Roll No. | | | | | | | Answer Sheet No._____

Sig. of Candidate._____ Sig. of Invigilator._____

BUSINESS MATHEMATICS HSSC–I

SECTION – A (Marks 10)

Time allowed: 15 Minutes

NOTE:- Section–A is compulsory. All parts of this section are to be answered on the question paper itself. It should be completed in the first 15 minutes and handed over to the Centre Superintendent. Deleting/overwriting is not allowed. Do not use lead pencil.

Q. 1 Circle the correct option i.e. A / B / C / D. Each part carries one mark.

(i) Gain from a T.V set of Rs. 4000/- sold at the profit of 20 per cent is _____

A. Rs. 750 B. Rs. 800 C. Rs. 600 D. Rs. 900

(ii) A ratio can be reduced to its _____

A. Highest term B. Lowest term C. Middle term D. None of these

(iii) Every percentage can be converted into _____

A. Decimal fraction B. Ratio C. Proportion D. Both A and B

(iv) Commission on the deal of Rs. 6000 @ 3%. What is the amount of deal?

A. Rs. 60,000 B. Rs. 100,000 C. Rs. 150,000 D. Rs. 200,000

(v) At what simple interest rate an amount triples itself in 6 years?

A. 10% B. 20 % C. 33 ⅓ % D. None of these

(vi) If $h(x)=\frac{1}{x-5}$, then h(5) will be _____

A. Defined B. Finite C. Infinite D. None of these

(vii) $ax+by+c=0$ is the linear equation in variable _____

A. x B. y C. x and y D. a, b and c

(viii) Number of rows and number of column _____

A. Must be equal B. May equal

C. May not equal D. May or may not equal

(ix) The inverse of matrix $\begin{pmatrix} 3 & 6 \\ 7 & 14 \end{pmatrix}$:

A. $\begin{pmatrix} 14 & -6 \\ -7 & 3 \end{pmatrix}$ B. $\begin{pmatrix} 3 & 6 \\ 7 & 14 \end{pmatrix}$ C. $\begin{pmatrix} 0 & 0 \\ 0 & 0 \end{pmatrix}$ D. None of these

(x) While converting a binary fraction 101.1, the .1 is converted into _____

A. 2^0 B. 2^{-1} C. 2^{-2} D. 2^{-3}

For Examiner's use only:

Total Marks: 10

Marks Obtained:

BUSINESS MATHEMATICS HSSC–I

Time allowed: 2:15 Hours **Total Marks Sections B and C: 40**

NOTE:- **Answer any eight parts from Section 'B' and any two questions from Section 'C' on the separately provided answer book. Use supplementary answer sheet i.e. Sheet–B if required. Write your answers neatly and legibly.**

SECTION – B (Marks 24)

Q. 2 Attempt any EIGHT parts. All parts carry equal marks. **(8 x 3 = 24)**

(i) If the stay of 12 men for 28 days in a hotel cost Rs. 6720/- find the cost of stay of 8 men for 14 days.

(ii) If the 16% increase in the basic salary of a government employee will become Rs. 3248/- per month. What is his salary before the increase?

(iii) a. Three partners invested Rs. 18000, Rs. 16500 and Rs. 12500, respectively. When profit was distributed the third one got Rs. 4625/-. Find the total profit earned.

b. At what rate Rs. 5000/- will be doubled in 5 years?

(iv) Draw the graph of the following quadratic function: $f(x) = 5 + 2x - x^2$

(v) A manufacturer produces items at spending 75 paisas per item daily and sells them for Rs. 1.00 per item. His daily operational cost is Rs. 300/-. What is the break-even point? Graph your results.

(vi) Solve:

a. $x - 2[3x - 2(x+1) + 5] = 16$ b. $4(3x-2) = 7(2-5x) - 5x$

(vii) Solve the following equation by using Quadratic formula:

$$\frac{y^2}{2} - \frac{y}{6} = \frac{1}{12}$$

(viii) Find inverse of the following matrix:

a. $\begin{pmatrix} 4 & 9 \\ 7 & 6 \end{pmatrix}$ b. $\begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$

(ix) Find the determinant of the following matrix and explain whether it is a singular or non-singular matrix:

$$\begin{pmatrix} 4 & -3 \\ -4 & 2 \end{pmatrix}$$

(x) Solve the following equation by Crammers Law:

$2x - 6y = -12$

$3x - 2y = -4$

(xi) Simplify the following:

$\{(11101111)_2 - (10001)\} - \{(1111000)_2 - (1000)\}$

SECTION – C (Marks 16)

Note:- Attempt any TWO questions. All questions carry equal marks. **(2x 8 = 16)**

Q. 3 a. If the price of 50 ready-made shirts is Rs. 3652/-, then what is the price of 85 such shirts?

b. If ratio of cars and trucks is 7 : 2 and there are 26 trucks, how many care are there?

Q. 4 a. Find the value of motor car costing Rs. 250,000/- at the end of 7 years, if depreciation at the rate of 7½ % is written off on the value at the commencement of each year.

b. Convert into decimal: (i) 1001_2 (ii) 111011_2

Q. 5 a. What is the interest on Rs. 1880.90 for one year @ 5 ½ %?

b. Find the compound interest of principal amount Rs. 50,000/- at the rate of 5% for 3 ¾ years.