

MCA (5x1=5)

Section A

Q1 The value of $(a+b)^2 + (a-b)^2$ is equal to
a) $9(a+b)$ (b) $9(a-b)$ ~~(c) $9(a^2+b^2)$~~ (d) $2(a^2-b^2)$

Q2 $(-7x)^2 - (-6y)^2$ is same as:
~~(a) $(7x+6y)(7x-6y)$~~ (b) $(-7x-6y)(7x-6y)$

(c) $(49x+36y)(49x-36y)$ (d) $(-49x+36y)(49x-36y)$

Q3 If $m^2+n^2=117$ and $mn=54$, then the value of $\frac{m+n}{m-n}$ is
a) 3 (b) 15 (c) 25 ~~(d) 5~~

Q4 If $\frac{x^4+1}{x^2}=3$, then $(x+\frac{1}{x})^2=$
a) 3 (b) 4 ~~(c) 5~~ (d) 10

Q5 If $(3a+4b)=16$ and $ab=4$, then $9a^2+16b^2=$
a) 140 (b) 150 ~~(c) 160~~ (d) 170

Section B

(3x2=6)

Q6 Factors of $50p^2+60pq+18q^2$ ~~$2((5p+3q)^2)$~~

Q7 Factors using suitable identities: $\frac{m^2}{4} + \frac{mk}{3} + \frac{k^2}{4} + 3nk + 2mn + 4n^2$ ~~$(\frac{m}{3} + \frac{k}{2} + 3n)^2$~~

Q8 Figure out the product of $x+2$ and $x+3$ using algebra tiles ~~x^2+5x+6~~

Section C

2x3=6

Q9 The sum of three numbers is 10 and their product is 25. The sum of their squares is 38. Try to use the identity. To find the sum of the cubes of these three numbers. 145

Q10 Find the values using suitable identities: $(-299)^3 - 26730899$