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Name: _____ R. No.____ Class/ Sec:_____ Date:_____ Invig. Sign_____

ATOMIC ENERGY CENTRAL SCHOOL, NARORA

CLASS X MATHEMATICS PERIODIC TEST FIRST 2018-19

MM: 40 TIME : 1 Hr. 30 Min.

General Instructions:

- **All questions are compulsory and marks are mentioned in front of each question.**
- **Electronic devices are prohibited to use in the examination.**
- **Use Blue or Black Pen only.**
- **Q.N. 1 - 4 is of one mark each. Q.N. 5 - 8 is of two marks each. Q.N. 9-12 is of three marks each. Q.N. 13-16 is of four marks each.**

Q1. Find the HCF $\times$ LCM of 170 and 100.

Q2. Find a quadratic polynomial whose zeroes are 3 and – 2.

Q3. Find the point of intersection of line $3x + 7y = 3$ with x-axis.

Q4. Find the discriminant of $x^2 + 5x + 5 = 0$.

Q5. Prove that there is no natural number for which 4^n ends with the digit zero.

Q6. Find zeroes of $2x^2 - 5x + 3$.

Q7. Find the value of k so that the equations $x + 2y = -7$ and $2x + ky + 14 = 0$ will represent coincident lines.

Q8. If one root of the quadratic equation $2x^2 + px + 4 = 0$ is '2', then find the other root and also find the value of 'p'.

Q9. Show that the square of any positive integer is either of the form 3m or 3m + 1 for some integer m.

"OR"

Prove that if a and b are odd positive integers then a^2+b^2 is even integer.

Q10. Form a quadratic polynomial whose one zero is $4 + \sqrt{7}$ and other zero is $4 - \sqrt{7}$.

Q11. Solve the system of equations: $4x + 3y = 1$; $6x + y = 2$.

Q12. Solve the equation $2x^2 - 5x + 3$ by the method of completing square or using quadratic formula.

Q13. Find all the zeroes of the polynomial $4x^4 - 20x^3 + 23x^2 + 5x - 6$ if two of its zeros are 2 and 3.

Q14. Solve graphically $3x + 2y - 4 = 0$ and $2x - y - 2 = 0$.

Q15. Two audio cassettes and three video cassettes cost Rs. 340. But three audio cassettes and two video cassettes cost Rs. 260. Find the price of a pair of an audio and a video cassette.

Q16. Divide 29 into two parts so that the sum of squares of the parts is 425.

"OR"

In a class test, the sum of shefali's marks in maths and English is 30. Had she got 2 marks more in maths and 3 marks less in English, the product of their marks would have been 210. Find her marks in the two subjects.
