AV-1939

Seat No._____

B. Sc. (Sem. VI) Examination

March / April – 2018

Mathematics : Paper - ES-32

(Business Mathematics-4)

Time : **2** Hours] [Total Marks : **50**

Instruction : There are two question and figure to the right indicate marks of the corresponding question.

1 Attempt any three : **30**

(a) Solve following L.P.P.

Maximize $Z = 2000x + 3000y$

S.t. $2x + 5y \leq 180;\ 3x + 3y \leq 135;\ x \geq 0,\ y \geq 0.$

(b) Solve following L.P.P.

Minimize $Z = 5x + 3y$

S.t. $2x + y \geq 3;\ x + y \geq 2;\ x \geq 0;\ y \geq 0.$

(c) Solve following L.P.P.

Maximize $Z = x + y$

S.t. $3x + 3y \leq 6;\ x + 4y \leq 4;\ x \geq 0;\ y \geq 0.$

(d) Solve following L.P.P.

Maximize $Z = 2x + y$

S.t. $3x + 4y \leq 6;\ 6x + y \leq 3;$

$x \geq 0,\ y \geq 0$

2 Attempt any two : **20**

(a)

x	20	22	24	26	28	30	32
y	30	35	40	50	60	60	55

Find out the coefficient of correlation between x and y.

(b)

x	1	2	3	4	5
y	166	184	142	180	338

Find out the regression coefficient between x and y.

(c) The correlation coefficient between the variable x and y is $r = 0.6$.

If $\sigma_x = 1.5;\ \sigma_y = 2;\ \bar{x} = 10;\ \bar{y} = 20$, then find out the equations of the regression lines (i) y on x (ii) x on y.