SRI VENKATESWARA BALAKUTEER
SYAMALANAGAR::GUNTUR

Class: X **PERIODIC TEST - II** Marks:40m

Sub: Mathematics Time : 1½ Hr

General Instructions:

1) All questions are compulsory
2) The question paper consists of 20 questions divided into four sections.
3) Section A comprises of 10 question of 1 mark each. Section B comprises 3 questions of 2 marks each. Section C comprises 4 questions of 3 marks each. Section D comprises of 3 questions of 4 marks.
4) There is no overall choice. However, an internal choice has been provided.

SECTION –A 5x1=5m

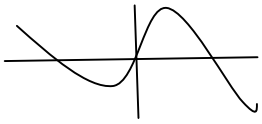
Q (1-5) are multiple choice questions. Select the most appropriate answer from the given options.

1. The decimal representation of $\frac{13}{2^3 x\ 5}$ will termine ( )
   a) After 1 decimal b) after 2 decimal places
   c) after 3 decimal places d) not terminate.

2. If the sum of zeroes of the quadratic equation $2x^2-3x + 5$ is ( )
   a) 3/2 b) 2/3 c) 5/2 d) 2/5

3. Which term of the A.P 27, 24,21, ……. Is zero? ( )
   a) 9 b) 10 c) 8 d) 5

4. The number of zeroes of the given polynomial are ( )



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

5. If tan θ = cot θ then the value of θ is ( )
   a) 30^0 b) 45^0 c) 60^0 d) 90^0

Q (6-10) Fill in the blanks. 5x1=5m

6. The empirical relation between Mean, Median and Mode is _____
7. A die is thrown once. The probability of getting prime number is _____
8. In ΔABC , DE||BC, if AD= 3cm, DB = 6cm, CE= 8cm then the length of AE is _____
9. A tangent PQ at a point P of a circle radius 7cm meets a line through centre O at a point Q so that OQ = 25cm. The length of PQ is _____
10. If the height of the tower is equal to the shadow of the tower then the angle of elevation is _____

SECTION -B

Q(11-13) Questions carry 2 marks each. 3X2=6M

11. Find the value of m, if the HCF of 91 and 26 is expressible in the form of 2m + 5.

12. Verify the relationship between zeroes and co-efficient of the given polynomial.
    $X^2 + 5x + 6$

13. The 6^{th} and 17^{th} term of an A.P are 19 and 41 respectively. Find the 40^{th} term.

    Or

    Which term of the A.P 5,15,25 , ……. will be 130 more than its 31^{st} term.

SECTION –C

Q(14-17) carry 3 marks each. 4 x 3= 12m

14. Prove that the length of the tangents drawn from an external point to a circle are equal.
15. If $\sin\theta = \frac{4}{5}$, then find the value of $\frac{4\tan\theta - 5\cos\theta}{\sec\theta + 4\cot\theta}$
16. Find the ratio in which the line segment joining (-2, -3) and (5,6) is divided by x – axis . Also find the co-ordinates of the point of divisions.

    Or

    Show that the points (-3, 2) (-5, -5) (2, -3) and (4,4) are the vertices of a Rhombus .

17. A bag contains 15 red marbles, 20 white marbles and 10 green marbles. Find the probability of getting (a) red (b) not white (c) not green.

SECTION –D

Q(18-20) carry 4 marks each. 3 x 4m=12m

18. Prove that

    a) $\sqrt{\frac{1-\cos A}{1+\cos A}}$ = cosec A – cot A

    b) If a cos θ + b sin θ = m and a sin θ - b cosθ = n, prove that $a^2 + b^2 = m^2 + n^2$

19. Find the value of a and b if the median of the data is 16 and the total frequencies is 70.

Class	0 – 5	5 – 10	10-15	15 – 20	20 -25	25 – 30	30-35	35-40
Frequency	12	a	12	15	b	6	6	4

Or

Find the Mean and Mode of the following data.

Class interval	0 – 10	10 – 20	20 -30	30- 40	40 -50
Frequency	7	10	15	8	10

20. The angle of elevation of the top of a hill at the foot of the tower is 60^0 and the angle of elevation of the top of the tower from the foot of the hill is 30^0. If the tower is 50 m high, What is the height of the hill?

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