AADHARSHILA STUDIES

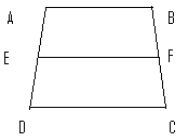
TEST PAPER – MATHEMATICS(X)
M.M : - 80 TIME : - 3 hrs.

SECTION - A

1. State Euclid's division lemma.
2. If one zero of polynomial $5x^2+13x+a$ is reciprocal of the other, find the value of other.
3. In ΔABC, DE||BC meeting AB at D and AC at E. If $\frac{AB}{BD}$ = 4and CE = 2 cm, find the length of AE.
4. If 4 cotA = 3, find the value of $\frac{\sin A-4\cos A}{\sin A+4\cos A}$.
5. Find the value of $4\cot^2\theta-4\cos ec^2\theta$.
6. Find the value of $\frac{\sin 36^0}{2\cos 54^0}-\frac{2\sec 41^0}{3\cos ec49^0}$.
7. Why is $\frac{11}{30}$ a non-terminating decimal number?
8. Find he value of 'k' if following system of equations has no solutions: 3x-y-5=0 ; 6x-2y-k=0.
9. If cosA = $\frac{3}{5}$, find $9\cot^2 A-1$.
10. The point of intersection of ogives is given by (20.5, 30.4). What is median?

SECTION – B

11. Is $7\times5\times3\times2+3$ a composite number. Justify your answer.
12. Find the zeros of polynomial $7x^2-6-11x$ and verify the relation between zeros and coefficients of polynomial.
13. Solve for x and y : $\frac{a}{x}-\frac{b}{y}=0$; $\frac{ab^2}{x}+\frac{a^2b}{y}=a^2+b^2$.
14. Find A if $\sin(A+36)=\cos A$,where A+36 is acute angle.
15. In figure EF || DC|| AB, prove that $\frac{ED}{AE}=\frac{FC}{BF}$.



16. In an equilateral Δ ABC, Ad is altitude drawn from A to BC. Prove that $3AB^2=4AD^2$.
17. Find the mode marks from following data:

Marks Obtained	0-10	10-20	20-30	30-40	40-50
No. of Students	6	8	5	4	4