

2015
(5th Semester)

COMMERCE

Paper No. : BC-503

(Business Mathematics and Computer Application)

(PART : A—OBJECTIVE)

(Marks : 25)

The figures in the margin indicate full marks for the questions

SECTION—I

(Marks : 15)

1. Fill in the blanks :

1×5=5

(a) method is applicable only in case of determinant of order 3.

(b) The matrix obtained by interchanging the rows and columns is called

(c) The method of obtaining the derivative of a composite function is known as

.....

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(d) UNIX operating system which is a fixed part and not accessible to a user is called

.....

(PART - A - OBJECTIVE)

(Marks : 2)

(e) is a device used to connect digital signal to analog signal and vice versa.

2. Indicate whether the following statements are True (T) or False (F) by putting a Tick (✓) mark :

1×5=5

(a) Gopher is a protocol that allows Internet user to move around the globe looking for information in various information centres.

(T / F)

(b) Loading DOS into memory is known as debugging the system.

(T / F)

(3)

(c) Logarithmic differentiation cannot be applied to a function which is the product or quotient of two or more functions.

(T / F)

(d) Matrix multiplication is always commutative.

(T / F)

(e) Cramer's rule does not apply, if $\Delta = 0$.

(T / F)

3. Tick (\checkmark) the correct answer in the brackets provided :

1x1

(a) The output at which there is no profit and no loss is the

(i) marginal cost ()

(ii) break-even point ()

(iii) average cost ()

(iv) revenue ()

(b) The unit of memory is measured by

(i) megabyte ()

(ii) kilobyte ()

(iii) gigabyte ()

(iv) terabyte ()

(c) A computer which is linked to a computer network is referred to as

- (i) host computer ()
- (ii) channel ()
- (iii) protocol ()
- (iv) workstation ()

(d) A square matrix is called idempotent, if

- (i) $A^2 = I$ ()
- (ii) $A^3 = 0$ ()
- (iii) $A^2 = A$ ()
- (iv) $A'A = I$ ()

(e) A determinant can be expanded by any row or by any column and the result is

- (i) the same ()
- (ii) parallel ()
- (iii) zero ()
- (iv) opposite ()

(5)

SECTION—II

(Marks : 10)

4. Write short notes on/Answer the following : $2 \times 5 = 10$

(a) Sarrus method

(6)

(b) Find the adjoint of $\begin{bmatrix} 2 & 5 \\ 6 & 7 \end{bmatrix}$.

(c) A function has been defined by

$$f(x) = \begin{cases} 2 - x & \text{when } 1 \leq x \leq 2 \\ x - \frac{1}{2}x^2 & \text{when } x > 2 \end{cases}$$

Find $f(1.5)$ and $f(2)$.

(d) Binary number system

(c) A function has been defined as

$$f(x) = \begin{cases} 2-x & \text{when } 1 \leq x \leq 2 \\ x - \frac{1}{2} & \text{when } x > 2 \end{cases}$$

Find $f(1.5)$ and $f(2)$.

(e) Smart card