ATOMIC ENERGY CENTRAL SCHOOL NO 3 RAWATBHATA

Periodic Test I (2019-20)

CLASS – IX SUB- MATHEMATICS TIME:$1\frac{1}{2}$ Hours MM:40

Instructions –

- All questions are compulsory.
- The question paper consists of 16 questions divided into 4 sections (A,B,C& D).
- Section A comprises of 4 questions of 1 mark each.
- Section B comprises of 4 questions of 2 mark each.
- Section C comprises of 4 questions of 3 mark each.
- Section D comprises of 4 questions of 4 mark each.

SECTION A

Q1 Find an irrational number between 2/3 and 3/5.

Q2 Find zero of the polynomial p(x)=2x+1.

Q3 Find the product (2+√3) (2-√3).

Q4 Find $a^3+b^3+c^3$ if a+b+c=0.

SECTION B

Q5 Write in p/q form $0.\overline{27}$.

Q6 Simplify $[8^{1/3} \div 2^{-2}]^{1/2}$.

Q7 Find remainder when the polymer $x^4+x^3-2x^2+x+1$ is divided by x-1.

Q8 Factorise y^2-5y+6.

SECTION C

Q9 Represent √8.6 on the number line.

Q10Find the value of k if x-1 is a factor of $4x^3+3x^2-4x+k$.

Q11 Factorise $8a^3+b^3+27c^3-18xyz$.

Q12 Find $(103)^3$ using a suitable identity.

SECTION D

Q13 Show that $a^3+b^3+c^3-3abc=1/2\ (a+b+c)[(a-b)^2+(b-c)^2+(c-a)^2]$.

Q14 If a and b are rational numbers and $\frac{(5+2\sqrt{3})}{(7+4\sqrt{3})}$= a-b√3,find the values of a and b.

Q15 If a=5+2√6,then find the value of $a^2+ 1/a^2$.

Q16 Factorise: x^3-3x^2-9x-5.