1ST REVISION EXAM -BATCH 1
SECTION – A (40 marks)
Answer all the questions in this Section

Question 1

a) Find the total surface area of a hollow cylinder open at both ends, if its length is 12cm, external diameter is 8 cm and the thickness is 2 cm.

b)If a,b,c,d are in continued proportion, prove that $\left(a^2+b^2+c^2\right)\left(b^2+c^2+d^2\right)=\left(ab+bc+cd\right)^2$

c) Solve by factorization $x^{\frac{2}{3}}-2x^{\frac{1}{3}}=15$

Question 2

a) Show that 2x+7 is a factor of $2x^3+5x^2-11x-14$. Hence factorise the given expression completely, using the factor theorem.

b) The median of the following observations 11, 12, 14, 18, (x+4), 30, 32, 35, 41 arranged in ascending order is 24. Find x.

c) The ratio of the 11^{th} term to the 18^{th} term of an A.P is 2:3. Find all the ratio of the 5^{th} term to the 21^{st} term, and also the ratio of the sum of first five terms to the sum of first 21 terms

Question 3

a) Mohan deposits ₹80 per month in a cumulative deposit account for six years. Find the amount payable to him on maturity, if the rate of interest is 6% per annum.

b)Find the values of K for which each of the following quadratic equation has equal roots $(k-4)x^2+2(k-4)x+4=0$

c) Use graph paper for this question.

The points A(2, 3), B(4, 5) and C(7, 2) are the vertices of ΔABC.

(i) Write down the coordinates of A', B', C' if ΔA'B'C' is the image of ΔABC, when reflected in the origin.

(ii) Write down the co-ordinates of A", B", C" if ΔA"B"C" is the image of ΔABC, when reflected in the x-axis.

(iii) Mention the special name of the quadrilateral BCC"B" and find its area.

Question 4

a) Given $\frac{x^3+12x}{6x^2+8}=\frac{y^3+27y}{9y^2+27}$. Using componendo and dividendo find $x:y$

b) Find the set of values of $x\in N$ satisfying,

$5x+2 \geq 2x-4$ *and* $\frac{x}{4}-5 \leq \frac{5}{4}-x$

and represent it on the same number line.

c) Find the mean of the following distribution by Assumed Mean Method;

Class interval	20-30	30-40	40-50	50-60	60-70	70-80
Frequency	10	6	8	12	5	9