Adjoint And Inverse of a Matrix
Part - 4

ASSERTION-REASON QUESTIONS

In the following questions, a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct answer out of the following choices.

(a) Both A and R are true and R is the correct explanation of A.

(b) Both A and R are true but R is not the correct explanation of A.

(c) A is true but R is false.

(d) A is false and R is also false.

1. **Assertion (A) :** If A is an invertible square matrix, then A^T is invertible.

   Reason (R) : Inverse of invertible symmetric matrix is a symmetric matrix.

2. **Assertion (A) :** If A is an invertible matrix of order 3 and $|A| = 5$ then, $|adj\ A| = 25$.

   Reason (R) : If B is a non-singular matrix of order n. Then, $|adj\ A| = |A|^{n-1}$.

3. **Assertion (A) :** If $A = \begin{bmatrix} 1 & 0 & 3 \\ 2 & 1 & 1 \\ 0 & 0 & 2 \end{bmatrix}$ then $|adj\ (adj\ A)| = 16$.

   Reason (R) : $|\text{adj}\,(\text{adj}\ A)| = |A|^{(n-1)^2}$

Answers

1. (*b*) **2.** (*a*) **3.** (*a*)