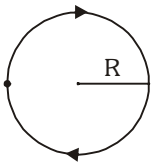
NTSE 2015 Stage-1 (RAJASTHAN STATE)
SOLUTIONS - SAT

1. A person takes time t to go once around a circular path of diameter 2R. The speed (v) of this person would be

(1) $\frac{t}{2\pi R}$ (2) $\frac{2\pi R}{t}$ (3) $\frac{\pi R^2}{t}$ (4) $2\pi R.t.$

Ans. ***(2)***

Sol. 

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

Distance covered by body along circular path $= 2\pi R$

$$v = \frac{2\pi R}{t}$$

2. A body of mass 2 kg is moving on a smooth floor in straight line with a uniform velocity of 10 m/s. Resultant force acting on the body is

(1) 20 N (2) 10 N (3) 2 N (4) zero

Ans. ***(4)***

Sol. No force is required to move a body with uniform velocity.

3. The S.I. unit of pressure is

(1) $N.m^2$ (2) N/m^2 (3) m^2/N (4) N/m

Ans. ***(2)***

Sol. The S.I. unit of pressure is N/m^2

4. The frequency of a source of sound is 50 Hz. How many times does it vibrate in one minute?

(1) 50 (2) 300 (3) 3000 (4) 30000

Ans. ***(3)***

Sol. Frequency of source of sound = 50 Hz

It will vibrate (50 × 60) times in one minute, i.e. 3000 times.

5. A person of mass 50 kg runs up to staircase of 40 steps in 6 sec. If the height of each step is 15 cm, then his power will be (If $g = 10\ m/s^2$)

(1) 300 W (2) 500 W (3) 600 W (4) 1000 W

Ans. ***(2)***

Sol. $\text{Power} = \frac{\text{Work}}{\text{Time}} = \frac{mgh}{t}$

$$= \frac{50 \times 10 \times (40 \times 0.15)}{6}$$

$$= 500\ W$$

6. The focal length of a concave mirror in air is f. If it is immersed in water $\left(n = \frac{4}{3}\right)$, then the focal length will be

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

Ans. ***(1)***

Sol. Focal length of mirror does not depend on the surrounding medium.

7. A student was asked to draw a ray diagram for formation of image by a convex lens for the following positions of the object:

(A) between F and 2F

(B) at F

(C) at 2F

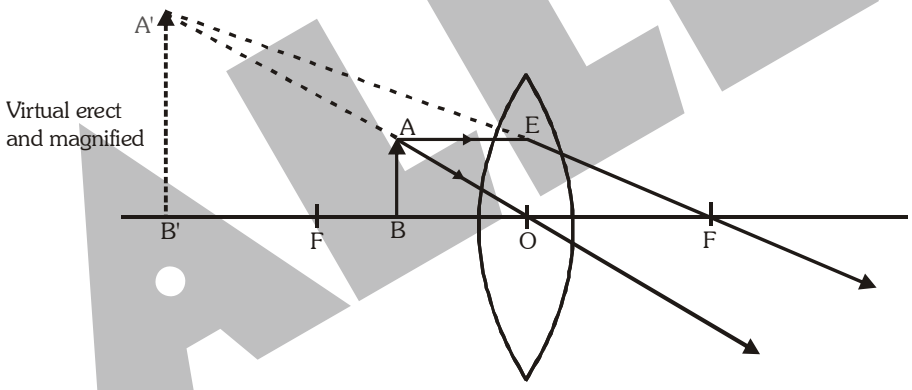
(D) between F and optical centre.

The position for which virtual image can be formed among these is

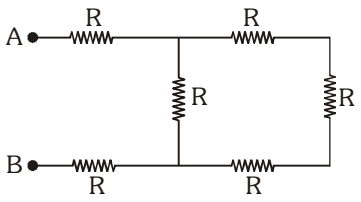
(1) B (2) A (3) C (4) D

Ans. ***(4)***

Sol. Virtual image is formed in a convex lens when object is placed between optical center and F.



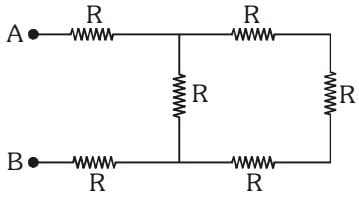
8. The value of equivalent resistance between the points A and B in the given circuit, will be

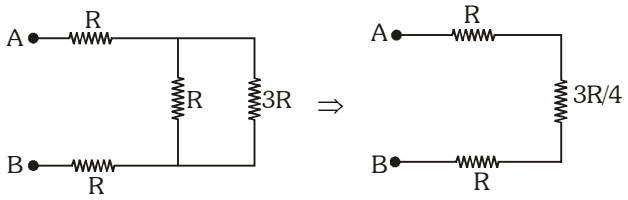


(1) 6 R (2) $\frac{4R}{11}$ (3) $\frac{11R}{4}$ (4) $\frac{R}{6}$

Ans. ***(3)***

Sol.





$$R_{eq} = R + \frac{3R}{4} + R = \frac{11R}{4}$$

9. The far point of a myopic person is 75 cm in front of the eye. The nature and power of the lens required to correct the problem, will be

(1) convex lens, – 1.33 D (2) concave lens, – 1.33 D

(3) concave lens, + 1.33 D (4) convex lens, + 1.33 D

Ans. ***(2)***

Sol. In case of myopia

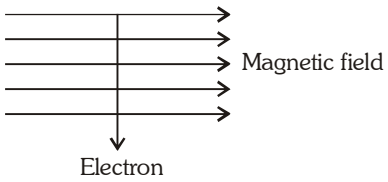
$f = -v$

$f = -75$ cm

$$P = \frac{100}{f(\text{in cm})} = \frac{-100}{75} = -1.33 \text{ D}$$

Concave lens is used to correct Myopia

10. An electron enters in a magnetic field at right angle to it as shown in figure. The direction of force acting on the electron will be



(1) to the left (2) to the right (3) out of the page (4) into the page.

Ans. ***(4)***

Sol. Applying Fleming's Left Hand Rule, the direction of force experienced by electron is into the page.

11. When 1J of work is done to move a charge of 1 C from one point to another point then the potential difference between two points in a given circuit will be

(1) 1V (2) 4V (3) 8V (4) zero

Ans. ***(1)***

Sol. $V = \frac{W}{Q} = \frac{1J}{1C} = 1V$

12. A certain household has consumed 200 units of energy during a month. Its value in joules will be
(1) 3.6×10^{10} (2) 7.2×10^{10} (3) 3.6×10^{8} (4) 7.2×10^{8}

Ans. ***(4)***

Sol. $1kWh = 3.6 \times 10^{6}J$
$200\,kWh = 200 \times 3.6 \times 10^{6}J$
$= 7.2 \times 10^{8}J$

13. On addition of which metal the blue coloured copper sulphate solution turns into colourless solution ?
(1) Ag (2) Hg (3) Zn (4) Au

Ans. ***(3)***

Sol. $\underset{[Blue]}{Zn + CuSO_4} \longrightarrow \underset{[Colourless]}{ZnSO_4} + Cu$

Because Zinc is more reactive than Cu so Zn can displace Cu from $CuSO_4$.

14. IUPAC name of the first member of homologous series of ketones is
(1) Ethanone (2) Propanol (3) Methanone (4) Propanone

Ans. ***(4)***

Sol. Ketone $\Rightarrow$ Function group $-\overset{\overset{O}{\|}}{C}-$

first member of homologous series of Ketone is $CH_3-\overset{\overset{O}{\|}}{C}-CH_3$
propanone

15. The nature of solution when sodium carbonate is dissolved in water will be
(1) acidic (2) basic (3) netural (4) amphoteric

Ans. ***(2)***

Sol. $Na_2CO_3 + H_2O \longrightarrow \underset{\text{Strong base}}{NaOH} + \underset{\text{Weak acid}}{H_2CO_3}$, solution will be basic.

16. An element A belongs to third period and second group of periodic table. The number of valence electron/ electrons of elements A is
(1) one (2) two (3) three (4) four

Ans. ***(2)***

Sol. In second group, no. of Valence Electrons $\Rightarrow 2$.

17. The chemical reaction $HNO_3 + KOH \rightarrow KNO_3 + H_2O$ is an example of
(1) neutralization (2) double displacement
(3) neutralization and double displacement (4) combination

Ans. ***(3)***

Sol. $HNO_3 + KOH \rightarrow KNO_3 + H_2O$
is an example of neutralization & double displacement reaction.

18. pH of a solution is zero. The nature of this solution is
(1) acidic (2) basic (3) neutral (4) amphoteric

Ans. ***(1)***

Sol. If $pH < 7$, solution will be acidic.

19. The difference in number of crystalline water molecules in a molecule of gypsum and a molecule of plaster of Paris is

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

Ans. ***(4)***

Sol. Gypsum = $CaSO_4.2H_2O$

Plaster of Paris = $CaSO_4.\frac{1}{2}H_2O$

20. An alkyne has 4 numbers of hydrogen atoms. What will be the number of carbon atoms in it ?

(1) Two (2) Three (3) Four (4) Five

Ans. ***(2)***

Sol. No. of Hydrogen atom = 4

Alkyne general formula = C_nH_{2n-2}

$\because$ $2n - 2 = 4$

$\Rightarrow$ $n = 3$

21. Number of molecules in 14 g of carbon monoxide is

(1) 12.044×10^{23} (2) 6.022×10^{23} (3) 3.011×10^{23} (4) 1.5050×10^{23}

Ans. ***(3)***

Sol. $\text{mole} = \frac{\text{no. of particles}}{N_A} = \frac{\text{wt(g)}}{\text{GMM}}$

$\Rightarrow$ No. of particles = $\frac{14}{28} \times 6.022 \times 10^{23} = 3.011 \times 10^{23}$

22. The boiling point of a gas is –80°C. This temperature is equivalent to

(1) –193 K (2) 193 K (3) 353 K (4) –353 K

Ans. ***(2)***

Sol. $T(K) = T(°C) + 273$

$\Rightarrow$ $T(K) = -80 + 273 = 193$ K

23. Which of the following solutions does not show Tyndall effect ?

(1) Milk (2) Starch solution (3) Ink (4) Sugar solution

Ans. ***(4)***

Sol. Sugar solution is example of true solution thats why it does not show Tyndall effect.

24. The cell organelle storing substances like starch, oil and proteins is

(1) Vacuole (2) Lysosome (3) Plastid (4) Golgi body

Ans. ***(3)***

Sol. Leucoplast, a type of plastid stores starch, oil and protein.

25. The hormone present in higher concentration in fruits and seeds is

(1) Auxin (2) Gibberellin (3) Cytokinin (4) Ethylene

Ans. ***(3)***

Sol. Cytokinin, as it helps in cell division. given in NCERT also.

26. The substance essential for photosynthesis is

(1) glucose (2) oxygen (3) nitrogen (4) water

Ans. ***(4)***

Sol. Water is essential for photosysnthesis because it is hydrogen source in carbohydrate formed in this process.

27. In plants the cells necessary for exchange of gases from atmosphere are

(1) subsidiary cells (2) bark cells (3) guard cells (4) phloem parenchyma cells

Ans. ***(3)***

Sol. Guards cells regulate openeing and closing of stomata and hence exchange of gases.

28. The group of amphibian plants is –

(1) Funaria, Marchantia (2) Marsilea, Horse-tail (3) Pinus, Cycas (4) Typha, Hydrilla

Ans. **(1)**

Sol. Funaria and marchantia are bryophytes which are considered as amphibians of plant kingdom.

29. The human made synthetic chemical used in refrigerator is

(1) LPG (2) CFC (3) CH_4 (4) PVC

Ans. **(2)**

Sol. CFC is used in refrigerator .

30. The example of an egg laying mammal is

(1) Bat (2) Whale (3) Echidna (4) Kangaroo

Ans. **(3)**

Sol. Echidna or spiny ant eater is oviparous mammal.

31. Which of the following follows a general principle of fooling the immune system by putting particular infection into the body?

(1) AIDS (2) Vaccination (3) Antibiotic (4) Antiseptic

Ans. **(2)**

Sol. By vaccination we put particular infaction into the body.

32. Skeletal muscles are

(1) Striated and voluntary (2) Unstriated and voluntary

(3) Striated and involuntary (4) Unstriated and involuntary

Ans. **(1)**

Sol. Skeletal muscles are striated and voluntary.

33. Sphygmomanometer measures

(1) wall pressure (2) blood pressure (3) diffusion pressure (4) air pressure

Ans. **(2)**

Sol. Sphygmomanometer measures blood pressure

34. Knightia is a fossil of

(1) tree trunk (2) invertebrate (3) fish (4) dinosaur skull

Ans. **(3)**

Sol. Knightia is a fossil of bony fish.

35. The method of mechanical barrier to avoid pregnancy is

(1) condoms (2) contraceptive pills (3) surgical methods (4) abortion.

Ans. **(1)**

Sol. condom is mechanical barrier to avoid pregnancy. Other are either chemical or surgical mathods.

36. The value of $\left(\frac{x^b}{x^c}\right)^{\frac{1}{bc}} \cdot \left(\frac{x^c}{x^a}\right)^{\frac{1}{ca}} \cdot \left(\frac{x^a}{x^b}\right)^{\frac{1}{ab}}$ is equal to

(1) 1 (2) –1 (3) 0 (4) abc

Ans. **(1)**

Sol. $x^{\frac{b-c}{bc}} \times x^{\frac{c-a}{ca}} \times x^{\frac{a-b}{ab}} = x^{\frac{b-c}{bc}+\frac{c-a}{ca}+\frac{a-b}{ab}} = x^{\frac{ab-ac+bc-ab+ac-bc}{abc}} = x^{\frac{0}{abc}} = 1$

37. The HCF of any two prime numbers a and b, is
(1) a (2) ab (3) b (4) 1

Ans. ***(4)***

Sol. HCF of two prime number is always 1.

38. The total two-digit numbers which are divisible by 5, are
(1) 17 (2) 18 (3) 19 (4) 20

Ans. ***(2)***

Sol. Total number divisible by 5 are
10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95.
i.e. 18.

39. If the roots of the equation $2x^2 + ax + b = 0$ are reciprocals to each other, then the value of b is
(1) –1 (2) –2 (3) 2 (4) 1

Ans. ***(3)***

Sol. Let roots are α and $\frac{1}{\alpha}$

$$\alpha \times \frac{1}{\alpha} = \frac{b}{2} \Rightarrow b = 2$$

40. If $\sin(A + B) = \cos(A - B)$, then the value of $(A + B)$ is

(1) $\frac{\pi}{4}$ (2) $\frac{\pi}{2}$ (3) $\frac{3\pi}{4}$ (4) $\frac{\pi}{8}$

Ans. ***(1,2,3,4)***

Sol. $\sin(A + B) = \cos(A - B)$

$$\cos\left(\frac{\pi}{2} - A - B\right) = \cos(A - B)$$

$$\Rightarrow \frac{\pi}{2} - A - B = A - B$$

$$\Rightarrow A = \frac{\pi}{4} \text{ and B can be } 0, \frac{\pi}{4}, \frac{\pi}{2}, -\frac{\pi}{8}$$

$$\Rightarrow A + B = \frac{\pi}{4}, \frac{\pi}{2}, \frac{3\pi}{4}, \frac{\pi}{8}$$

41. If $\sin\theta + \sin^2\theta = 1$, then the value of $\cos^2\theta + \cos^4\theta$ is
(1) 3 (2) 2 (3) 1 (4) 0

Ans. ***(3)***

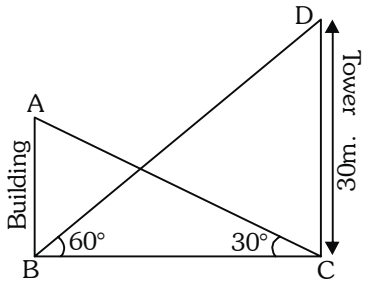
Sol. $\sin\theta = 1 - \sin^2\theta$
$\sin\theta = \cos^2\theta$
$\Rightarrow \cos^2\theta + \cos^4\theta = \sin\theta + \sin^2\theta = 1$

42. The angle of elevation of the top of a building from the foot of tower is 30° and the angle of elevation of the top of the tower from the foot of the building is 60°. If the tower is 30 m high, then the height of the building is
(1) 30 m (2) 20 m (3) 15 m (4) 10 m

Ans. ***(4)***

Sol. $\tan 60° = \frac{30}{BC} \Rightarrow BC = \frac{30}{\sqrt{3}}$

$\tan 30° = \frac{AB}{BC} \Rightarrow AB = \frac{30}{\sqrt{3}} \times \frac{1}{\sqrt{3}} = 10\text{m}.$



43. If the system of equations $3x + y = 1$; $(2k-1)x + (k-1)y = (2k+1)$, has no solution, then the value of k is

(1) 2 (2) 3 (3) –2 (4) 1

Ans. ***(1)***

Sol. $3x + y - 1 = 0$

$(2k-1)x + (k-1)y - (2k+1) = 0$

$$\frac{3}{2k-1} = \frac{1}{k-1} \neq \frac{-1}{-(2k+1)}$$

$\Rightarrow 3k - 3 = 2k - 1$

$k = 2$

44. The mean of the first ten even natural numbers is

(1) 10 (2) 11 (3) 12 (4) 13

Ans. ***(2)***

Sol. First ten even natural number are: 2, 4,6, 8, 10, 12, 14, 16, 18, 20

$$\Rightarrow \text{Mean} = \frac{2+4+6+.....+20}{10}$$

$$= \frac{2 \times \frac{10 \times 11}{2}}{10} \Rightarrow 11$$

45. A die is thrown twice. The probability of the sum being odd is

(1) $\frac{1}{2}$ (2) $\frac{1}{3}$ (3) $\frac{1}{4}$ (4) $\frac{1}{6}$

Ans. ***(1)***

Sol. Total outcomes are $= 36$

Total favourable outcomes are 18

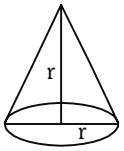
i.e. $P(\text{odd}) = \frac{18}{36} = \frac{1}{2}$

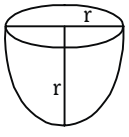
46. If the heights and radii of a cone and a hemisphere are same then the ratio of their volumes is

(1) 1 : 2 (2) 2 : 3 (3) 1 : 3 (4) 1 : 1

Ans. ***(1)***

Sol. $$\frac{\text{volume}_{\text{cone}}}{\text{volume}_{\text{hemisphere}}} = \frac{\frac{1}{3}\pi r^3}{\frac{2}{3}\pi r^3} = \frac{1}{2}$$



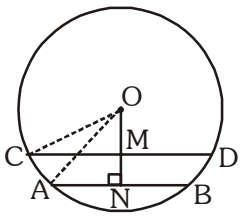


47. The lengths of two parallel chords of a circle are 6 cm and 8 cm. If the smaller chord is at distance 4 cm from the centre, then the distance of the other chord from the centre is–

(1) 5 cm (2) 4 cm (3) 3 cm (4) 2 cm

Ans. ***(3)***

Sol.



$AB = 6$

$CD = 8$

$ON = 4$

$\therefore$ $ON \perp AB$

$\therefore$ $AN = 3m$

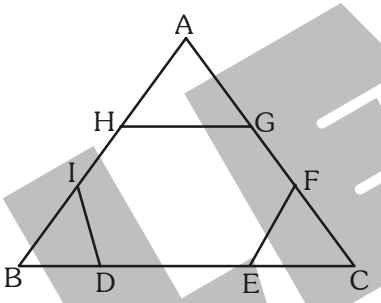
$OA^2 = AN^2 + ON^2 = 3^2 + 4^2 = 5^2$

$\therefore$ $OA = 5$

Now $OC^2 = OM^2 + CM^2 \Rightarrow 5^2 = OM^2 + 4^2$

$\therefore$ $OM = 3$ cm

48. In the figure given below, ABC is an equilateral triangle. D, E, F, G, H and I are the trisector points of the sides as shown. If the side of the triangle ABC is 6 cm, then the area of the regular hexagon DEFGHI is



(1) $3\sqrt{3}$ cm^2 (2) $4\sqrt{3}$ cm^2 (3) $5\sqrt{3}$ cm^2 (4) $6\sqrt{3}$ cm^2

Ans. ***(4)***

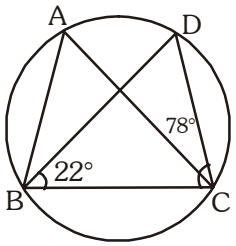
Sol. $\therefore$ $\angle IDE = 120°$

$\therefore$ ΔBDI is an equilateral Δ

$\therefore$ $DE = \frac{1}{3} BC = \frac{1}{3} \times 6 = 2$

Area of regular hexagon $= 6 \times \frac{\sqrt{3}}{4} \times 2^2 = 6\sqrt{3}$

49. In the given figure, $\angle DBC = 22°$ and $\angle DCB = 78°$ then $\angle BAC$ is equal to



(1) 90° (2) 80° (3) 78° (4) 22°

Ans. (2)

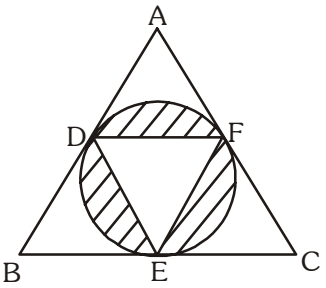
Sol. Join AD & $\angle DBC = 22° \Rightarrow \angle CAD = 22°$

$\angle DCB = 78°$

$\therefore$ $\angle BAD = 180° - 78° = 102°$

$\therefore$ $\angle BAC = 102° - 22° = 80°$

50. In the given figure, ABC is an equilateral triangle whose side is $2\sqrt{3}$ cm. A circle is drawn which passes through the midpoints D, E and F of its sides. The area of the shaded region is



(1) $\frac{1}{4}\left(4\pi - 3\sqrt{3}\right)cm^2$ (2) $\frac{1}{4}\left(2\pi - \sqrt{3}\right)cm^2$ (3) $\frac{1}{4}\left(\pi - 3\sqrt{3}\right)cm^2$ (4) $\frac{1}{4}\left(3\pi - \sqrt{3}\right)cm^2$

Ans. ***(1)***

Sol. Radius of the inscribed circle

$$r = \frac{\Delta}{s} \Rightarrow r = \frac{\frac{\sqrt{3}}{4} \times (2\sqrt{3})^2}{3\sqrt{3}} = 1$$

Now DEF is an equilateral

$$DF = \frac{1}{2}BC = \frac{1}{2} \times 2\sqrt{3} = \sqrt{3}$$

$$\therefore \text{ Shaded area } = \text{ circle} - \Delta = \pi r^2 - \frac{\sqrt{3}}{4}a^2 \Rightarrow \pi - \frac{\sqrt{3}}{4} \times (\sqrt{3})^2 = \pi - \frac{3\sqrt{3}}{4}$$

51. If a cylinder of radius 3 cm and height of 10 cm is melted and recast into the shapes of small spheres of diameter 1 cm, then the number of spheres so formed is

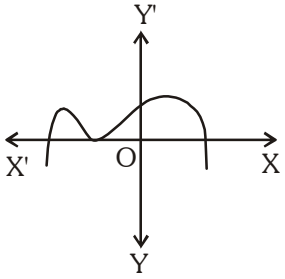
(1) 135 (2) 270 (3) 540 (4) 1080

Ans. ***(3)***

Sol. Volume a cylinder = n × vol. of each sphere

$$\pi r^2 h = n \times \frac{4}{3}\pi R^3 \Rightarrow 3^2 \times 10 = n \times \frac{4}{3}\left(\frac{1}{2}\right)^3 \Rightarrow 90 = n \times \frac{4}{3} \times \frac{1}{8} \Rightarrow n = 540$$

52. The graph of y = p (x) is given below. The number of zeroes of polynomial p (x), is



(1) 3 (2) 2 (3) 1 (4) 0

Ans. ***(1)***

Sol. The graph cut or touch the x-axis at 3 distinct points
$\therefore$ No. of zeros = 3

53. The centre of a circle passing through the points (7, –5), (3, –7) and (3, 3) is
(1) (5, 6) (2) (5, –1) (3) (3, 2) (4) (3, –2)

Ans. ***(4)***

Sol. A (7, –5), B (3, –7) and C (3, 3)
Let the centre O (x, y)

$\therefore$ $OA = OB = OC$

$\therefore$ $OA = OB$

$\therefore$ $(x-7)^2 + (y+5)^2 = (x-3)^2 + (y+7)^2$

$(x-7)^2 - (x-3)^2 = (y+7)^2 - (y+5)^2$

$(2x-10)(-4) = (2y+12) \times 2$

$-2x + 10 = y + 6$

$2x + y - 4 = 0$ ....(1)

$OB = OC$

$(x-3)^2 + (y+7)^2 = (x-3)^2 + (y-3)^2$

$(y+7)^2 = (y-3)^2$

$y^2 + 14y + 49 = y^2 - 6y + 9$

$20y = -40$

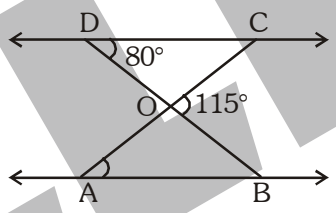
$y = -2$

$\therefore$ Putting $y = -2$ in (1)

$\therefore$ $x = 3$

i.e. O (3, –2)

54. In the given figure, $\Delta ODC \sim \Delta OBA$, $\angle BOC = 115°$ and $\angle CDO = 80°$. Then ΔOAB is equal to



(1) 80° (2) 35° (3) 45° (4) 65°

Ans. ***(2)***

Sol. $\angle OBA = 80°$

$\Rightarrow \angle BOC = \angle OAB + \angle OBA$

$\Rightarrow 115° = \angle OAB + 80°$

$\Rightarrow \angle OAB = 35°$

55. $\tan 43° \tan 45° \tan 47°$ is equal to

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

Ans. ***(3)***

Sol. $\tan43° \tan45° \tan47°$

$= \tan43° \times 1 \times \tan(90° - 43°)$

$= \tan43° \times 1 \times \cot43°$

$= 1$

56. The writer of 'The Social Contract' is
(1) Rousseau (2) Montesquieu (3) Tilak (4) Mirabeau

Ans. ***(1)***

Sol. Rousseau carried the idea forward, proposing a form of government based on a social contract between people and their representatives.

57. Napoleon Bonaparte was defeated at Waterloo in
(1) 1518 (2) 1815 (3) 1915 (4) 1819

Ans. ***(2)***

Sol. Napoleon was finally defeated at Waterloo in 1815.

58. The world's biggest stock exchange 'Wall Street Exchange' is located in
(1) France (2) China (3) U.S.A. (4) Japan

Ans. ***(3)***

Sol. The Wall Street Exchange which crashed in 1929 is situated in USA.

59. Nazi youth group for children below 14 years of age was
(1) Strom Troopers (2) Gestapo (3) Jungvolk (4) Ghettoes

Ans. ***(3)***

Sol. Youth organisations were made responsible for educating German youth in the spirit of National Socialism. Ten-year-olds had to enter Jungvolk.

60. 'Plant more wheat, wheat will win the war'. The statement is of
(1) President Wilson (2) Churchill (3) Tzar Nicholas II (4) Franklin D. Roosevelt

Ans. ***(1)***

Sol. US President Wilson called upon US farmers to respond to the need of the time. .Plant more wheat, wheat will win the war,. he said.

61. The tactful diplomatic alliance between Sardinia-Piedmont and France was engineered by
(1) Mazzini (2) Cavour (3) Garibaldi (4) Victor Emmanuel

Ans. ***(2)***

Sol. Through a tactful diplomatic alliance with France engineered by Cavour, Sardinia-Piedmont succeeded in defeating the Austrian forces in 1859.

62. The film 'Raja Harishchandra' (1913) was made by
(1) Gulzar (2) Basu Bhattacharya (3) Dada Saheb Phalke (4) C. Ramchandran

Ans. ***(3)***

Sol. Dadasaheb Phalke made Raja Harishchandra (1913).

63. Which novel is known as the first modern novel of Malayalam?
(1) Henrietta Temple (2) Pariksha Guru (3) Chandrakanta (4) Indulekha

Ans. ***(4)***

Sol. Delightful novel called Indulekha, published in 1889, was the first modern novel in Malayalam.

64. In Trinidad the annual Muharram procession is known as
(1) Karvala (2) Hosay (3) Hassan (4) Haidos

Ans. ***(2)***

Sol. In Trinidad the annual Muharram procession was transformed into a riotous carnival called 'Hosay' (for Imam Hussain) in which workers of all races and religions joined.

65. The proposal of 'Non-cooperation Movement' was passed by Congress in the session held at
(1) Nagpur (2) Kanpur (3) Amritsar (4) Lucknow

Ans. ***(1)***

Sol. The Congress session at Nagpur in December 1920, a compromise was worked out and the Non-Cooperation programme was adopted.

66. In India Tropic of Cancer passes through the state of
(1) Bihar (2) Orissa (3) Jharkhand (4) Uttar Pradesh

Ans. ***(3)***

Sol. Jharkhand

67. Match List-I with List- II and select the correct answer:

List-I ***Peak***	***List-II*** ***Height (meter)***
(A) Mt. Everest	(i) 8598
(B) Kanchenjunga	(ii)8481
(C) Makalu	(iii) 8848
(D) Dhaulagiri	(iv) 8172

	(A)	***(B)***	***(C)***	***(D)***
(1)	(iii)	(ii)	(iv)	(i)
(2)	(ii)	(i)	(iii)	(iv)
(3)	(i)	(iii)	(i)	(ii)
(4)	(iii)	(i)	(ii)	(iv)

Ans. ***(4)***

Sol. Mt. Everest Nepal 8848 , Kanchenjunga India 8598 , Makalu Nepal 8481, Dhaulagiri Nepal 8172

68. Which of the following is not tributary of Ganga?

(1) Yamuna (2) Satluj (3) Ghaghara (4) Kosi

Ans. ***(2)***

Sol. Satluj is the tributary of Indus

69. In India total forest area as per Forest Report, 2011 is

(1) 21.05% (2) 20.06% (3) 22.07% (4) 19.80%

Ans. ***(1)***

Sol. The forest cover in the country is estimated at 78.29 million hectare, which is ***23.81*** per cent of the total geographical area. (dense forest 12.30 per cent; open forest 8.75 per cent; and mangrove 0.14 per cent). According to the State of Forest Report (2011), the dense forest cover has increased by 10,098 sq km since 1997. (Pg.15 IX). According to India State of Forest Report 2011, the forest cover in India is ***21.05*** per cent. (IX geography).

70. Which state in India has Kaziranga National Park?

(1) Bihar (2) West Bengal (3) Jharkhand (4) Assam

Ans. ***(4)***

Sol. Assam

71. Which type of resource is solar energy?

(1) Replenishable (2) Human-made (3) Biotic (4) Non-recyclable

Ans. ***(1)***

Sol. Human- made, photovoltaic technology convert sunlight directly into electricity.

72. Hirakud Dam is situated on the river

(1) Godavari (2) Tapi (3) Mahanadi (4) Yamuna

Ans. ***(3)***

Sol. Mahanadi

73. Non-food crop is

(1) Wheat (2) Rice (3) Cotton (4) Bajra

Ans. ***(3)***

Sol. Cotton

74. Which of the following is a non-ferrous mineral?

(1) Bauxite (2) Managanese (3) Nickel (4) Cobalt

Ans. ***(1)***

Sol. Bauxite is the ore of Aluminium which is non ferrous

75. Seaport of India is
(1) Delhi (2) Hyderabad (3) Vishakhapatnam (4) Amritsar

Ans. ***(3)***

Sol. Vishakhapatnam is the deepest landlocked and well-protected port of India.

76. Match List-I with List- II and select the correct answer:

List-I	***List-II***
(A)Union of India	(i) Prime-Minister
(B) State	(ii) Sarpanch
(C) Municipal Corporation	(iii) Governor
(D) Gram Panchayat	(iv) Mayor

	(A)	***(B)***	***(C)***	***(D)***
(1)	(iv)	(i)	(ii)	(iii)
(2)	(ii)	(iii)	(iv)	(i)
(3)	(i)	(iii)	(iv)	(ii)
(4)	(iii)	(iv)	(i)	(ii)

Ans. ***(3)***

Sol. Union of India- Prime Minister State- Governor, Municipal Corporation- Mayor, Gram Panchayat- Sarpanch

77. The Government body which implements law is
(1) Legislature (2) Judiciary (3) Executive (4) Press

Ans. ***(3)***

Sol. Executive

78. Who among the following is the founder of the Bahujan Samaj Party?
(1) Kanshiram (2) Sahu Maharaj (3) B.R. Ambedkar (4) Jyotiba Phule

Ans. ***(1)***

Sol. BSP was formed in 1984 under the leadership of Kanshi Ram. Seeks to represent and secure power for the bahujan samaj which includes the dalits, adivasis, OBCs and religious minorities.

79. In the context of assessing democracy which among the following is not according to democratic system?
(1) Free and fair elections (2) Dignity of the individual
(3) Majority rule (4) Equal treatment before law

Ans. ***(3)***

Sol. Majority Rule

80. When did the constitution of India came into effect?
(1) 9th November, 1946 (2) 15th August , 1947
(3) 26th November, 1949 (4) 26th January, 1950

Ans. ***(4)***

Sol. The Assembly adopted the Constitution on 26 November 1949 but it came into effect on January 26, 1950.

81. What is the period of Indian Lok Sabha ?
(1) 3 years (2) 5 years (3) 6 years (4) 4 years

Ans. ***(2)***

Sol. 5 years

82. Who is the highest formal authority of India ?
(1) President (2) Prime Minister (3) Governor (4) Chief Minister

Ans. ***(1)***

Sol. President

83. How many seats are reserved for Scheduled Tribes in the Lok Sabha ?
(1) 84 (2) 41 (3) 32 (4) 47

Ans. ***(4)***

Sol. For Scheduled Tribes, 47 seats are reserved in Lok Sabha.

84. Which of the following rights is reserved under the Constitution of India ?
(1) Right to work (2) Right to adequate livelihood
(3) Right to protect one's culture (4) Right to privacy

Ans. ***(3)***

Any section of citizens with a distinct language or culture have a right to conserve it. (Pg.106 IX)

Sol. Article 41 of the Constitution provides that "the State shall within the limits of its economic capacity and development, make effective provision for securing the right to work, to education and to public assistance in cases of unemployment, old age, sickness and disablement, and in other cases of undeserved want."(article 6 of the ICESCR) Article 38 states that the state shall strive to promote the welfare of the people and article 43 states it shall endeavor to secure a living wage and a decent standard of life to all workers. The constitution of India guarantees all citizens belonging to any religion or caste equal cultural and educational rights.

85. What is the literacy rate of women in India ?
(1) 54% (2) 76% (3) 36% (4) 60%

Ans. ***(1)***

Sol. The literacy rate in the country as per the Census of 2001 is 64.84 per cent; 75.26 per cent for males and ***53.67*** per cent for females. (ixth population Geography Pg 58). The literacy rate in the country as per the Census of 2011 is 74.04 percent; 82.14 percent for males and 65.46 percent for females. (Page 8 geography errata ixth).

86. Working capital is :
(1) Computer (2) Generator (3) Building (4) Raw material

Ans. ***(4)***

Sol. Raw material

87. Example of barter exchange is :
(1) purchasing wheat with money (2) purchasing fruits with money
(3) purchasing milk with money (4) purchasing sugar with wheat

Ans. ***(4)***

Sol. In a barter system goods are directly exchanged without the use of money.

88. Consumer Protection Act was enacted in India in :
(1) 1986 (2) 1982 (3) 1984 (4) 1988

Ans. ***(1)***

Sol. A major step taken in 1986 by the Indian government was the enactment of the Consumer Protection Act 1986, popularly known as COPRA.

89. Suitable measure to compare economic development of two countries is :
(1) Gross Domestic Product (2) Gross National Product
(3) Individual income (4) Per capita income

Ans. ***(4)***

Sol. For comparison between countries, total income is not an useful measure. Since, countries have different populations, comparing total income will not tell us what an average person is likely to earn. Hence, we compare the average income which is the total income of the country divided by its total population. The average income is also called per capita income.

90. Private sector's major objective is to :
(1) provide benefits to public (2) provide benefits to government
(3) earn profits (4) serve the people

Ans. ***(3)***

Sol. To earn profit.

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