

2018

(5th Semester)

COMMERCE

Paper No. : BC-503

(Business Mathematics and Computer Applications)

(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) A square matrix A is called non-singular, if

.....

(b) The value of a determinant

..... change when rows and columns are interchanged.

(c) The derivative of a
function is zero.

(d) Control unit in a computer system is considered
as the of the computer.

(e) The process of finding and correcting program
errors is called

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

1×5=5

(a) Matrix multiplication is not distributive with
respect to addition of matrices.

(T / F)

(b) If $|A| \neq 0$, then $|A^{-1}| = \frac{1}{|A|}$.

(T / F)

(3)

(c) A function may have several maxima and minima values.

(T / F)

(d) DTP refers to the use of computer for publishing books and other finished products.

(T / F)

(e) Hexadecimal number system is used with base 2.

(T / F)

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

1×

(a) The cofactor of A_{12} in $\begin{vmatrix} 2 & -4 \\ 5 & 6 \end{vmatrix}$ is

(i) 4 ()

(ii) -4 ()

(iii) 2 ()

(iv) -2 ()

(b) A square matrix A is called symmetric matrix, if

(i) $A' = A$ ()

(ii) $A' = -A$ ()

(iii) $A'A = A$ ()

(iv) $A^2 = A$ ()

(4)

(c) The derivative of $\frac{1}{x}$ with respect to x is

(i) $\frac{1}{x^2}$ ()

(ii) $-\frac{1}{x^2}$ ()

(iii) x^2 ()

(iv) $2x$ ()

(d) The decimal equivalent of the binary number 101 is

(i) 1 ()

(ii) 2 ()

(iii) 4 ()

(iv) 5 ()

(e) 1 terabyte is equal to

(i) 1024 bytes ()

(ii) 1024 KB ()

(iii) 1024 MB ()

(iv) 1024 GB ()

(5)

SECTION—II

(Marks : 10)

4. Answer the following questions : 2×5=10

(a) Distinguish between LAN and WAN.

(6)

(b) Write on the shortcomings of online shopping.

(7)

(c) Evaluate the limit of

$$\lim_{x \rightarrow 3} \frac{x^2 - 2x - 3}{x - 3}$$

(8)

(d) If $f(x) = \frac{ax+b}{bx+a}$, prove that $f(x)f\left(\frac{1}{x}\right) = 1$.

(9)

(e) Find AB , if $A = (2 \ 4)$ and $B = \begin{pmatrix} 1 \\ 3 \end{pmatrix}$.
