# ATOMIC ENERGY EDUCTION SOCIETY <br> PERODIC TEST II (2017-18) <br> DATE OF EXAM- 16 Sept 2017 

Class- IX
Subject- Mathematics
Time: $1^{1 / 2}$ hrs
Marks: 40

## Section A

$\mathbf{1 M} \times 3=\mathbf{3 M}$

1. What is the rationalising factor of $(7-2 \sqrt{ } 3)$
2. Using appropriate identity factorise $4 x^{2}-y^{2}$
3. Write the angle which is one - fifth of its complement.

## Section B

$\mathbf{2 M} \times 3=6 \mathrm{M}$
4. Find the value of $K$ for which the point $(-1,-3)$ lies on the graph of the equation $2 x+y+k=0$
5. State any two Euclid's axioms.
6. Express the number $0 . \overline{99}$ in the form $\mathrm{p} / \mathrm{q}$ where p and q are integers and $\mathrm{q} \neq 0$

> Section C
$\mathbf{3 M x 5} \mathbf{= 1 5 M}$
7. Find the remainder when the polynomial $f(x)=4 x^{3}-12 x^{2}+14 x-3$ is divided by $2 x-1$
8. Represent $\sqrt{ } 3$ on a number line.
9. Find $a$ and $b$ if $\frac{1-\sqrt{3} 3}{1+\sqrt{3}}=a+b$
10. In which quadrant or on which axis does each of the following points lie $(-5,3),(4,-3)$, $(5,0),(6,6),(-5,-4),(0,4)$.
11. In the figure if $x+y=w+z$, then prove that $A O B$ is a straight line.

12. In $\triangle \mathrm{ABC}, \mathrm{AC}>\mathrm{AB}$. The bisectors of $\angle \mathrm{B}$ and $\angle \mathrm{C}$ intersect each other at O . Prove that $\mathrm{OC}>\mathrm{OB}$
13. If $a+b+c=6$ and $a b+b c+c a=11$ find the value of $a^{3}+b^{3}+c^{3}-3 a b c$
14. Give the geometric representation of $y=4$ as an equation in
a) one variable
b) Two variables
15. In the figure $D$ and $E$ are points on the base of $\triangle A B C$ such that $B D=C E$ and $A D=A E$. Prove that $\mathrm{AB}=\mathrm{AC}$


