

# Grade :12 PERIODIC TEST – 1 Date:14 .06.22

# Marks: 20 MATHEMATICS (041) Time : 40min

**EACH QUESTION IN SECTION A CARRIES ONE MARK**

**EACH QUESTION IN SECTION B CARRIES TWO MARKS**

**EACH QUESTION IN SECTION C CARRIES THREE MARKS**

**EACH QUESTION IN SECTION D CARRIES 5 MARKS**

**STUDENTS HAVE TO ANSWER ALL THE QUESTIONS.**

**SECTION A**

 1. If A is a square matrix of order 2 and |adj.A |= 9, then |A| is equal to

a)3 b)9 c)27 d)81

 2. The Value of k for which the matrix $\left[\begin{matrix}k&2\\3&4\end{matrix}\right]$ has no inverse is

 a) k = $\frac{3}{2}$ b) k = $\frac{2}{3}$ c) 𝑘 ≠ $\frac{3}{2}$ d) 𝑘 ≠ $\frac{2}{3}$

 3. If A is square matrix satisfying A2 = I, then what is the inverse of A ?

**SECTION B**

4. If A = $\left[\begin{matrix}2&3\\5&-2\end{matrix}\right]$ be such that A-1 = k A, then find the value of k.

5. Solve the system of equations $\frac{3}{x}$ + 2y = 12, $\frac{2}{x}$ + 3y = 13

6. Let A = $\left[\begin{matrix}1&2&1\\2&3&1\\1&1&5\end{matrix}\right]$ verify that (A-1) -1 = A

**SECTION C**

7. Given A = $\left[\begin{matrix}1&-1\\2&0\end{matrix}\right]$, B = $\left[\begin{matrix}3&-2\\1&1\end{matrix}\right]$ and C = $\left[\begin{matrix}1&1\\2&2\end{matrix}\right]$ , find a matrix X such that AXB = C.

8. a)Solve system of linear equations using matrix method.

2x + 3y $-$ z = 9, x + y + z = 9, 3x $-$ y $-$ z = $-$1

**SECTION D**

9. A = $\left[\begin{matrix}0&-3\\1&4\end{matrix}\right]$, B = $\left[\begin{matrix}-2&-3\\0&-1\end{matrix}\right]$, verify that (AB)-1 = B-1A-1

**ALL THE BEST**