X

UNIVERSAL MATRIC HR SEC SCHOOL

MTHEMATICS

CREATIVE QUESTIONS - II

(This type of questions may be asked in the exam)

1. If A and B are two sets and U is the universal set such that n(U) = 700, n(A) = 200, n(B) = 300, n(A∩B)=100 then n(A'∪B') = ...
   a) 400 b) 300 c) 500 d) 600
2. If P and Q are disjoint sets then P∩Q = ...
   a) P b) Q c) ∅ d) P∪ Q
3. The next term of an A.P $5\sqrt{2}$, $9\sqrt{2}$, $13\sqrt{2}$, ...
   a) $4\sqrt{2}$ b) $16\sqrt{2}$ c) $17\sqrt{2}$ d) 17
4. If $\frac{2}{3}$, k, $\frac{5}{8}$ k are in A.P then k = ...
   a) $\frac{33}{16}$ b) $\frac{16}{3}$ c) $\frac{17}{33}$ d) $\frac{16}{33}$
5. If $\frac{-2}{7}$, x, $\frac{-7}{2}$ are in G.P then x = ...
   a) 1 b) -1 c) ± 1 d) 0
6. Sum of an infinite series in G.P exists only if ....
   a) r > 1 b) r < 1 c) r = 0 d) r = 1
7. $x + 2y = 7$ and $x - 2y = 1$ then x = ...
   a) 8 b) 4 c) 6 d) 3
8. For the system of equations $a_1x + b_1y + c_1 = 0$, $a_2x + b_2y + c_2 = 0$ if $\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$ then the system has ..... solutions.
   a) Unique b) Two c) Infinite d) No
9. G.C.D of a^{m+1}, a^{m+2}, a^{m+3} is .....
   a) a^{m+1} b) a^{m+2} c) a^{m+3} d) a^{3m+6}
10. The remainder when $p(x) = x^4 + 3x^2 + 2x + 1$ is divided by $(x-1)$ is .....
    a) 0 b) 7 c) 2 d) 3
11. The product of $\frac{x^3y^2}{9z^4}$ and $\frac{27z^3}{x^4y^2}$ is .....
    a) $\frac{x}{3z}$ b) $\frac{3z}{x}$ c) $\frac{3x}{z}$ d) $\frac{3}{xz}$
12. $\sqrt{(2x+3y)^2 - 24xy}$ = ...
    a) $|(2x+3y)|$ b) $|(3x-2y)|$ c) $|(2x-3y)|$ d) $|(2x-3y)^2|$
13. If α and β are the roots of $x^2 - 5x + 1 = 0$ then the value of $\alpha^2 + \beta^2$ = ...
    a) 27 b) 23 c) 21 d) 22
14. If $\begin{bmatrix} 3 & 2 \\ 5 & 1 \end{bmatrix} \begin{bmatrix} a \\ b \end{bmatrix} = \begin{bmatrix} 8 \\ 18 \end{bmatrix}$ then the value of a and b = ...
    a) 4, 2 b) -4, 2 c) 4, -2 d) 4, 4
15. The centroid divides each of the median of the triangle in the ratio = ...
    a) 1:1 b) 2:1 c) 3:1 d) 1:2
16. Slope of the line $2x + 3y + 6 = 0$ is .....
    a) $\frac{2}{3}$ b) $\frac{-2}{3}$ c) 3 d) 2
17. Slope of the line perpendicular to $2x + y + 3 = 0$ is .....
    a) 2 b) $\frac{1}{2}$ c) $\frac{-1}{2}$ d) -2
18. The equation of a line passing through (2,1) and (1, 2) is ....
    a) $x + y - 3 = 0$ b) $x - y - 3 = 0$ c) $x+y+3 = 0$ d) $x - y + 3 = 0$
19. A man walks 12km due east and 5km due north. How far is he from the starting point?
    a) 13km b) 14km c) 15km d) 17km
20. In a ..... triangle, the square of hypotenuse is equal to the sum of the squares of other two sides.
    a) Equilateral b) Isosceles c) Right angled d) Obtuse angled.
21. $1 - \cos^2\theta = \frac{3}{4}$ then $\sin\theta$ = ...
    a) $\frac{\sqrt{3}}{2}$ b) $\frac{1}{2}$ c) 1 d) 0
22. $\tan 45° - \sin 90°$ = ...
    a) 0 b) 1 c) -1 d) $\sqrt{2}$
23. If $2\cos\theta = 1$ then θ = ...
    a) 30 ° b) 45° c) 60° d) 90°
24. Total surface area of a hemisphere is .... times square of its radius.
    a) π b) 2π c) 3π d) 4π
25. The smallest value of the collection of data is 12 and the range is 59. The largest value of the collection of data is ....
    a) 71 b) 61 c) 51 d) 41
26. The range of 43, 24, 38, 56, 22, 39, 45 is ....
    a) 56 b) 22 c) 34 d) 78
27. The range of first 10 even natural numbers is .....
    a) 22 b) 18 c) 8 d) 12
28. The probability that it will rain on a particular day is 0.76.The probability that it will not rain on that day is .....
    a) 0.76 b) 0.24 c) 0.34 d) 0
29. Probability of sure event is .....
    a) 0 b) 1 c) $\frac{1}{2}$ d) $\frac{1}{4}$
30. Probability of impossible event is
    a) 0 b) 1 c) $\frac{1}{2}$ d) $\frac{1}{4}$

KEY ANSWER:

1.	d)	600
2.	c)	$\emptyset$
3.	c)	$17\sqrt{2}$
4.	d)	$\frac{16}{33}$
5.	c)	± 1
6.	b)	r < 1
7.	b)	4
8.	c)	Infinite
9.	a)	a^{m+1}
10.	b)	7
11.	d)	$\frac{3}{xz}$
12.	b)	$\|2x - 3y\|$
13.	b)	23
14.	c)	4, -2
15.	b)	2:1
16.	b)	$\frac{-2}{3}$
17.	b)	$\frac{1}{2}$
18.	a)	$x + y - 3 = 0$
19.	a)	13 km
20.	c)	Right angled
21.	a)	$\frac{\sqrt{3}}{2}$
22.	a)	0
23.	c)	60°
24.	c)	3π
25.	a)	71
26.	c)	34
27.	b)	18
28.	b)	0.24
29.	b)	1
30.	a)	0