Step Academy official

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STUDENT NAME	
PAPER CODE	106446
TIME ALLOWED	60
Paper Date	05-02-2026

CLASS	New 1st Year (FSC/ICS)
SUBJECT	Mathematics
TOTAL MARKS	25
Paper Type	

Q1. Choose the correct answer. **5X1=5**

1. Common difference of arithmetic sequence 3,5,7,.... is:

(A) $\frac{-2}{15}$ **(B)** $\frac{2}{15}$ **(C)** 2 **(D)** $\frac{1}{2}$

2. An arithmetic progression has a first term 12 and a fifth term 18 the sum of first 25 terms is:

(A) 400 **(B)** 350 **(C)** 750 **(D)** 150

3. What is sum of n term with nth term a_n=4n+1:

(A) 2n(2n+3) **(B)** n(2n+3) **(C)** 2n+3 **(D)** 4n+6

4. Which of the given cannot be any term of G.P:

(A) -1 **(B)** 0 **(C)** 1 **(D)** 5

5. $\sum_{k=1}^{n} k^3$ is equal to .....

(A) $\left[\frac{n(n+1)}{2!}\right]$ **(B)** $\left[\frac{n(n+1)}{2}\right]^2$ **(C)** $\frac{n(n-1)}{2}$ **(D)** $\frac{n(n+1)(2n+1)}{6}$

Q2. write the answers of following questions. **5X2=10**

1 . If 6,11,16 are three A.Ms between a and b, find a and b.

2 . Sum the series: 3+5-7+9+11-13+15+17-19+... to 3n terms.

3 . Insert five harmonic means between the following given number: $\frac{-2}{5}$ *and* $\frac{2}{13}$

4 . If 2+x,5+x and 9+x are in H.P., find the value of x.

5 . Sum the following series upto n terms: 1 x 2 x 4 + 2 x 3 x 7 + 3 x 4 x 10 + ...

Q3. write the answers of following questions. **2X5=10**

1 . Find the sum of n terms of series whose n^{th} terms is $n^3+\frac{3}{2}n^2+\frac{1}{2}n+1$

2 . Find n so that $\frac{a^{n+1}+b^{n+1}}{a^n+b^n}$ may be H.M between a and b.