

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) The ratio between 80 to 640 is:  
A. 1:4  
B. 1:5  
C. 1:8  
D. 3:4
- (ii) What percent of 1350 is 27?  
A. 1%  
B. 2%  
C. 3%  
D. 4%
- (iii) What is total amount of commission on sale to Rs. 16800/-, if the commission rate is 8%?  
A. Rs. 1344/-  
B. Rs. 1374/-  
C. Rs. 1394/-  
D. Rs. 1444/-
- (iv) The simple interest on Rs. 15000/- for three years at 2% is:  
A. Rs. 900/-  
B. Rs. 1000/-  
C. Rs. 1100/-  
D. Rs. 1200/-
- (v) Lumpsum amount at the beginning of Annuity period is:  
A. Present value of annuity  
B. Sum of annuity  
C. Amount of annuity  
D. None of these
- (vi) A linear equation has:  
A. Two roots  
B. Three roots  
C. One root  
D. No root
- (vii) The function  $f(x) = mx + c$  is:  
A. Quadratic function  
B. Constant function  
C. Cubic function  
D. Linear function
- (viii) If the discriminant of quadratic equation is less than zero then roots are:  
A. Equal  
B. Rational  
C. Irrational  
D. Complex
- (ix) The graphs of the two equations are two lines intersecting in one point. The system is called:  
A. Inconsistent system  
B. Consistent system  
C. Dependent system  
D. None of these
- (x) The number system used in computer is:  
A. Decimal number system  
B. Binary number system  
C. Hexadecimal system  
D. Octal number system

**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:** Attempt 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) A contractor agreed to mix gravel, sand and cement in the ratio 8: 5: 3 in concrete work. He used 48000 lbs of mixture in completion of work. What is the quantity of each material used?
- (ii) Six men can paint a house in four days. How long would it take to paint the house if two men are employed?
- (iii) A salesman is paid a salary of Rs. 500/- a month and 1% commission on sales. If his total income in one month is Rs. 750/-, find the value of his sales in that month.
- (iv) The cost function for storing a particular item XYZ corporation was found to  $f(x) = 0.005x + 0.80$ , where  $x$  is the cost of the item. What is the cost of storing 84 items?
- (v) Mr. Aslam has invested Rs. 25000/- at 6% compounded annually. What amount would be received after 4 years.
- (vi) Solve the equation  $\frac{x-1}{4} - \frac{x-2}{6} = \frac{2}{3}$
- (vii) Solve the equation for  $x$ ;  $3(x + 1) + x^2 + 12 = 0$
- (viii) The sum of two numbers is 148. The larger number is two less than five times the smaller number. Find the two numbers.
- (ix) Find the value of  $[(101010011)_2 + (101111)_2] - (199)_{10}$  by changing into binary number system.
- (x) If  $A = \begin{bmatrix} 3 & 1 \\ 2 & 0 \end{bmatrix}$ ,  $B = \begin{bmatrix} 4 & -1 \\ 2 & 3 \end{bmatrix}$ , then find  $BA$ .
- (xi) Solve the following sets of equations with the help of matrices:  
$$3x + 2y = 1$$
$$5x - 3y = 27$$

## SECTION – C (Marks 16)

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

- Q. 3**
- a. 25 workers complete a job in 20 days working 8 hours a day. In how many days 20 workers will complete the work for 10 hours a day?
  - b. Sultan Ahmad purchased merchandise for Rs. 7500/-. He was allowed a trade discount of 7%. Find the amount of discount.
- Q. 4**
- a. Find the accumulated value of Rs. 5000/- invested at the end of each quarter year for 5 years at 8% compounded quarterly.
  - b. Find the present value of an annuity of Rs. 100/- paid at the end of each year for 8 years if the interest rate is 8% compounded annually.
- Q. 5**
- a. Find the dimensions of a rectangular field which has an area of  $240 \text{ m}^2$  and a perimeter of 64 m.
  - b. If  $A = \begin{bmatrix} 3 & -3 \\ 4 & 1 \end{bmatrix}$ , then prove that  $A^{-1}A = AA^{-1} = I_2$