Answer Sheet No. **Business Mathematics** (OBJECTIVE) Roll No.

**PART – I** **22/01**

(INTERMEDIATE)

Sign. Dy. Supdnt. Fictitious Roll No. (For Office Use) Sign. Candidate

## Business Mathematics (INTERMEDIATE)

**(PART – I)** **22/01** **Marks : 10**

**(OBJECTIVE PART)** ATK-22 **Time : 15 Minutes**

Note:- Write your Roll No. in space provided. Over writing, cutting, using of lead pencil will result in loss of marks. All questions are to be attempted.

1- Each question has four possible answers, Tick ( √ ) the correct answer. (10)

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | The ratio between one hour and 40 minutes is; | | | | | | | |
| | A | 1 : 4 | B | 2 : 3 | C | 3 : 2 | D | 4 : 1 |
| 2 | What percentage of 900 is 270; | | | | | | | |
| | A | 30 % | B | 90 % | C | 60 % | D | 20 % |
| 3 | With usual notation Prt, is the formula for calculating; | | | | | | | |
| | A | Simple interest | B | Compound interest | C | Annuity | D | Amount |
| 4 | The leading co-efficient of the polynomial $P(x) = 3x^2 + 5x + 8$ is; | | | | | | | |
| | A | 8 | B | 2 | C | 5 | D | 3 |
| 5 | If $7x + 4 = 3x + 24$ then $x = ?$ | | | | | | | |
| | A | 4 | B | 5 | C | -4 | D | -5 |
| 6 | The number of methods to solve the quadratic equation, are; | | | | | | | |
| | A | One | B | Two | C | Three | D | Four |
| 7 | 9 to its equivalent number in binary system; | | | | | | | |
| | A | $(1100)_2$ | B | $(1001)_2$ | C | $(1010)_2$ | D | $(1011)_2$ |
| 8 | Decimal number system is the system with base; | | | | | | | |
| | A | 2 | B | 5 | C | 8 | D | 10 |
| 9 | If $\begin{bmatrix} 1 & 2 \\ -3 & 4 \end{bmatrix}$ then $A^t = ?$ | | | | | | | |
| | A | $\begin{bmatrix} 1 & -3 \\ 2 & 4 \end{bmatrix}$ | B | $\begin{bmatrix} 4 & 2 \\ -3 & 4 \end{bmatrix}$ | C | $\begin{bmatrix} 4 & 1 \\ 2 & -3 \end{bmatrix}$ | D | $\begin{bmatrix} 4 & -2 \\ 3 & 1 \end{bmatrix}$ |
| 10 | If $A = \begin{bmatrix} 2 & 9 \\ 3 & 8 \end{bmatrix}$ then $\lvert A \rvert = ?$ | | | | | | | |
| | A | 10 | B | -10 | C | 11 | D | -11 |

(The End)

**Business Mathematics** **22/01**

**PAPER : PART – I** INTERMEDIATE **Marks : 40**

**(SUBJECTIVE PART)** **Time : 1:45 Hours**

## SECTION – I

2- **Write short answers of any six parts.** ATK-22 **(2 x 6 = 12)**

| | | | |
|---|---|---|---|
| i | If 20 pens cost Rs 300, find the number of pens that can be bought for Rs. 480. | ii | Define direct proportion and give its example. |
| iii | If the mark up of 23% on sales a T.V. sells for Rs. 4400. What is its cost price? | iv | Give the formula to find principal amount with usual notations. explain its notation. |
| v | Define Annuity and give its types. | vi | Find simple interest on Rs. 700 invested for 3 year at 6% P.A. |
| vii | Solve the equation $4(3x-2)=7(2-5x)-5x$ | viii | Solve the equation by factorization. $x^2+8x+12=0$ |
| ix | Find the sum and product of the roots of $4x^2+5x-21=0$ | | |

3- **Write short answers of any six parts.** **(2 x 6 = 12)**

| | | | |
|---|---|---|---|
| i | Define Event Function and give an example. | ii | If $f(x)=3x^2+2x-1$, then find $f(-2)$ and $f(0)$ |
| iii | Add $(1011)_2$ and $(1110)_2$ | iv | Evaluate $(101)_2-(11)_2$ |
| v | Convert 19 into binary number system. | vi | Differentiate between singular and non singular matrix. |
| vii | Define transpose of a matrix by giving one example. | viii | If $A=\begin{bmatrix}3 & 2\\ 1 & 4\end{bmatrix}$ and $B=\begin{bmatrix}2 & 0\\ 5 & 7\end{bmatrix}$ then find $AB$ |
| ix | Find the inverse of $\begin{bmatrix}1 & 1\\ 1 & 2\end{bmatrix}$ | | |

## SECTION – II

**Note:- Attempt any two questions.** **(8 x 2 = 16)**

| | | | |
|---|---|---|---|
| 4 | a | A motorcycle covers 90 km in 2 litres of petrol. In how many litres of petrol it will cover 225 km? | (04) |
| | b | Find the compound interest on Rs. 500 invested for 6 months at 8% per annum. | (04) |
| 5 | a | Solve the equation $x^2-3(x+25)=9x$ by using quadratic formula. | (04) |
| | b | Sketch the graph of the function $f(x)=x^2$ | (04) |
| 6 | a | Use Cramer's Rule to solve the system; $2x-6y=-12$, $3x-2y=-4$ | (04) |
| | b | Without converting into decimal system, simplify. $\{(101100101)_2+(100000)_2\}-\{(10001)_2+(10000)_2\}$ | (04) |

(The End)