2(x) $\frac{a^5}{a^3} \times a^2$

$= a^{5-3} \times a^2$

$= a^2 \times a^2$

$= a^{2+2}$

$= a^4$

2(xi) $\frac{4^5 \times a^8 b^3}{4^5 \times a^5 b^2}$

$= a^{8-5} b^{3-2}$

$= a^3 b$

2(xii) $(2^3 \times 2)^2$

$= (2^{3+1})^2$

$= (2^4)^2$

$= 2^8$

3(ii) $2^3 > 5^2$

LHS $= 2^3 = 8$, RHS $= 5^2 = 25$

$\therefore 2^3 \neq 5^2$ False

(iii) $2^3 \times 3^2 = 6^5$

LHS $= 2^3 \times 3^2$

RHS $= 6^5$

$= (2 \times 3)^5$

$= 2^5 \times 3^5$

$\therefore 2^3 \times 3^2 \neq 6^5$

False

(iv) LHS $= 3^0 = 1$

RHS $= 1000^0 = 1$

$\therefore 3^0 = 1000^0$

3(i) $10 \times 10^{11} = 100^{11}$

LHS $= 10 \times 10^{11}$

$= 10^{1+11}$

$= 10^{12}$

RHS $= 100^{11}$

$= (10^2)^{11}$

$= 10^{2 \times 11}$

$= 10^{22}$

$\therefore 10 \times 10^{11} \neq 100^{11}$ False