MODEL PAPER "BUSINESS MATHEMATICS"
Intermediate Part-I Examination

OBJECTIVE

Time: 15Minutes   **Marks: 10**

Q.No.1.Note: Write answers to the questions on the objective answer sheet provided. You have four choices for each objective type question as A, B, C, and D. The choice which you think is correct; fill the circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling to or more circles will result in zero mark in that question. Attempt as many questions as given in objective-type question paper and leave others blank.

(i)   **The ratio between 2.5 kg and 4.5 kg is**
(a) 2:5   (b) 5:9   (c) 9:5   (d) None of these

(ii)   **The regular, periodic and fixed sequence of savings/ payments/installments is called.**
(a) Annuity   (b) simple interest
(c) compound interest   (d) none of these

(iii)   **If each payment is made at the end of each payment period and continue for a definite period then the type of annuity used is**
(a) per-petuity   (b) annuity due
(c) ordinary annuity   (d) none of these

(iv)   **$y=3x +4$ is an:**
(a) explicit function   (b) implicit function
(c) constant function   (d) quadratic function

(v)   **The equation $3^{2x} +9= 10.3^{x}$ is called:**
(a) quadratic equation   (b) homogeneous equation
(c) irrational equation   (d)exponential equation

(vi)   **A liner equation has always**
(a) three roots   (b) two roots   (c) one root   (d) none of these

(vii)   **If A is a matrix of order mxn then to get AB, the order of matrix B must be**
(a) mxm   (b) pxn   (c) nxp   (d) none of these

(viii)   **The matrix $\begin{pmatrix} 2 & 2 \\ 3 & 3 \end{pmatrix}$ is**
(a) singular   (b) non singular   (c) diagonal   (d) none of these

(ix)   **The no system with base 2 is known as**
(a) binary system   (b) decimal system
(c) sexagesimal system   (d) none of these

(x)   **5 in binary system is**
(a) 10   (b) 101   (c) 11   (d) none of these

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Intermediate Part-I Examination

Time: 1:45Hours   **Marks: 40**

SECTION -I

Q.No.2. Write short answers to any Six (6) questions.   **2x6= 12**

    (i)   35 is what percent of 175

    (ii)   If A:B = 2:5 & B:C =10:15 find A : B : C

    (iii)   Find x if 45 : 60 : : 900 : x

    (iv)   Write the formula for compound interest.

    (v)   What principal is needed so that the interest will be Rs.48 if it is invested at 3%

            per annum for 5 years?

    (vi)   Find the simple interest on Rs.500 invested for 6 months at 8% per annum.

    (vii)   Define term of the annuity.

    (viii)   Define even function.

    (ix)   Find x-intercept and y – intercept from the equation $8x - 3y = 15$

Q.No.3. Write short answers to any Six (6) questions.   **2x6= 12**

    (i)   If $y = 21 - 9x$, then find y if x = 9.1

    (ii)   Define degree of an equation.

    (iii)   12 times a no is 240, what is the no?

    (iv)   Write two consecutive integers where sum is 41

    (v)   Find the value of x if $\begin{pmatrix} 2 & 1 \\ 3 & x \end{pmatrix}$ is singular.

    (vi)   Find B if $2B + \begin{pmatrix} 2 & 5 \\ 4 & 6 \end{pmatrix} = 0$

    (vii)   If $A = \begin{pmatrix} 1 & 2 \\ -1 & 3 \end{pmatrix}$, find A^{-1}

    (viii)   Simplify $(1001)_2 \times (101)_2$

    (ix)   Convert $(10001)_2$ to base 10

SECTION -II

Note: - Attempt any TWO questions.   **2x8= 16**

Q.No4. (a) A production manager plan to produce units with the help of 25 workers who
        workers 4 hours a day. How many units 40 workers can make it, they work 3 hours
        per day?

      (b) Find the simple interest on Rs.8000, for 40 days at 10% per annum,
       (Take 1 year = 365 days).

Q.No5. (a) if $f(x) = 0.005\ x + 0.80$ then find $f(\frac{1}{2})$ and $f(\frac{1}{4})$?

      (b) Solve the equation $\frac{x}{5} - \frac{1}{3} = \frac{x}{3} + \frac{1}{5}$

Q.No6. (a) Solve for x , y and z, if $\begin{pmatrix} x & y \\ y & z \end{pmatrix} + \begin{pmatrix} 2x & -y \\ 3y & -4z \end{pmatrix} = \begin{pmatrix} 6 & 0 \\ 8 & 9 \end{pmatrix}$

      (b) Simplify $(11011)_2 \times (1101)_2$