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| **PT1/MAQP/1222/A 25-APR-2022** | | | | | |
| **PERIODIC TEST - I (2022-23)** | | | | | |
| **Subject: MATHEMATICS**  **Grade: XII** | | | | **Max. Marks:35**  **Time: 1 Hr 20 Mins** | |
| **Name:** | | | **Section:** | | **Roll No:** |
| **SECTION A(1 mark each )** | | | | | |
|  | If A is an invertible matrix of order 3, then find |adj A|. | | | | |
| **2.** | If A = **then find f(A) where f(x)=2x-5** | | | | |
| **3.** | If A=  **then find k so that** A2=kA-2I | | | | |
| **4.** | If A is a 2 x 2 matrix, and | | | | |
| **5.** | Find the value of k for which the matrix  may be singular | | | | |
| **Section B(2marks)** | | | | | |
| 6 | | Ifthe matrixis skew-symmetric, find the values of a, b and c | | | |
| 7 | | If A=  **find |AadjA|** | | | |
| 8 | | Find *x* if | | | |
| 9 | | Find the value of m if the area of the triangle is 7 sq. units and the vertices are (1,3) (0,5) and (m,0) | | | |
| 10 | | Find the matrix A for which  A= | | | |
| **Section C ( 3 marks )** | | | | | |
| 11 | | Express the following matrix as the sum of symmetric and skew symmetric matrix .  A = | | | |
| 12 | | If the matrix A=Satisfies the equation A-5A-14I=0 and hence find A. | | | |
| 13 | | Given that A = and A(adjA)=k, find the value of k. | | | |
| 14 | | If A=  and B =  , find AB. Hence, solve the system of equations: **x - y + z = 4**  **x-2y -2z = 9**  **2x+ y + 3z = 1** | | | |
| **Section D ( 4 Marks )** | | | | | |
| 15 | | If A   find A and hence solve the equation ; ; x - 3y + 3z = -14 | | | |
| 16 | | For matrix A = find A2 – 5 A + 4 I and hence find a matrix X such that  A-5A+4I+X=O | | | |

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