## 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**):  $|adj(adj A)| = |A|^{(n-1)^2}$ 

## **Answers**

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