
Q. 1 Using prime factorisation find the HCF and LCM of 396 and 932.

Q. 2 Using prime factorisation find the HCF and LCM of 321 and 675.

Q. 3 Find A^{-1} if

$$A = \begin{pmatrix} 1 & 6 \\ 3 & 9 \end{pmatrix}$$

Q. 4 Find A^{-1} if

$$A = \begin{pmatrix} 2 & 6 \\ 14 & 3 \end{pmatrix}$$

Q. 5 Calculate

(i). $(13 + 11) \pmod 9$

(ii). $(7 \times 11) \pmod 9$

Q. 6 Use Euclid's algorithm to find $\text{HCF}(91, 241)$. Hence find integers s and t such that $\text{HCF}(91, 241) = 91s + 241t$ and hence find 91^{-1} in $\mathbb{Z}_{241}$.