2015 (A) Roll No: _____

INTERMEDIATE PART-I (11th CLASS)

BUSINESS MATHEMATICS & STATISTICS (OLD SCHEME)

PAPER-I (COMMERCE GROUP) TIME ALLOWED: 1.45 Hours

SUBJECTIVE MAXIMUM MARKS: 40

NOTE: - Write same question number and its part number on answer book, as given in the question paper.

SECTION-I

2. Attempt any six parts. $6 \times 2 = 12$

(i) Name different types of Proportion.

(ii) If $a : b = 2 : 4$ and $b : c = 4 : 9$ what is $a : b : c$?

(iii) Express 4.7 as percent.

(iv) If cost price = Rs.120 and selling price = Rs.150, calculate loss or profit in % age.

(v) Write the formula for simple interest.

(vi) Define interest and name different types of interest.

(vii) If the simple interest on Rs.1500 for 3 years is Rs.900. Find the rate of interest.

(viii) If $f(x) = 3x^2 + 4x$, find $f(-1)$ and $f(2)$

(ix) Define Domain.

3. Attempt any six parts. $6 \times 2 = 12$

(i) Solve $2(x + 5) - 8(x - 6) = 0$

(ii) Solve $x^2 - 7x + 10 = 0$

(iii) Solve $\frac{1}{x+1} + \frac{2}{x+2} = \frac{4}{x+4}$

(iv) Solve the equations $x + y = 12$, $x - y = 8$

(v) Define Square Matrix.

(vi) Find x and y if $\begin{bmatrix} x+3 & 1 \\ -3 & 3y-4 \end{bmatrix} = \begin{bmatrix} 2 & 1 \\ -3 & 2 \end{bmatrix}$

(vii) Find value of x, if matrix $\begin{bmatrix} x & 4 \\ 3 & 2 \end{bmatrix}$ is singular.

(viii) Convert 86, into Binary Number System.

(ix) Convert the number $(1110)_2$ into Decimal Number System.

SECTION-II

NOTE: - Attempt any two questions.

4.(a) 20 men can finish the job in 13 days. How many men are required to do the same job in 4 days. 4

(b) A property agent sold a plot in Rs.13900 and received 2 % commission. Find agent's commission. 4

5.(a) Find the market equilibrium point for the following Supply and Demand functions:- 4

Demand: $p = -3q + 26$, Supply: $p = 4q - 9$

(b) Solve the equation: $3^{x+2} + 3^{-x} = 6$ 4

6.(a) If $A = \begin{bmatrix} 2 & 1 \\ 3 & 1 \end{bmatrix}$; $B = \begin{bmatrix} 4 & 0 \\ 0 & 6 \end{bmatrix}$, find AB 4

(b) Evaluate by changing into Binary System $(334)_{10} + (11011)_2$ 4