**SAINTGITS COLLEGE OF APPLIED SCIENCES, PATHAMUTTOM P.O, KOTTAYAM**

**FIRST INTERNAL EXAM [SEPTEMBER-2015]**

**B.A CORPORATE ECONOMICS**

**FIRST SEMESTER**

**MATHEMATICS FOR ECONOMICS I**

Time: 2 hours Maximum: 50 Marks

**Section A**

*Answer* ***all*** *questions. Each question carries* ***1 mark****.*

1. Define transpose of a matrix.

2. Define skew symmetric matrix.

3. If A= find -4A

4. Define singular matrix.

5. Find the trace of the matrix  **(5×1=5)**

**Section B**

*Answer any* ***five*** *question . Each question carries* ***2 marks****.*

6. Find the rank of the matrix

7. Find BA if A= and B=

8. Show that I3 is an idempotent matrix .

9. Prove that is singular.

10. If A= , find determinant of A

11. Find 3A-4B where A= , B=

**(5×2=10)**

**Section C**

*Answer any* ***five*** *question. Each question carries* ***4 marks****.*

12. Solve 2x-3y=3 and 4x-y=11 by Crammer’s rule.

13. Find the inverse of A where A=

14. If A= , show that Adj A=3At

15. If A= , B= find AB.

16. Show that A= is idempotent.

17. Find the adjoint of A=.

**(5×4=20)**

**Section D**

*Answer any* ***one*** *question. Each question carries* ***15 marks****.*

18. .Show that A= satisfies the equation

A3-6A2+9A-4I=0.Hence find the inverse of A.

19. Solve 3x1+x2+x3=1, 2x1+ +2x3=0, 5x1+x2+2x3=2 using matrix method

**(1×15=15)**