



M 8805

Reg. No. : ... Shivaprasad ...

Name : ... Shivaprasad Perumthi Ho @ gmail . com

• sac rana bh ...
• Alaship
• Anoop . p
• Alaship
• Shivaprasad . p

II Semester B.A. Degree (CCSS – 2014 Admn. – Regular)
Examination, May 2015
COMPLEMENTARY COURSE IN ECONOMICS
2C02 ECO : Mathematics for Economic Analysis – II

Time : 3 Hours

Max. Marks : 40

PART – A

Answer all the 4 questions. Each carries 1 mark.

The Brilliant Man

1. The general and particular values of $\int 2x \, dx$ are _____ and _____
2. A determinant is a compact form showing a set of numbers arranged in _____
3. Adjoint of a square matrix is the _____ of the matrix.
4. _____ is reverse process of differentiation. (4×1=4)

PART – B

Answer any 7 questions. Each carries 2 marks.

5. Define Eigen value.
6. Marginal cost functions for some products is $1 + x + 6x^2$ where x is the output. Find the total cost function if the fixed cost is Rs. 100 when the output is zero.
7. Find x and y , if $[4 \ 5] + [x \ y] = [7 \ 3]$?
8. Explain co-factor of a determinant with an example.
9. What are the rules of Integration ?

2x to 8
to 8
8



- ✓ 10. Are the following two determinants equal ?

$$\begin{vmatrix} 2 & 4 & 5 \\ 1 & 2 & 3 \\ 0 & 1 & 4 \end{vmatrix} \text{ and } \begin{vmatrix} 4 & 2 & 5 \\ 2 & 1 & 3 \\ 1 & 0 & 4 \end{vmatrix}$$

11. Total revenue of a firm is given by $R = 21x - x^2$ where x is the output. Find the output at which the total revenue is maximum.

12. Find the rank of $\begin{vmatrix} 5 & 2 & 1 \\ 0 & 1 & 3 \\ 2 & 1 & 0 \end{vmatrix}$.

13. Explain consumer surplus .

14. Distinguish Symmetric and Skew symmetric matrices .

(7×2=14)

PART - C

Answer any 4 questions. Each carries 3 marks.

✓ 15. Show that $\begin{vmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{vmatrix}$ is idempotent. $A^2 = A$

16. Explain five properties of a determinant.

17. Explain constraint optimization.

18. Integrate $(x + 1)^5$.

19. Explain the properties of definite integrals.

20. Explain the methods of Integration.

(4×3=12)



PART - D

Answer any 2 questions. Each carries 5 marks.

21. Integrate $\frac{x}{(x-1)(2x+1)}$.

22. The demand function is $D = 250 - 50p$ and supply function is $S = 25p + 25$, calculate equilibrium price. Find consumer's and producer's surplus?

23. Solve the simultaneous equation using Cramer's rule :

$$5x - 6y + 4z = 15, 7x + 4y - 3z = 19, 2x + y + 6z = 46.$$

24. Find the product of $A = \begin{vmatrix} 1 & 2 & 3 \\ 3 & 1 & 2 \\ -1 & 1 & 1 \end{vmatrix}$ and $B = \begin{vmatrix} 1 & 1 & 4 \\ -2 & 3 & 2 \\ 3 & 1 & 1 \end{vmatrix}$. (2x5=10)
