1 PRACTICE PAPER

BASED ON BLUE PRINT-01

Time: 90 Minutes **Max. Marks: 40**

General Instructions:

(i) *All questions are compulsory.*

(ii) *There are 40 questions in all.*

(iii) *This question paper contains Multiple Choice Questions (MCQs), Case-Based MCQs and Assertion-Reason MCQs.*

(iv) *Only one of the options in every question is correct.*

(v) *An OMR sheet of every practice paper is given. The candidate has to give his/her answer of the question by darkening the circle against that question.*

Choose and write the correct option in the following questions.

1. **The product of three consecutive integers is divisible by**

(a) 5 (b) 6 (c) 7 (d) none of these

2. **The largest number which divides 615 and 963 leaving remainder 6 in each case is**

(a) 82 (b) 95 (c) 87 (d) 93

3. **The decimal expansion of number $\frac{46}{2^2 \times 5 \times 3}$ is**

(a) terminating (b) non-terminating repeating

(c) non-terminating non-repeating (d) none of these

4. **If two positive integers a and b are written as $a = x^4y^2$ and , $b = x^2y^3$; x, y are prime numbers, then HCF (a, b) is**

(a) x^4y^3 (b) xy (c) x^2y^3 (d) x^2y^2

5. **If the LCM of p and 18 is 36 and the HCF of p and 18 is 2 then p =**

(a) 2 (b) 3 (c) 4 (d) 1

6. **If the product of zeroes of the polynomial $x^2 - 9x + a$ is 8, then its zeroes are**

(a) $-1, -8$ (b) $1, -8$ (c) $-1, 8$ (d) $1, 8$

7. **The value of k for which the system of equations $2x + ky = 12$, $x + 3y - 4 = 0$ are inconsistent is**

(a) $\frac{21}{4}$ (b) $\frac{1}{6}$ (c) 6 (d) $\frac{4}{21}$

8. **One equation of a pair of dependent linear equations is $-5x + 7y = 2$. The second equation can be**

(a) $10x + 14y + 4 = 0$ (b) $-10x - 14y + 4 = 0$

(c) $-10x + 14y + 4 = 0$ (d) $10x - 14y = -4$

9. **A pair of linear equation is consistent if their graph lines will be**

(*a*) intersecting or parallel (*b*) intersecting or coincident

(*c*) coincident or parallel (*d*) can't say

10. **The value of k for which the system of equations $2x + 3y = 5$ and $4x + ky = 10$ has infinitely many solutions is**

(*a*) $k = -3$ (*b*) $k \neq -3$

(*c*) $k = 0$ (*d*) none of these

11. **The graph of the equation $x - y = 0$ is**

(*a*) parallel to x-axis (*b*) parallel to y-axis

(*c*) passing through origin (*d*) none of them

12. **The perimeter of triangle formed by the points (0, 0), (2, 0) and (0, 2) is**

(*a*) 4 units (*b*) 6 units

(*c*) $6\sqrt{2}$ units (*d*) $4 + 2\sqrt{2}$ units

13. **The distance of the point P (5, –1) from the y-axis is**

(*a*) 5 units (*b*) 2 units

(*c*) 3 units (*d*) 7 units

14. **If a perpendicular is drawn from the vertex of the right angle of a right triangle to the hypotenuse then triangle on both sides of the perpendicular is similar to**

(*a*) whole triangle (*b*) each other

(*c*) both (*a*) and (*b*) (*d*) none of them

15. ***O* is any point inside a rectangle *ABCD*. Then $OB^2 + OD^2$ is equal to**

(*a*) $OA^2 + OC^2$ (*b*) $BA^2 + OB^2$

(*c*) $OB^2 + OC^2$ (*d*) none of them

16. **If $\sin\theta - \cos\theta = 0$, then the value of $(\sin^4\theta + \cos^4\theta)$ is:**

(*a*) 1 (*b*) $\frac{3}{4}$ (*c*) $\frac{1}{2}$ (*d*) $\frac{1}{4}$

17. $\frac{\tan\theta}{\sec\theta - 1} + \frac{\tan\theta}{\sec\theta + 1}$ **is equal to**

(*a*) $2\tan\theta$ (*b*) $2\sec\theta$

(*c*) $2\operatorname{cosec}\theta$ (*d*) $2\tan\theta\sec\theta$

18. $9\sec^2 A - 9\tan^2 A$ **is equal to**

(*a*) 1 (*b*) 9 (*c*) 8 (*d*) 0

19. $\sqrt{\frac{1 + \sin\theta}{1 - \sin\theta}}$ **is equal to**

(*a*) $\sec\theta + \tan\theta$ (*b*) $\sec\theta - \tan\theta$

(*c*) $\sec^2\theta + \tan^2\theta$ (*d*) $(\sec^2\theta - \tan^2\theta)$

20. **The ratio of area of two circles whose ratio of circumference is 3:1 will be**

(*a*) 3 : 1 (*b*) 1 : 3 (*c*) 1 : 9 (*d*) 9 : 1

21. **The area of a circle is 49π cm^2. Its circumference is**

(a) 7π cm (b) 14π cm (c) 21π cm (d) 28π cm

22. **An arc of a circle is of length 5π cm and the sector it bounds has an area of 20π cm^2. The radius of circle is**

(a) 1 cm (b) 5 cm (c) 8 cm (d) 10 cm

23. **A wire can be bent in the form of a circle of radius 35 cm. If it is bent in the form of a square, then its area will be**

(a) 3025 cm^2 (b) $\frac{3025}{2}$ cm^2 (c) 1225 cm^2 (d) 2450 cm^2

24. **Which of the following cannot be the probability of an event?**

(a) $\frac{1}{4}$ (b) 0 (c) $-\frac{1}{2}$ (d) 0.8

25. **The probability expressed as a percentage of a particular occurrence can never be**

(a) less than 100 (b) less than 0

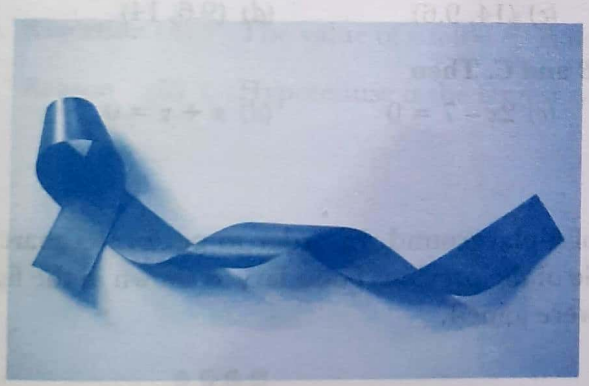
(c) greater than 1 (d) anything but a whole number

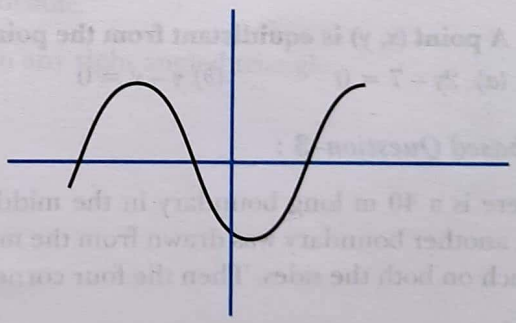
26. **When a die is thrown once, the probability of getting an odd number less than 3 is**

(a) $\frac{1}{6}$ (b) $\frac{1}{3}$ (c) $\frac{1}{2}$ (d) 0

Case-based Question–1 :

A piece of ribbon is lying on the table as shown in the figure.





27. **What type of polynomial is represented by the given curve?**

(a) linear (b) cubic (c) quadratic (d) None of these

28. **How many zeroes does it have?**

(a) 0 (b) 1 (c) 2 (d) 3

29. **If $ax^3 + bx^2 + cx + d$ is a cubic polynomial, tshen sum of its zeros taken two at a time is**

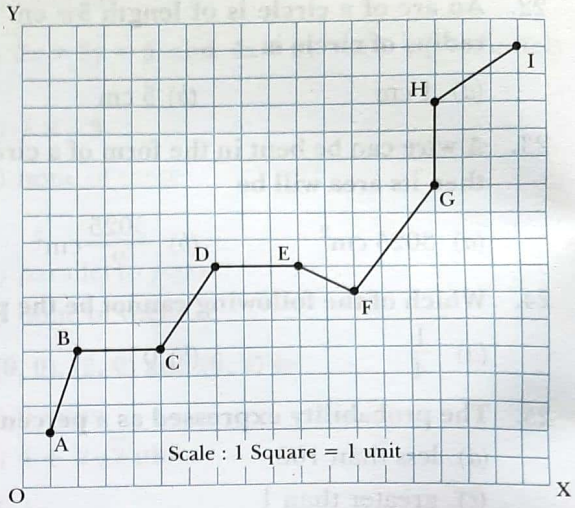
(a) $\frac{-b}{a}$ (b) $\frac{-c}{a}$ (c) $\frac{c}{a}$ (d) $\frac{b}{a}$

30. **If one of the zeroes of cubic polynomial $x^3 + ax^2 + bx + c$ is –1, then product of other two zeroes is**

(a) $a - b - 1$ (b) $a - b + 1$ (c) $b - a + 1$ (d) $b - a - 1$

Case-based Question–2 :

An officer explains his army men the route they need to follow to reach their target.



31. The distance of the point *B* from the *x*-axis is

(*a*) 2 units (*b*) 5 units (*c*) 1 unit (*d*) 4 units

32. The coordinates of the points *D* and *E* are respectively

(*a*) (8, 7), (8, 10) (*b*) (7, 8), (10, 8) (*c*) (8, 10), (8, 7) (*d*) (10, 8), (7, 8)

33. The coordinates of the point which divides the line segment joining the points *F*(12, 7) and *G*(15, 11) in the ratio 1 : 2 internally, are

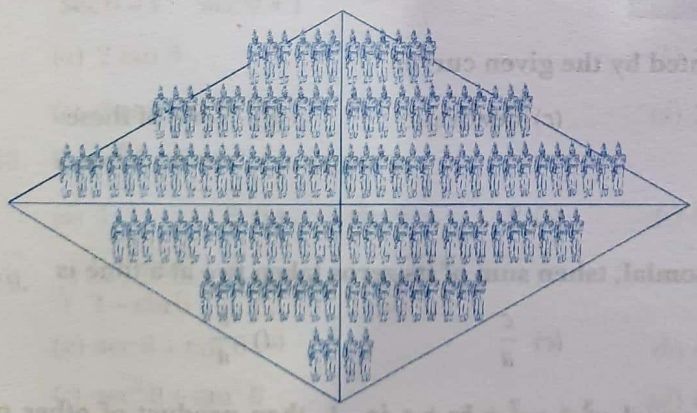
(*a*) (13, 8.3) (*b*) (8.3, 13) (*c*) (14, 9.6) (*d*) (9.6, 14)

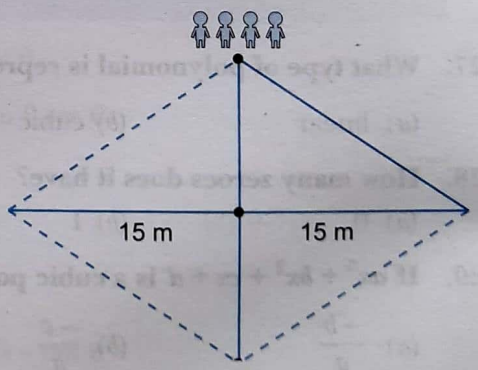
34. A point (*x*, *y*) is equidistant from the points *B* and *C*. Then

(*a*) $2y - 7 = 0$ (*b*) $y - x = 0$ (*c*) $2x - 7 = 0$ (*d*) $x + y = 0$

Case-based Question–3 :

There is a 40 m long boundary in the middle of a playground. In order to perform a marching activity, another boundary was drawn from the middle of the previous boundary as shown in the figure, 15 m each on both the sides. Then the four corners were joined.





35. What special name can be given to the four sided figure?

(*a*) Rectangle (*b*) Rhombus (*c*) Square (*d*) Trapezium

36. What property can be used to justify the name of the figure?

(*a*) Diagonals of a square are equal and bisect each other.

(*b*) Diagonals of a rectangle are equal.

(*c*) Diagonals of a rhombus are perpendicular bisector of each other.

(*d*) One pair of opposite sides of a trapezium is parallel.

37. The theorem that can be used to find the length of each side of the figure is

(*a*) Pythagoras Theorem (*b*) Thales Theorem

(*c*) Converse of Pythagoras Theorem (*d*) Converse of Thales Theorem

38. The perimeter of the four sided figure formed is

(*a*) 20 m (*b*) 40 m (*c*) 60 m (*d*) 100 m

Assertion-Reason Questions:

For question numbers 39 to 40, two statements are given-one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below.

(*a*) Both *A* and *R* are true and *R* is the correct explanation for *A*.

(*b*) Both *A* and *R* are true and *R* is not the correct explanation for *A*.

(*c*) *A* is true but *R* is false.

(*d*) *A* is false but *R* is true.

39. Assertion (*A*) : The exponent of 3 in the prime factorisation of 2520 is 2.

Reason (*R*) : If n is an odd natural number greater then 1, then $\sqrt{n}$ is an irrational number.

40. Assertion (*A*) : The value of $\sin\theta = \frac{4}{3}$ is not possible.

Reason (*R*) : Hypotenuse is the largest side in any right angled triangle.

PRACTICE PAPER 2

BASED ON BLUE PRINT-02

Time: 90 Minutes **Max. Marks: 40**

General Instructions: *Same as Practice Paper* - 1.

Choose and write the correct option in the following questions.

1. **If $(-1)^n + (-1)^{4n} = 0$, then n is**
   (a) any negative integer (b) any even natural number
   (c) any positive integer (d) any odd natural number
2. **The largest number which divides 77 and 85 leaving remainder 7 and 5 respectively, is**
   (a) 25 (b) 10 (c) 20 (d) 8
3. **If α, β are the zeroes of the polynomial $x^2 - px + q$, then $\frac{1}{\alpha^2} + \frac{1}{\beta^2}$ is equal to**
   (a) $\frac{p^2 - 2q}{p^2}$ (b) $\frac{p^2 - 2q}{q^2}$ (c) $\frac{p^2 + 2q}{q^2}$ (d) $\frac{p^2 + 2q}{p^2}$
4. **If zeroes of polynomial $x^2 + ax - b$ be reciprocal of each other, then b is equal to**
   (a) 1 (b) -1 (c) a (d) $\frac{1}{a}$
5. **If zeroes of the polynomial $x^2 + ax - b$ are equal and opposite, then a is equal to**
   (a) 1 (b) -1 (c) b (d) 0
6. **If the product of two zeroes of the polynomial $3x^3 + 5x^2 - 7x - 27$ be 3, then third zero is**
   (a) 9 (b) 1 (c) 3 (d) $\frac{1}{3}$
7. **The quadratic polynomial $p(x)$ with -24 and 4 as a product and one of the zeroes respectively is**
   (a) $x^2 + 2x - 24$ (b) $x^2 - 2x + 24$ (c) $x^2 - 2x - 24$ (d) $x^2 - 6x - 24$
8. **Five years ago, A was thrice as old as B and ten years later, A shall be twice as old as B. What is the present age of A?**
   (a) 20 (b) 50 (c) 60 (d) 40
9. **The value of k for which the lines $(k + 1)x + 3ky + 15 = 0$ and $5x + ky + 5 = 0$ are coincident is**
   (a) 14 (b) 2 (c) -14 (d) -2
10. **Sum of two numbers is 50 and their difference is 10, then the numbers are**
    (a) 30 and 20 (b) 10 and 40 (c) 12 and 38 (d) None of these
11. **Graphically, the pair of equations $6x - 3y + 10 = 0$; $2x - y + 9 = 0$ represents two lines which are**
    (a) intersecting at exactly one point (b) intersecting at exactly two points
    (c) coincident (d) parallel

12. **The distance of the point (–8, –7) from y-axis is**

(a) 5 units (b) 1 units (c) 8 units (d) 7 units

13. **The point which lies on the perpendicular bisector of the line segment joining the points A (–2, –5) and B (2, 5) is**

(a) (0, 0) (b) (0, 2) (c) (2, 0) (d) (–2, 0)

14. **The value of y for which the distance between the points $A(3, -1)$ and $B(11, y)$ is 10 units, is (are)**

(a) 5 (b) –5, 7 (c) 5, – 7 (d) 5, 7

15. **The ratio in which the line $2x + y - 4 = 0$ divides the line segment joining $A(2, -2)$ and $B(3, 7)$ is**

(a) 5 : 2 (b) 2 : 9 (c) 7 : 2 (d) 2 : 7

16. **$AOBC$ is a rectangle whose three vertices are vertices $A(0, 3)$, $O(0, 0)$ and $B(5, 0)$. The length of its diagonal is**

(a) 5 units (b) 3 units (c) $\sqrt{34}$ units (d) 4 units

17. **The perpendicular from A on side BC of a triangle ABC of intersects BC at D such that $DB = 3CD$ then $2AC^2 + BC^2$ is equal to**

(a) AB^2 (b) $3AB^2$ (c) $2AB^2$ (d) $4AB^2$

18. **Two similar triangles are congruent only when**

(a) their perimeters are equal (b) their areas are equal

(c) both (a) and (b) (d) none of them

19. **$(\text{cosec}\,\theta - \sin\theta)(\sec\theta - \cos\theta)(\tan\theta + \cot\theta)$ is equal to**

(a) 0 (b) 1 (c) –1 (d) none of these

20. **If $a\cos\theta - b\sin\theta = c$, then $a\sin\theta + b\cos\theta$ is equal to**

(a) $\pm\sqrt{a^2+b^2+c^2}$ (b) $\pm\sqrt{a^2+b^2-c^2}$ (c) $\pm\sqrt{c^2-a^2-b^2}$ (d) $\frac{1}{3}$

21. **If $x = a\sec\theta\cos\phi$, $y = b\sec\theta\sin\phi$ and $z = c\tan\theta$, then $\frac{x^2}{a^2} + \frac{y^2}{b^2}$**

(a) $\frac{z^2}{c^2}$ (b) $1 - \frac{z^2}{c^2}$ (c) $\frac{z^2}{c^2} - 1$ (d) $1 + \frac{z^2}{c^2}$

22. **If $60° + A = 90°$, then the value of cosec A is**

(a) 2 (b) 1 (c) 0 (d) $\sqrt{d}$

23. **If $2x = \sec\theta$ and $\frac{2}{x} = \tan\theta$, then the value of $2\left(x^2 - \frac{1}{x^2}\right)$ is**

(a) 4 (b) $\frac{1}{4}$ (c) 2 (d) $\frac{1}{2}$

24. **A die is thrown once, the probability of getting a prime number is**

(a) $\frac{2}{3}$ (b) $\frac{1}{3}$ (c) $\frac{1}{2}$ (d) $\frac{1}{6}$

25. **The probability of getting a bad egg in a lot of 400 is 0.035. The number of bad eggs in the lot is**

(a) 7 (b) 14 (c) 21 (d) 28

26. The probability that a number selected at random from the numbers 1, 2, 3 ... 15 is a multiple of 4 is

(*a*) $\frac{4}{15}$ (*b*) $\frac{2}{15}$ (*c*) $\frac{1}{5}$ (*d*) $\frac{1}{3}$

Case-based Question–1 :

A seminar is being conducted by an Educational Organisation, where the participants will be educators of different subjects. The number of participants in Hindi, English and Mathematics are 60, 84 and 108 respectively.

27. In each room the same number of participants are to be seated and all of them being in the same subject, hence maximum number of participants that can accommodated in each room are

(*a*) 14 (*b*) 12 (*c*) 16 (*d*) 18

28. What is the minimum number of rooms required during the event?

(*a*) 11 (*b*) 31 (*c*) 41 (*d*) 21

29. The LCM of 60, 84 and 108 is

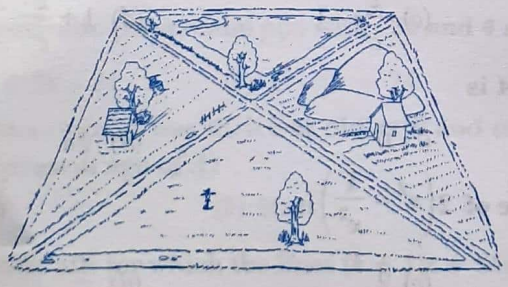
(*a*) 3780 (*b*) 3680 (*c*) 4780 (*d*) 4680

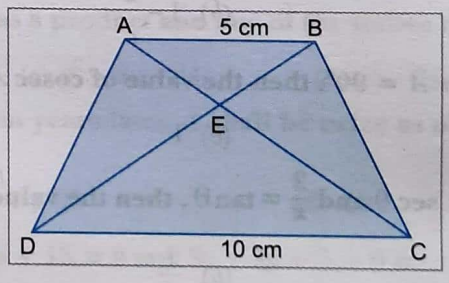
30. The product of HCF and LCM of 60,84 and 108 is

(*a*) 55360 (*b*) 35360 (*c*) 45500 (*d*) 45360

Case-based Question–2 :

A farmer has a field in the shape of a trapezium, whose map with scale 1 cm = 20 m, is given below. The field is divided into four parts by joining the opposite vertices.





31. The two triangular regions *AOB* and *COD* are

(*a*) similar by AA criteria (*b*) similar by SAS criteria

(*c*) similar by RHS criteria (*d*) not similar

32. The ratio of the areas of ΔAOB and ΔCOD is

(*a*) 4 : 1 (*b*) 1 : 4 (*c*) 1 : 2 (*d*) 2 : 1

33. **If the ratio of the perimeters of ΔAOB and ΔCOD would have been 1 : 4, then which of the following would be true?**

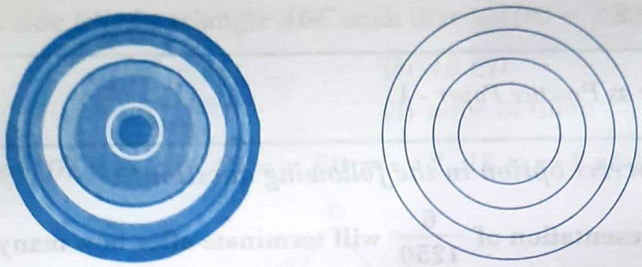
(a) $AB = 2\,CD$ (b) $AB = 4\,CD$ (c) $CD = 2\,AB$ (d) $CD = 4\,AB$

34. **If in triangles PQR and XYZ, $\frac{PQ}{XZ} = \frac{PR}{YX} = \frac{QR}{YZ}$, then**

(a) $\Delta PQR \sim \Delta XYZ$ (b) $\Delta PRQ \sim \Delta XZY$ (c) $\Delta PQR \sim \Delta XZY$ (d) $\Delta QRP \sim \Delta YXZ$

Case-based Question–3 :

A circular race - track was formed in the playground of a school for the sports day.



35. **If the circumference of the outer circle is 220 m. Its diameter is equal to**

(a) 42 m (b) 35 m (c) 21 m (d) 70 m

36. **The width of the track is 3.5 m, then the radius of the inner circle is**

(a) 66.5 m (b) 63 m (c) 31.5 m (d) 35 m

37. **The area covered in the track is equal to**

(a) 731.5 m^2 (b) 1155 m^2 (c) 2926 m^2 (d) 1463 m^2

38. **The circumference of the inner circle is given by**

(a) 63π m (b) $70\,\pi$ m (c) $\frac{63\pi}{2}$ m (d) 31.5π m

Assertion-Reason Questions:

For question numbers 39 to 40, two statements are given-one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below.

(a) **Both A and R are true and R is the correct explanation for A.**

(b) **Both A and R are true and R is not the correct explanation for A.**

(c) **A is true but R is false.**

(d) **A is false but R is true.**

39. **Assertion (A) :** The lines $2x - 5y = 7$ and $6x - 15y = 8$ are parallel lines.

Reason (R) : The system of linear equations $a_1x + b_1y + c_1 = 0$ and $a_2x + b_2y + c_2 = 0$ have infinitely many solutions if $\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$.

40. **Assertion (A) :** If the distance between $(x, 3)$ and $(4, 5)$ is $\sqrt{5}$, then $x = 3$ or 5.

Reason (R) : The third vertex of a triangle, if two of its vertices are at $(-3, 1)$ and $(0, -2)$ and the centroid is at $(0, 0)$ is $(3, 1)$.

PRACTICE PAPER 3

BASED ON BLUE PRINT-03

Time: 90 Minutes **Max. Marks: 40**

General Instructions: *Same as Practice Paper - 1.*

Choose and write the correct option in the following questions.

1. **The decimal representation of $\frac{6}{1250}$ will terminate after how many places of decimal?**
   (a) three (b) four (c) two (d) one
2. **The LCM of two numbers is 1200. Which of the following cannot be their HCF ?**
   (a) 600 (b) 500 (c) 400 (d) 200
3. **If n is any natural number then $6^n - 5^n$ always ends with**
   (a) 1 (b) 3 (c) 5 (d) 7
4. **Which of these rational number is a terminating decimal?**
   (a) $\frac{7}{18}$ (b) $\frac{13}{21}$ (c) $\frac{8}{200}$ (d) $\frac{16}{225}$
5. **The HCF and the LCM of 12, 21, 15 respectively are**
   (a) 3,140 (b) 12,420 (c) 3,420 (d) 420, 3
6. **LCM $(x, 18) = 36$ and HCF $(x, 18) = 2$ then x is**
   (a) 2 (b) 3 (c) 4 (d) 1
7. **Seven times a two digit number is equal to four times the number obtained by reversing the order of its digit. If the difference between the digits is 3, then the number is**
   (a) 36 (b) 33 (c) 66 (d) None of them
8. **The degree of polynomial $(x - 1)(x^4 + x^3 + x^2 + 1)$ is**
   (a) 4 (b) 5 (c) 3 (d) 2
9. **If $x + 2$ is a factor of $x^2 + ax + 2ab$ and $a + b = 4$ then**
   (a) $a = 5, b = -1$ (b) $a = -1, b = 5$ (c) $a = 3, b = 1$ (d) $a = 1, b = 3$
10. **If α, β, γ are the zeroes of the polynomial $f(x) = ax^3 + bx^2 + cx + d$ then $\frac{1}{\alpha} + \frac{1}{\beta} + \frac{1}{\gamma}$ is equal to**
    (a) $-c/d$ (b) $-c/a$ (c) $-b/d$ (d) c/d
11. **If 2 is zero of polynomials $p(x) = ax^2 - 3(a - 1)x - 2$ then value of a is**
    (a) 1 (b) 2 (c) -1 (d) -2
12. **The distance between the points A (0, 7) and B (0, –3) is**
    (a) 4 units (b) 10 units (c) 7 units (d) 3 units

13. **The line segment joining points $(-3, -4)$ and $(1, -2)$ is divided by y-axis in the ratio**

(a) 2 : 3 (b) 3 : 1
(c) 1 : 3 (d) none of these

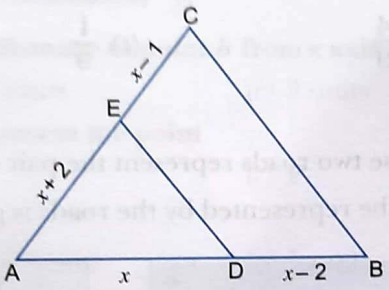
14. **If AD and PM are medians of triangles ABC and PQR respectively where $\Delta ABC \sim \Delta PQR$ then $\frac{AB}{PQ}$ is equal to**

(a) $\frac{BC}{QR}$ (b) $\frac{AC}{PR}$ (c) $\frac{AD}{PM}$ (d) all of them

15. **D is point on the side BC of a triangle ABC such that $\angle ADC = \angle BAC$ then CA^2 equals**

(a) $AB.BC$ (b) $AB.CD$
(c) $CB.CD$ (d) none of them

16. **In the given figure $DE \| BC$. If $AD = x$, $BD = x - 2$, $AE = x + 2$ and $EC = x - 1$ the value of x is**



(a) 4 (b) 8 (c) 16 (d) 32

17. **Two polygons of the same number of sides are similar, if their corresponding angles are _____ and their corresponding sides are _____.**

(a) equal, proportional (b) equal, equal
(c) proportional, equal (d) none of them

18. **A girl of height 90 cm is walking away from the base of lamp post at a speed of 1.2 m/s. If the lamp is 3.6 m above the ground then the length of her shadow after 4 seconds is**

(a) 1.2 m (b) 1.6 m (c) 2 m (d) none of them

19. **If $8 \tan x = 15$, then the value of $\sin^2 x - \cos^2 x$ is**

(a) $\frac{161}{289}$ (b) $\frac{289}{161}$ (c) $\frac{161}{64}$ (d) $\frac{64}{225}$

20. **If $4 \cot \theta = 3$, then the value of $\frac{\sin\theta + \cos\theta}{\sin\theta - \cos\theta}$ is**

(a) $\frac{1}{7}$ (b) 7 (c) -7 (d) $-\frac{1}{7}$

21. **If $x = a \cos \theta$ and $y = b \sin \theta$, then the value of $b^2x^2 + a^2y^2$ is**

(a) $\frac{a^2}{b^2}$ (b) a^2b^2 (c) $a^2 + b^2$ (d) ab^2

22. **If $\sqrt{3} \tan \theta = 3 \sin \theta$, then the value of $\sin^2\theta - \cos^2\theta$ is**

(a) $\frac{1}{3}$ (b) 3 (c) $\frac{2}{3}$ (d) $\frac{3}{2}$

23. **If $\sin\theta = \frac{4}{5}$, then the value of $\frac{\sin\theta - \cot\theta}{2\sin\theta}$ is**

(a) 32 (b) $\frac{1}{32}$ (c) 23 (d) $\frac{1}{23}$

24. **A coin is tossed 1000 times and 640 times a 'head' occurs. The empirical probability of occurrence of a head in this case is**

(a) 0.6 (b) 0.64 (c) 0.36 (d) 0.064

25. **A bag contains three green marbles, four blue marbles and two orange marbles. If a marble is picked at random, then the probability that it is not an orange marble is**

(a) $\frac{7}{9}$ (b) $\frac{2}{9}$ (c) $\frac{4}{9}$ (d) none of these

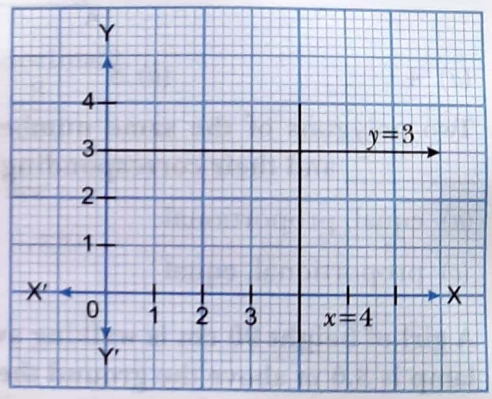
26. **If a number x is chosen from the numbers 1, 2, 3 and a number y is selected from the numbers 1, 4, 9. Then $P(xy < 9)$ is**

(a) $\frac{3}{9}$ (b) $\frac{4}{9}$ (c) $\frac{1}{9}$ (d) $\frac{5}{9}$

Case-based Question–1 :

Two roads cross each other, these two roads represent the pair of linear equations.

Let the pair of linear equations be represented by the roads is given by $x = 4$ and $y = 3$.



27. **Point of intersection of the pair of linear equations $x = 4$ and $y = 3$ is**

(a) (4, 0) (b) (3, 4) (c) (4, 3) (d) (3, 3)

28. **If the system of linear equations $x + 3y - 4 = 0$ and $2x + 6y - 7 = 0$ represent the two roads respectively then the roads are**

(a) parallel (b) intersecting

(c) coincident (d) can't say

29. **The value of k for which the system of linear equations $2x + 3y - 5 = 0$ and $6x + ky - 15 = 0$ has infinitely many solutions.**

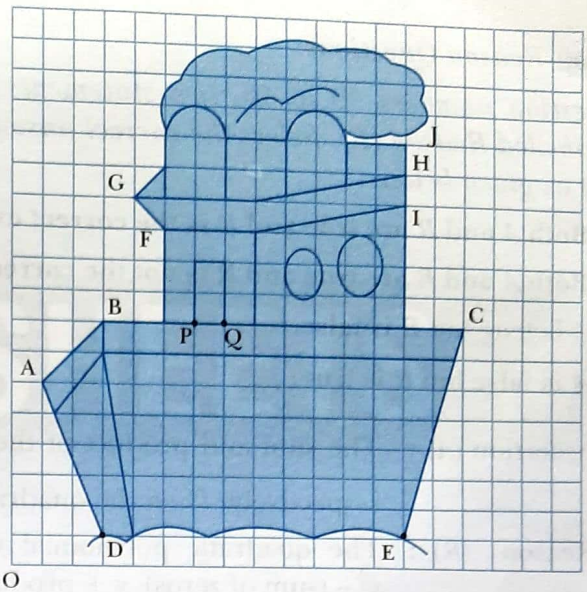
(a) 3 (b) 6 (c) 9 (d) –3

30. **The line $y = 3$ intersects y–axis at the point**

(a) (–3, 0) (b) (3, 0) (c) (0, 3) (d) (0, –3)

Case-based Question–2 :

Chintu made a drawing with the help of grid formed by mutually perpendicular lines drawn horizontally and vertically.



31. **If O is the origin, then the distance of point B from x axis is**

(a) 8 units (b) 6 units (c) 3 units (d) 2 units

32. **The coordinates (5, 11) represent the point**

(a) G (b) I (c) F (d) B

33. **The distance AD is**

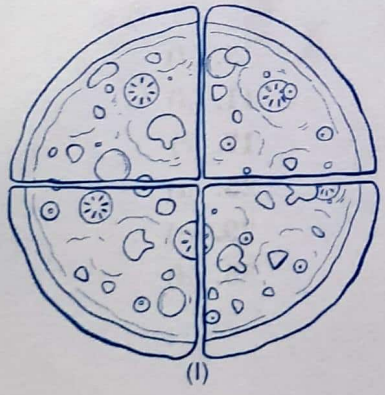
(a) 9 units (b) $\sqrt{29}$ units (c) 5 units (d) $\sqrt{27}$ units

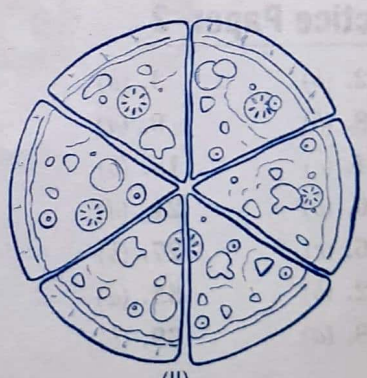
34. **The point Q divides the line segment BC in the ratio**

(a) 1 : 1 (b) 1 : 2 (c) 2 : 1 (d) 1 : 3

Case-based Question–3 :

A group of friends ordered two pizzas for them. One of them was divided into four equal parts while the other in six equal parts. The pizzas were served in pans, exactly the size of pizza, having diameter of 35 cm each.


(I)


(II)

35. **The area of the pan covered by one part of pizza I is**

(a) 962.5 cm^2 (b) 240.625 cm^2 (c) 481.25 cm^2 (d) 120.32 cm^2

36. **The area of the pan covered by each part of pizza II is**

(a) 160.42 cm^2 (b) 240.625 cm^2 (c) 962.5 cm^2 (d) 481.25 cm^2

37. **The circumference of the pan is**

(a) 440 cm (b) 3850 cm (c) 220 cm (d) 110 cm

38. **The ratio of area of two circles when ratio of circumference is 3 : 1 will be**

(a) 9 : 1 (b) 1 : 9 (c) 3 : 1 (d) 1 : 3

Assertion-Reason Questions:

For question numbers 39 to 40, two statements are given-one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below.

(a) Both *A* and *R* are true and *R* is the correct explanation for *A*.

(b) Both *A* and *R* are true and *R* is not the correct explanation for *A*.

(c) *A* is true but *R* is false.

(d) *A* is false but *R* is true.

39. Assertion (*A*) : The sum and product of the zeros of a quadratic polynomial are $-\frac{1}{4}$ and $\frac{1}{4}$ respectively. Then the quadratic polynomial is $4x^2 + x + 1$.

Reason (*R*) : The quadratic polynomial whose sum and product of zeros are given is x^2 – (sum of zeros). x + product of zeros.

40. Assertion (*A*) : Two similar triangles are always congruent.

Reason (*R*) : If the areas of two similar triangles are equal then the triangles are congruent.

Answers of Practice Paper–1

1. (*b*)	**2.** (*c*)	**3.** (*b*)	**4.** (*d*)	**5.** (*c*)	**6.** (*d*)
7. (*c*)	**8.** (*d*)	**9.** (*b*)	**10.** (*d*)	**11.** (*c*)	**12.** (*d*)
13. (*a*)	**14.** (*c*)	**15.** (*a*)	**16.** (*c*)	**17.** (*c*)	**18.** (*b*)
19. (*a*)	**20.** (*d*)	**21.** (*b*)	**22.** (*c*)	**23.** (*a*)	**24.** (*c*)
25. (*b*)	**26.** (*a*)	**27.** (*b*)	**28.** (*d*)	**29.** (*c*)	**30.** (*c*)
31. (*b*)	**32.** (*b*)	**33.** (*a*)	**34.** (*c*)	**35.** (*b*)	**36.** (*c*)
37. (*a*)	**38.** (*d*)	**39.** (*c*)	**40.** (*a*)		

Answers of Practice Paper–2

1. (*d*)	**2.** (*b*)	**3.** (*b*)	**4.** (*b*)	**5.** (*d*)	**6.** (*c*)
7. (*a*)	**8.** (*b*)	**9.** (*a*)	**10.** (*a*)	**11.** (*d*)	**12.** (*c*)
13. (*a*)	**14.** (*c*)	**15.** (*b*)	**16.** (*c*)	**17.** (*c*)	**18.** (*b*)
19. (*b*)	**20.** (*b*)	**21.** (*d*)	**22.** (*a*)	**23.** (*d*)	**24.** (*c*)
25. (*b*)	**26.** (*c*)	**27.** (*b*)	**28.** (*d*)	**29.** (*a*)	**30.** (*d*)
31. (*a*)	**32.** (*b*)	**33.** (*d*)	**34.** (*c*)	**35.** (*d*)	**36.** (*c*)
37. (*a*)	**38.** (*a*)	**39.** (*b*)	**40.** (*b*)		

Answers of Practice Paper–3

1. (*b*)	**2.** (*b*)	**3.** (*a*)	**4.** (*c*)	**5.** (*c*)	**6.** (*c*)
7. (*a*)	**8.** (*b*)	**9.** (*c*)	**10.** (*a*)	**11.** (*b*)	**12.** (*b*)
13. (*b*)	**14.** (*c*)	**15.** (*c*)	**16.** (*a*)	**17.** (*a*)	**18.** (*b*)
19. (*a*)	**20.** (*b*)	**21.** (*b*)	**22.** (*a*)	**23.** (*b*)	**24.** (*b*)
25. (*a*)	**26.** (*d*)	**27.** (*c*)	**28.** (*a*)	**29.** (*c*)	**30.** (*c*)
31. (*a*)	**32.** (*c*)	**33.** (*b*)	**34.** (*b*)	**35.** (*b*)	**36.** (*a*)
37. (*d*)	**38.** (*a*)	**39.** (*a*)	**40.** (*d*)		