**JNV**

**PERIODIC WRITTEN TEST : 2 SESSION 2019-20**

**MATHEMATICS**

**Class : X**

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| Roll No:X | Time: |
| Date : | MM :50 |

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| 1 | Is x = –2 a solution of the equation x2 – 2x + 8 = 0? | 1 |
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| 2 | Find the 10th term of the AP 2, 7, 12, ... | 1 |
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| 3 | The nth term of an AP is 7 – 4n. Find its common difference. | 1 |
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| 4 | In ΔABC, right angled at B, AB = 5 cm and sin C = C:\fake\image1.png. Determine the length of side AC.  C:\fake\image2.png | 1 |
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| 5 | If sin θ = cos θ, find the value of θ. | 1 |
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| 6 | Find the length of the tangent drawn from a point whose distance from the centre of a circle is 25 cm. Given that radius of the circle is 7 cm. | 1 |
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| 7 | In the given figure, find C:\fake\image3.pngQSR. C:\fake\image4.png | 1 |
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| 8 | Find the value of p so that the quadratic equation px(x – 3) + 9 = 0 has two equal roots. | 2 |
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| 9 | Find 10th term from end of the AP 4, 9, 14, .... , 254. | 2 |
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| 10 | Find the sum: –5 + (–8) + (–11) + ... + (–230). | 2 |
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| 11 | If 3 tan θ = 4, find the value of C:\fake\image5.png. | 2 |
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| 12 | In figure, O is the centre of the circle, PQ is a tangent to the circle at A. If C:\fake\image6.pngPAB = 58°, find C:\fake\image7.pngABQ and C:\fake\image8.pngAQB.  C:\fake\image9.png | 2 |
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| 13 | Construct a triangle of sides 5 cm, 6 cm and 7 cm and then a triangle similar to it whose sides are C:\fake\image10.pngof the corresponding sides of it. | 3 |
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| 14 | Using quadratic formula solve the following quadratic equation: 13x2 + 9 (x + 1) – (2x + 3) (x + 2) = 6 | 3 |
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| 15 | How many terms of the AP 3, 5, 7, ... must be taken so that the sum is 120? | 3 |
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| 16 | If sec θ = C:\fake\image11.pngverify that C:\fake\image12.png | 3 |
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| 17 | Evaluate : C:\fake\image13.png | 3 |
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| 18 | In figure, two equal circles, with centres O and O′, touch each other at X. OO′ produced meets the circle with centre O′ at A. AC is tangent to the circle with centre O, at the point C. O′D is perpendicular to AC. Find the value of C:\fake\image14.png.  C:\fake\image15.png | 3 |
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| 19 | Construct tangents to a circle of radius 3 cm from a point on concentric circle of radius 5 cm and measure its length. | 3 |
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| 20 | Solve the following for x : C:\fake\image16.png | 4 |
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| 21 | If the pth terms of an AP is C:\fake\image17.pngand the qth term is C:\fake\image18.pngshow that the sum of pq terms is C:\fake\image19.png(pq + 1). | 4 |
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| 22 | In figure, OP is equal to diameter of the circle. Prove that C:\fake\image20.pngAPB is an equilateral triangle. C:\fake\image21.png | 4 |
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