

MATHEMATICS

SELF ASSESSMENT – I

TIME : 45 minutes

F. M. – 20

Attempt all questions

1. If $x = 3 + 2\sqrt{2}$, find the values of (i) $x^2 + \frac{1}{x^2}$ (ii) $x^3 - \frac{1}{x^3}$ [2 + 2]
2. If $a + b + c = 0$, find the value of $\frac{(b+c)^2}{bc} + \frac{(c+a)^2}{ca} + \frac{(a+b)^2}{ab}$ [4]
3. If $a + b = 1$ and $a - b = 7$, find (i) $5(a^2 + b^2)$ (ii) ab [2 + 2]
4. Factorise: $9x^2 - 4a^2 + 4ay - y^2$ [2]
5. Factorise: $8(a - 2b)^2 - 2a + 4b - 1$ [2]
6. Factorise: $a^3 - 3a^2b + 3ab^2 - 2b^3$ [4]
