24020549

QP CODE: 24020549

Reg No : .....

Name : .....

B.A DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE EXAMINATIONS, MAY 2024

Second Semester

B.A Corporate Economics Model III

Core Course - EC2CRT06 - MATHEMATICS FOR ECONOMICS- II

2017 ADMISSION ONWARDS

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Time: 3 Hours Max. Marks : 80

.

Part A

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. If $xy = c^2$ find $\frac{dy}{dx}$
2. If $y = 3x^3 - 2x^2$ find y_2
3. If $y = e^{3x}$ find y_2
4. Distinguish between assignment and transportation problems .
5. How will you solve maximisation problems using assignment techniques.
6. Write any three methods of obtaining initial feasible solution for a transportation problem.
7. Write a short note on Vogel's method.
8. What are unbalanced problems?
9. Define singular and non singular matrix.
10. Define equivalent matrices.
11. Define subset of a set.
12. If A={a,b} B={1,2,3} find $A \times B$.

(10×2=20)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Find the differential coefficient of $(2x+1)^2$

14. Differentiate $x^{\frac{1}{3}}e^x$.

15. Discuss any method for solving assignment problems.

16. Find the initial feasible solution to the transportation problem using lowest cost entry method.

	I	II	III	Iv	Supply
P	19	30	50	10	7
Q	70	30	40	60	9
R	40	80	70	20	18
Demand	5	8	7	14	

17. Reduce the matrix A= $\begin{pmatrix} 1 & 2 & 3 & -2 \\ 2 & -2 & 1 & 3 \\ 3 & 0 & 4 & 1 \end{pmatrix}$ to row equivalent form and also find the rank of A.

18. Find the inverse of the matrix $\begin{pmatrix} 2 & -3 \\ 4 & -1 \end{pmatrix}$.

19. Explain subset and superset.

20. Define union and intersection of sets with example.

21. Using venn diagram prove $(A \cap B)^c = A^c \cup B^c$

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **15** marks.*

22. Differentiate $\dfrac{x^2 - 2x + 2}{(x+2)(x+1)}$.

23. If U={3,4,5,6,7,8,9,10,11,12,13},A={3,4,5,6},B= {3,5,7,9}, C={6,7,8,10, 12} verify Demorgan's law.

24. Find the initial feasible solution to the transportation problem given below by North west corner rule.

	A	B	C	D	Supply
P	21	16	15	3	11
Q	17	18	14	23	13
R	32	27	18	41	19
Demand	6	10	12	15	

25. Reduce the matrix $\begin{pmatrix} 1 & 2 & 0 & -1 \\ 3 & 4 & 1 & 2 \\ -2 & 3 & 2 & 5 \end{pmatrix}$ into canonical form.

(2×15=30)