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|  |  | Name ……………………………  Roll No ………………………. |

**SAINTGITS COLLEGE OF APPLIED SCIENCES**

**SECOND INTERNAL ASSESSMENT EXAMINATION, APRIL 2019**

**Department of BA, Semester 1I**

**Mathematics for Economics II**

Total : **80 marks** Time:**3Hours**

**Section A**

*Answer any 10 questions. Each question carries 2 marks.*

1. Define disjoint sets with example.

2. If A={a, b, c}, B={x, y} , find (i) A×B(ii)B×A

3. Define unbalanced transportation problem.

4. Define equal sets and equivalent sets.

5. Define rank of a matrix.

6. Find the derivative of

7. Find the derivative of

8. Define assignment problem.

9. Find if y= x logx

10. Find the rank of the matrix

11. Find if y= x+a

12. Define singular and nonsingular matrix **(10 X 2 = 20 marks)**

**Section B**

*Answer any 6 questions. Each question carries 5 marks.*

13.If A={1,2,3}, B= {3,4,5}, C={1,3,5} prove that A-(BUC)=(A-B)(A-C)

14. Find the initial feasible solution using North West corner rule

D1 D2 D3 D4 supply

O1 6 4 1 5 14

O2 8 9 2 7 16

O3 4 3 6 2 5

6 10 15 4

15. Explain difference between a transportation and assignment problems.

16. Find the initial feasible solution using lowest costentry method

A B C D supply

1 1 5 3 3 34

2 3 3 1 2 15

3 0 2 2 3 12

4 2 7 2 4 19

21 25 17 17

17. Find the derivative of (x-1)(x-5)

18. Find the derivative of

19.If A={a,b} and B={2,3} and C={3,5} find A×(B)(ii)(A×B)(AC)

20.If A= {2,3} B={3,4} and U={1,2,3,4,5} represent (i)A-(B-C) (ii)A-(BC) using venn diagram

21. Explain set operations. **(6 X 5 = 30marks)**

**Section C**

*Answer any 2questions. It carries 15marks.*

22. Solve the assignment problem

A B C

1 17 25 31

2 10 25 16

3 12 14 11

23. Find the initial solution for the transportation problem by Vogel’s method

W1 W2 W3 supply

F1 2 7 4 5

F2 3 3 1 8

F3 5 4 7 7

F4 1 6 2 14

Demand 7 9 18

24. Reduce the matrix A= to Row equivalent canonical form.

25.If u={1,2,3,4,5,6,7,8}, A= {1,2,3}, B={2,4,5}, C={2,4,6} verify that (i)

(ii) =

**(2 X 15 = 30 marks)**

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