the following and choose the correct option:

| **Metals** | **Flame colour** |
|---|---|
| (1) Calcium | (p) Brick red |
| (2) Strontium | (q) Crimson |
| (3) Barium | (r) Apple green |
| (4) Magnesium | (s) No colour |

(1) 1(s) 2(p) 3(r) 4(q)

(2) 1(r) 2(s) 3(p) 4(q)

(3) 1(s) 2(r) 3(q) 4(p)

(4) 1(p) 2(q) 3(r) 4(s)

**37.** Which of the following cannot be prepared by Wurtz reaction?

(1) $CH_4$ (2) $C_6H_6$

(3) $CH \equiv CH$ (4) All of these

**38.** Maximum prescribed limit of Cd in drinking water is:

(1) 0.2 mg/dm$^3$ (2) 5.0 mg/dm$^3$

(3) 0.005 mg/dm$^3$ (4) 0.05 mg/dm$^3$

**39.** Maximum electronegativity among the following is of:

(1) B (2) Al

(3) Ga (4) In

**40.** Most basic among the following in aqueous medium is:

(1) $NH_3$

(2) $(CH_3)_2NH$

(3) $(CH_3)_3N$

(4) $CH_3NH_2$

**41.** **Statement I:** The relation between pH and pOH is given by the following expression:
$pH - pOH = pK_w$
**Statement II:** For neutral water at 25°C $[H_3O^+] = [OH^-] = 10^{-7}$ M
(1) Statement I and II both are correct and statement II is the correct explanation of statement I
(2) Statement I is correct but statement II is incorrect
(3) Statement I is incorrect but statement II is correct
(4) Statement I and II both are correct but statement II is not the correct explanation of statement I

**42.** The wave number of radiation having wavelength 5000 $\mathring{A}$ is:
(1) $2 \times 10^{-7}\ cm^{-1}$ (2) $2 \times 10^{-6}\ cm^{-1}$
(3) $2 \times 10^{4}\ cm^{-1}$ (4) $2 \times 10^{6}\ cm^{-1}$

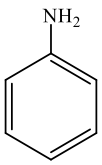
**43.** The correct order of ionization enthalpy is:
(1) Li > Be > B
(2) Be > B > Li
(3) Be > Li > B
(4) B > Be > Li

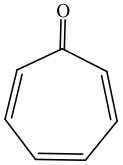
**44.** Lowest energy among the following for a multielectron atom is:
(1) 5d subshell (2) 4f subshell
(3) 6p subshell (4) 7s subshell

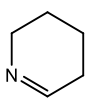
**45.** Select incorrect statement from the following:
(1) Dipole moment of $NH_3$ is greater than $NF_3$
(2) $BF_3$ is a non-polar molecule
(3) $1D = 3.33564 \times 10^{30}\ C\,m$
(4) $CO_2$ molecule contains polar bonds

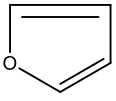
**46.** Which of the following is a path function?
(1) w (2) U
(3) H (4) G

**47.** Which of the following can form stable superoxide?
(1) Ba (2) Ca
(3) Na (4) Rb

**48.** Heterocyclic aromatic compound among the following is:
(1) 

(2) 

(3) 

(4) 


**49.** If enthalpy of combustion of butane is –2658 kJ $mol^{-1}$ then how much heat energy will be released by the combustion of 5.8 g of butane?
(1) 332.25 kJ (2) 132.9 kJ
(3) 265.8 kJ (4) 664.5 kJ

**50.** Which of the following set of quantum numbers is possible?
(1) n = 4 $l$ = 4 m = –3 $s = +\frac{1}{2}$
(2) n = 4 $l$ = 3 m = –2 $s = -\frac{1}{2}$
(3) n = 2 $l$ = 3 m = +3 $s = +\frac{1}{2}$
(4) n = 4 $l$ = 4 m = +4 $s = -\frac{1}{2}$

***Integer Type Question*** **(51 to 60)**

**51.** Strength of 30 V $H_2O_2$ is _____g/L.
(Roundoff your answer to a whole number)

**52.** How many functional groups are present in Lactic acid?

**53.** Total number of electrons present in antibonding molecular orbitals of $O_2$ are _____.

**54.** In Carius method of estimation of halogens, 0.20 g of an organic compound gave 0.188 g of AgBr. The percentage of bromine in the compound is _____%

**55.** How many geminal dibromides are possible for molecular formula $C_3H_6Br_2$?

**56.** The total number of moles of $O_3$ are required during the reductive ozonolysis of 1 mole of benzene is _____.

**57.** The sum of atomic numbers of most electronegative element and most negative electron gain enthalpy element is _____.

**58.** The number of protons present in the nucleus of the element which shows highest oxidation state in $4^{th}$ period of modern periodic table is _____.

**59.** The total number of planar atoms present in diborane molecule is _____.

**60.** The total number of degenerate orbitals present in $3^{rd}$ shell of $He^+$ ion is _____.

## Section-III (MATHEMATICS)

***Single Correct Type Question* (61 *to* 80)**

**61.** If $y=\log_{10}x+\log_x 10+\log_x x+\log_{10}10$, then $\frac{dy}{dx}$ is equal to

(1) $\frac{1}{x\log_e 10}-\frac{\log_e 10}{x(\log_e x)^2}$

(2) $\frac{1}{x\log_e 10}-\frac{1}{x\log_{10} e}$

(3) $\frac{1}{x\log_e 10}-\frac{\log_e 10}{x(\log_e x)}$

(4) $\frac{1}{x}$

**62.** In a certain town 25% families own a cell phone, 15% families own a scooter and 65% families own neither a cell phone nor a scooter. If 1500 families own both a cell phone and a scooter, then the total number of families in the town is

(1) 10,000 (2) 20,000

(3) 30,000 (4) 40,000

**63.** The number of ways of arranging 8 men and 4 women around a circular table such that no two women sit together is

(1) 8! (2) 4!

(3) 8!4! (4) $7!{}^8P_4$

**64.** A ray of light coming from the point (1, 2) is reflected at a point *A* on the *x*-axis and then passes through the point (5, 3). The coordinates of the point *A* are :-

(1) $\left(\frac{13}{5},0\right)$ (2) $\left(\frac{5}{13},0\right)$

(3) (–7, 0) (4) (7, 0)

**65.** If $|z-4|<|z-2|$, then

(1) $\mathrm{Re}(z)>0$ (2) $\mathrm{Re}(z)<0$

(3) $\mathrm{Re}(z)>3$ (4) $\mathrm{Re}(z)>2$

**66.** Distance between the lines represented by the equation $x^2+2\sqrt{3}xy+3y^2-3x-3\sqrt{3}y-4=0$, is

(1) $\frac{5}{2}$ (2) $\frac{5}{4}$

(3) 5 (4) 0

**67.** If $f(x)=\prod_{k=1}^{999}(x^2-47x+k)$, then product of all real roots of $f(x) = 0$

(1) 550! (2) 551!

(3) 552! (4) 999!

**68.** If $\frac{2-|x|}{3-|x|}\geq 1$, then

(1) $x\in(-\infty,2)\cup(3,\infty)$

(2) $x \in (–3, 3)$

(3) $x\in(-\infty,-3)\cup(3,\infty)$

(4) $x\in\phi$

**69.** Two cards are drawn from a well shuffled pack of 52 cards. The probability that atmost one of them is a card of ace is equal to (Assume cards are drawn without replacement)

(1) $\frac{32}{221}$ (2) $\frac{220}{221}$

(3) $\frac{16}{221}$ (4) $\frac{33}{221}$

**70.** If *z* satisfies $iz^2=\overline{z}^2+z$, then arg *z* is equal to (*z* is non-zero complex number) -

(1) $\frac{\pi}{4}$ (2) $-\frac{\pi}{4}$

(3) $\frac{3\pi}{2}$ (4) $-\frac{3\pi}{4}$

**71.** The general solution of the equation $\frac{1-\sin x+\sin^2 x-.....\text{ upto}\infty\text{ terms}}{1+\sin x+\sin^2 x+....\text{ upto}\infty\text{ terms}}=\frac{1-\cos 2x}{1+\cos 2x}$ is :-

(1) $n\pi+(-1)^n\pi/6,\ 2n\pi-\pi/2$

(2) $n\pi-(-1)^n\pi/6,\ 2n\pi+\pi/2$

(3) $n\pi+(-1)^n\pi/6$

(4) $2n\pi-\pi/2$

**72.** The co-ordinates of a point on the parabola $y^2 = 8x$ whose focal distance is 4 is:

(1) $(2,\ \pm 4)$ (2) $(\pm 2,\ 4)$

(3) $(–2,\ \pm 4)$ (4) $(\pm 2,\ –4)$

**73.** If $S_n=\frac{n(n+1)(n+2)}{6}$ then $\sum_{n=1}^{\infty}\frac{1}{t_n}=$

(1) 1 (2) 6

(3) 2 (4) 1/6

**74.** If $\sum_{i=1}^{9}(x_i-5)=9$ and $\sum_{i=1}^{9}(x_i-5)^2=45$ then the standard deviation of the nine items $x_1, x_2, ..., x_9$ is

(1) 2 (2) 3

(3) 4 (4) 9

**75.** If *A* and *B* are the vertices of the triangle *ABC* and are given by (2, 5) and (4, –11) respectively, and *C* moves along the line $L \equiv –9x + 7y + 4 = 0$, then the locus of the centroid of the triangle *ABC* is

(1) $9x + 7y – 8 = 0$

(2) $27x + 21y – 8 = 0$

(3) $7x – 9y – 8 = 0$

(4) $27x – 21y = 100$

**76.** Let $a$ and $b$ respectively be the semi-transverse and semi-conjugate axes of a hyperbola whose eccentricity satisfies the equation $9e^2 - 18e + 5 = 0$. If $S(5, 0)$ is a focus and $5x = 9$ is corresponding directrix of this hyperbola, then $a^2 - b^2$ is equal to:

(1) $-7$ (2) $-5$

(3) 5 (4) 7

**77.** The sum of the series
$^{2020}C_0 - {}^{2020}C_1 + {}^{2020}C_2 - {}^{2020}C_3 + ... + {}^{2020}C_{1010}$ is

(1) $\frac{1}{2}{}^{2020}C_{1010}$ (2) $^{2020}C_{1010}$

(3) 0 (4) $\frac{-1}{2}{}^{2020}C_{1010}$

**78.** The domain of the function

$f(x) = \sqrt{\log_{10}\left(\frac{3-x}{x}\right)}$ is $x \in$

(1) $\left(0, \frac{3}{2}\right)$ (2) $(0, 3)$

(3) $\left(-\infty, \frac{3}{2}\right)$ (4) $\left(0, \frac{3}{2}\right]$

**79.** For two sets $A$ & $B$, such that
$A = \{x : x^2 - 4x + 3 \le 0\}$
$B = \{x : x^2 - x + 2 > 0\}$, the interval $A \cap B$ is

(1) $[1, 3]$ (2) $(-\infty, \infty)$

(3) $(1, 3)$ (4) $(-\infty, 1) \cup (3, \infty)$

**80.** If $\tan\alpha = (1+2^{-x})^{-1}, \tan\beta = (1+2^{x+1})^{-1}$, then $\alpha + \beta$ equals

(1) $\frac{\pi}{6}$ (2) $\frac{\pi}{4}$

(3) $\frac{\pi}{3}$ (4) $\frac{\pi}{2}$

***Integer Type Question* (81 to 90)**

**81.** The vertices of the triangle $ABC$ are $A(0, 0)$, $B(3, 0)$ and $C(3, 4)$, where $A$ and $C$ are foci of an ellipse and $B$ lies on the ellipse. If the length of the latus rectum of the ellipse is $24/p$ units, then the value of $p$ is

**82.** Find the largest value of $n$ among all possible natural numbers $n$, such that the coefficient of $x$ in the expansion of $\left(x^3 + \frac{1}{x^4}\right)^n$, is ${}^nC_{11}$.

**83.** The number of four-digit numbers formed by using the digits 0, 2, 4, 5 and which are not divisible by 5, is

**84.** If $\alpha, \beta$ and $\gamma$ are roots of equation $5x^3 - 2x - 1 = 0$ the value of $\frac{\alpha^2-3}{\beta\gamma} + \frac{\beta^2-3}{\alpha\gamma} + \frac{\gamma^2-3}{\alpha\beta}$ is

**85.** If $p = \cos 55°$, $q = \cos 65°$, $r = \cos 175°$ then the value of $\frac{1}{p} + \frac{1}{q} + \frac{r}{pq}$ is equal to

**86.** If the circles
$x^2 + y^2 + (3 + \sin\beta)x + (2\cos\alpha)y = 0$ and
$x^2 + y^2 + (2\cos\alpha)x + 2cy = 0$ touch each other, then the maximum value of $c$ is _____ .

**87.** There is a complex number $z$ with imaginary part 164 and a positive integer $n$ such that $\frac{z}{z+n} = 4i$.

Find $\frac{n}{17}$

**88.** If $n$ is the number of solutions of equation
$|\cot x| = \cot x + \frac{1}{\sin x}$ ; $(0 < x < 2\pi)$, then $n$ equals

**89.** Variance of the following data 6, 8, 10, 16, 14, 12, 18, 24, 22, 20 is equal to

**90.** Three numbers $a$, $b$, $c$ between 2 and 18 such that
(i) $a + b + c = 25$
(ii) 2, $a$, b are consecutive terms of an $AP$
(iii) $b$, $c$, 18 are consecutive terms of a $GP$
If $G = \text{Max}\{a, b, c\}$ and $L = \text{Min}\{a, b, c\}$ then the value of $G + L$ is :