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Pg. 7
ACHA 4000

Question 1

$$a) i) \begin{pmatrix} 8 & -1 & 7 \\ -5 & 2 & 5 \\ 3 & 0 & 2 \end{pmatrix} \times \begin{pmatrix} -2 & 8 & 0.5 \\ 2 & 5 & 2 \\ 0 & -9 & 1 \end{pmatrix} = \begin{pmatrix} -18 & -4 & 9 \\ 14 & -75 & 6.5 \\ -6 & 6 & 3.5 \end{pmatrix}$$

$$ii) \begin{pmatrix} -2 & 8 & 0.5 \\ 2 & 5 & 2 \\ 0 & -9 & 1 \end{pmatrix} \times \begin{pmatrix} 8 & -1 & 7 \\ -5 & 2 & 5 \\ 3 & 0 & 2 \end{pmatrix} = \begin{pmatrix} 54.5 & 18 & 27 \\ -3 & 8 & 43 \\ 48 & -18 & -43 \end{pmatrix}$$

$$iii) \begin{pmatrix} 8 & -1 & 7 \\ -5 & 2 & 5 \\ 3 & 0 & 2 \end{pmatrix} \times \begin{pmatrix} 2 & 5 \\ -6 & 0 \\ 1 & 12 \end{pmatrix} = \begin{pmatrix} 29 & 124 \\ -17 & 35 \\ 8 & 39 \end{pmatrix}$$

iv) Impossible

v)

$$A = \begin{pmatrix} 8 & -1 & 7 \\ -5 & 2 & 5 \\ 3 & 0 & 2 \end{pmatrix} |A| = 8(2 \times 2 - 0 \times 5) - 1(-5 \times 2 - 5 \times 3) + 7(-5 \times 0 - 2 \times 3) \\ = 32 - 25 - 42 \\ = -35$$

$$vi) \begin{pmatrix} -2 & 8 & 0.5 \end{pmatrix}$$