HOLY CROSS MATRIC HR SEC SCHOOL

Class: X Revision Test - MATHS Marks: 50

PART-I

Choose the correct answer 8 x 1 = 8

1. If {(a,8),(6,b)} represents an identity function, then the value of a and b are respectively
a) (8,6) b) (8,8) c) (6,8) d) (6,6)
2. $7^{4k} \equiv$ _____ (mod 100)
a) 1 b) 2 c) 3 d) 4
3. The straight line given by the equation x=11 is
a) parallel to X axis b) parallel to Y axis
c) passing through the origin d) passing through the point (0,11)
4. If $(\text{Sin } \alpha+\text{cosec } \alpha)^2+(\cos \alpha+\sec \alpha)^2=k+\tan^2\alpha+\cot^2\alpha$ then the value of k is equal to
a) 9 b) 7 c) 5 d) 3
5. Which of the following is incorrect?
a) P(A)>1 b) 0≤P(A)≤1 c) P(∅)=0 d) P(A)+P(Ā)=1
6. The sequence -3,-3,-3,…… is
a) an A.P only b) a G.P only c) neither A.P nor G.P d)both A.P and G.P
7. The sum of all deviations of the data from its mean is
a) always positive b) always negative c) zero d) non-zero integer
8. The angel of elevation and depression are usually measured by a device called
a) Theodolite b) Clinometers c) Periscope d) Telescope

PART – II

Answer any 6 questions. 6 x 2 = 12

9. Is 7x5x3x2+3, a composite number? Justify your answer.
10. If 3+k, 18-k,5k+1 are in A.P, then find k.
11. If $1^3+2^3+3^3+\ldots\ldots+k^3 = 16900$, then find 1+2+3+…..+k.
12. If one root of the equation $3x^2+kx+81=0$ (having real root) is the square of the other then find k.
13. What is the inclination of a line whose slope is 1?
14. If A is an event of a random experiment such that P(A) : P (Ā) = 17 : 15 and n(S) = 640 then find P (Ā).
15. The mean of a data is 25.6 and its coefficient of variation is 18.75. Find the standard deviation.

16. Show that the straight lines 3x-5y+7=0 and 15x+9y+4=0 are perpendicular.

PART – III

Answer any 4 questions. 4 x 5 = 20

17. Let A = {x∈W / x<2}, B = {x∈N / 1<x≤4} and C = {3,5} verify that AX(B∩C) = (AXB) ∩ (AXC)

18. Find the sum of $10^3+11^3+12^3+\ldots\ldots20^3$.

19. A = $\begin{bmatrix} 1 & -1 \\ 2 & 3 \end{bmatrix}$ Show that $A^2-4A+5I_2=0$

20. State and prove Angle Bisector theorem.

21. Find the value of k, if the area of a quadrilateral is 28 sq.units, whose vertices are (-4,-2), (-3, k) (3, -2) and (2, 3).

22. A card is drawn from a pack of 52 cards. Find the probability of getting a Queen or a diamond or a black card.

PART – IV

Answer the questions. 2 x 5 = 10

23. a) Draw the graph of $y=x^2+3x+2$ and use it to solve $x^2+2x+1=0$.

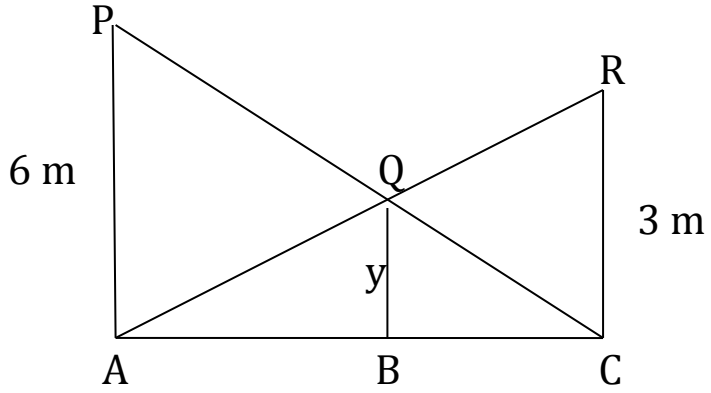
(OR)

b) A train covered a certain distance at a uniform speed. If the train would have been 10 km / hr faster it would have taken 2 hour less than the scheduled time and if the train were slower by 10 km / hr, it would have taken 3 hour more than the scheduled time. Find the distance covered by the train.

24. a) Construct a triangle Δ PQR such that QR = 5 cm, ∠P=30° and the altitude from P to QR is of length 4.2 cm.

(OR)

b) Two Vertical poles of heights 6 m and 3 m are erected above a horizontal ground AC. Find the value of y.



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