FIRST REVISION TEST - 2025

Standard XI Reg.No. ☐☐☐☐☐☐

BUSINESS MATHEMATICS AND STATISTICS

Time : 3.00 hrs **Part – I** ***Marks : 90***

I. Choose the correct answer: **20 x 1 = 20**

1. If A is square matrix of order 3 then $|kA|$ is
   a) $k|A|$ b) $-k|A|$ c) $k^3|A|$ d) $-k^3|A|$

2. The inverse matrix of $\begin{pmatrix} 3 & 1 \\ 5 & 2 \end{pmatrix}$ is
   a) $\begin{pmatrix} 2 & -1 \\ -5 & 3 \end{pmatrix}$ b) $\begin{pmatrix} -2 & 5 \\ 1 & -3 \end{pmatrix}$ c) $\begin{pmatrix} 3 & -1 \\ -5 & -3 \end{pmatrix}$ d) $\begin{pmatrix} -3 & 5 \\ 1 & -2 \end{pmatrix}$

3. The value of n, when $nP_2 = 20$ is
   a) 3 b) 6 c) 5 d) 4

4. The possible outcomes when a coin is tossed five times
   a) 2^5 b) 5^2 c) 10 d) $5/2$

5. The x-intercept of the straight line $3x + 2y - 1 = 0$ is
   a) 3 b) 2 c) $1/3$ d) $1/2$

6. Combined equation of co-ordinate axes is
   a) $x^2 + y^2 = 0$ b) $x^2 + y^2 = 0$ c) $xy = c$ d) $xy = 0$

7. The value of $\sin(-420^\circ)$ is
   a) $\sqrt{3}/2$ b) $-\sqrt{3}/2$ c) $1/2$ d) $-1/2$

8. If $p \sec 50^\circ = \tan 50^\circ$ then p is
   a) $\cos 50^\circ$ b) $\sin 50^\circ$ c) $\tan 50^\circ$ d) $\sec 50^\circ$

9. The graph of $y = 2x^2$ is passing through
   a) (0,0) b) (2,1) c) (2,0) d) (0,2)

10. $\frac{d}{dx}\left(\frac{1}{x}\right) =$
    a) $-1/x^2$ b) $-1/x$ c) $\log x$ d) $1/x^2$

11. The maximum value of $f(x) = \sin x$ is
    a) 1 b) $\sqrt{3}/2$ c) $1/\sqrt{2}$ d) $-1/\sqrt{2}$

12. If $u = e^{x^2}$, then $\frac{\partial u}{\partial x} =$
    a) $2x e^{x^2}$ b) e^{x^2} c) $2e^{x^2}$ d) $2e^{x^2}$

13. The % of income on 7% stock at ₹80 at ₹80 is
a) 9% b) 8.75% c) 8% d) 7%

14. An annuity in which payments are made at the beginning of each payment period is called
a) An immediate annuity b) Perpetual annuity
c) Annuity due d) None of these

15. Which of the following is positional measure?
a) Range b) Mode c) Mean deviation d) Percentiles

16. The best measure of central tendency is
a) AM b) HM c) GM d) Median

17. Correlation co-efficient lies between
a) 0 to ∞ b) −1 to +1 c) −1 to 0 d) −1 to ∞

18. The lines of regression intersect at the point
a) (X,Y) b) $(\bar{X}, \bar{Y})$ c) (0,0) d) (σ_x, σ_y)

19. A solution which maximizes or minimizes the given LPP is called
a) A solution b) A feasible solution c) An optimal solution d) None of these

20. Network problems have advantage in terms of project
a) Scheduling b) Planning c) Controlling d) All the above

Part - II

II. Answer any 7 questions. (Q.No.30 is compulsory) 7 x 2 = 14

21. Evaluate : $\begin{vmatrix} 1 & 3 & 4 \\ 102 & 18 & 36 \\ 17 & 3 & 6 \end{vmatrix}$

22. If $nC_4 = nC_6$, find $12C_n$

23. Find the centre and radius of the circle $x^2 + y^2 - 22x - 4y + 25 = 0$

24. Find the value of sin (−105°)

25. Evaluate : $\lim_{x \to \infty} \frac{6-5x^2}{4x+15x^2}$

26. If the production of a firm is given by $P = 4LK - L^2 + K^2$, $L > 0$, $K > 0$, prove that
$L\frac{\partial P}{\partial L} + K\frac{\partial P}{\partial K} = 2P$

27. Find the market value of 325 shares of face value ₹100 at a premium of ₹18.

28. Find the first quartile and third quartile for the given observations:
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22

29. From the following data, calculate the correlation co-efficient $\Sigma XY = 120$, $\Sigma x^2 = 90$, $\Sigma y^2 = 640$

30. Construct a network diagram for the following situation :
A < D,E; B,D < F; C < G and B < H

Part - III

III. Answer any 7 questions. (Q.No.40 is compulsory) 7 x 3 = 21

31. If $A = \begin{bmatrix} 2 & 4 \\ -3 & 2 \end{bmatrix}$ then, find A^{-1}

32. If $nP_4 = 12(nP_2)$, find n.

33. Find the the length of the tangent from the point (2,3) to the circle $x^2 + y^2 + 8x + 4y + 8 = 0$

34. Find the principal value of $\sin^{-1}(-\frac{1}{2})$ $\sin y = -\frac{1}{2}$ $y = -\frac{\pi}{6}$

35. Differentiate $\sin^3 x$ with respect to $\cos^3 x$

36. Show that the function $f(x) = x^3 - 3x^2 + 4x$, $x \in R$ is strictly increasing function on R.

37. Find the annual rate of interest, to get a perpetuity of ₹675 for every half yearly from the present value of ₹30,000

38. A family has two children. What is the probability that both the children are girls given that at least one of them is a girl?

39. Obtain the two regression lines from the following data :
N = 20, $\Sigma X = 80$, $\Sigma Y = 40$, $\Sigma X^2 = 1680$, $\Sigma Y^2 = 320$ and $\Sigma XY = 480$

40. Draw the event oriented network for the following data.

Events :	1	2	3	4	5	6	7
Immediate predecessors :	–	1	1	2,3	3	4,5	5,6

Part - IV

IV. Answer all the questions. 7 x 5 = 35

41. a) Solve by using matrix inversion method :
$3x - 2y + 3z = 8$, $2x + y - z = 1$, $4x - 3y + 2z = 4$

(OR)

b) Examine the following functions for continuity at indicated points

$$f(x) = \begin{cases} \frac{x^2-4}{x-2}, & \text{if } x \neq 2 \\ 0, & \text{if } x = 2 \end{cases} \text{ at } x = 2$$

42. a) Using mathematical induction method, prove that $1 + 2 + 3 + \ldots + n = \frac{n(n+1)}{2}$, $n \in N$

(OR)

b) The cost function of a firm is $C = x^3 - 12x^2 + 48x$. Find the level of output ($x > 0$) at which average cost is minimum.

43. a) Find the vertex, focus, axis, directrix and the length of latus rectum of the parabola $y^2 - 8y - 8x + 24 = 0$

(OR)

b) A dietician wishes to mix two types of food F_1 and F_2 in such a way that the vitamin contents of the mixture contains atleast 6 units of vitamin A and 9 units of vitamin B. Food F_1 costs ₹50 per kg and F_2 costs ₹70 per kg. Food F_1 contains 4 units per kg of vitamin A and 6 units per kg of vitamin B while food F_2 contains 5 units per kg of vitamin A and 3 units per kg of vitamin B. Formulate the above problem as a LPP to minimize the cost of mixture.

44. a) Solve $\tan^{-1}(x+1) + \tan^{-1}(x-1) = \tan^{-1}\left(\frac{4}{7}\right)$

(OR)

b) If $A = \begin{bmatrix} 1 & 2 \\ 1 & 1 \end{bmatrix}$, $B = \begin{bmatrix} 0 & -1 \\ 1 & 2 \end{bmatrix}$, then show that $(AB)^{-1} = B^{-1}A^{-1}$

45. a) If $y = a \cos mx + b \sin mx$, then show that $y_2 = m^2 y = 0$

(OR)

b) A man invest ₹96,000 on ₹100 shares at ₹80. If the company pays him 18% as dividend, find

i) The number of shares he bought

ii) The dividend

iii) Percentage of return

46. a) Find the stationary values and stationary points for the function $f(x) = 2x^3 + 9x^2 + 12x + 1$

(OR)

b) Bag I contains 3 red and 4 blue balls while another Bag II contains 5 red and 6 blue balls. One ball is drawn at random from one of the bags and it is found to be red. Find the probability that it was drawn from second bag.

47. a) Calculate rank correlation coefficient of the following data.

Sub 1	40	46	54	60	70	80	82	85	87	90	95
Sub 2	45	46	50	43	40	75	55	72	65	42	70

(OR)

b) Draw the network and calculate the earliest start time, earliest finish time, latest start time and latest finish time of each activity and determine the critical path of the project and duration to complete the project.

Jobs	1-2	1-3	2-4	3-4	3-5	4-5	4-6	5-6
Duration	6	5	10	3	4	6	2	9

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RL ACADEMY - ATHUR. M. PERUMTHANA.
I^st Revision EXAMINATION-2025 P.G (ASST)
STD-11

I.

1. c $k^3|A|$
2. a $\begin{pmatrix} 2 & -1 \\ -5 & 3 \end{pmatrix}$
3. c 5
4. a 2^5
5. c 1/3
6. d $xy=0$
7. b $-\sqrt{3}/2$
8. b $\sin 50°$
9. a (0,0)
10. a $-1/x^2$
11. a 1
12. a $2xe^{x^2}$
13. b 8.75%.
14. c Annuity due
15. d percentiles
16. a AM
17. b -1 to +1
18. b $(\bar{x}, \bar{y})$
19. c An optimal solution
20. d All the above

21. $\begin{vmatrix} 1 & 3 & 4 \\ 108 & 18 & 36 \\ 17 & 3 & 6 \end{vmatrix} = 6 \begin{vmatrix} 1 & 3 & 4 \\ 17 & 3 & 6 \\ 17 & 3 & 6 \end{vmatrix} = 0$
(Since $R_2 \equiv R_3$)

22. $nC_4 = nC_6$ { $nC_x = nC_y$, $x+y=n$ }
$n = 4+6 = 10$
$12C_n = 12C_{10}$
$12C_2 = \frac{12 \times 11}{1 \times 2} = 66$

23. $x^2+y^2-22x-4y+25=0$,
$C(-g,-f) = (11,2)$
$r = \sqrt{g^2+f^2-c} = \sqrt{121+4-25}$
$= 10$.

24. $\sin(60+45) = \sin 60 \cos 45 + \cos 60 \sin 45°$
$= \frac{\sqrt{3}}{2} \times \frac{1}{\sqrt{2}} + \frac{1}{2} \times \frac{1}{\sqrt{2}}$
$= \frac{\sqrt{6}+\sqrt{2}}{4}$

25. $\lim_{x \to \infty} \frac{6-5x^2}{4x+15x^2} = \lim_{x \to \infty} \frac{\frac{6}{x^2} - 5}{\frac{4}{x} + 15}$
$= \frac{0-5}{0+15} = -\frac{1}{3}$

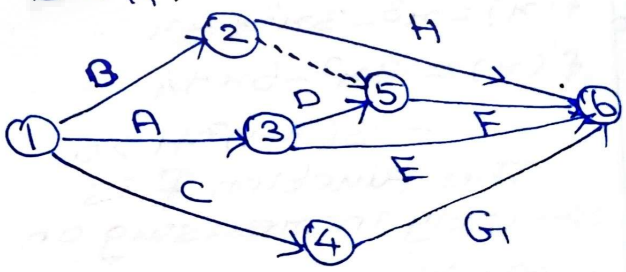
26. $P = 4LK - L^2 + K^2$
$P(\lambda L, \lambda K) = 4\lambda^2 LK - \lambda^2 L^2 + \lambda^2 K^2$
$= K^2(4LK - L^2 + K^2)$
$= K^2 P$
P is Homogeneous,
$\therefore L\frac{\partial P}{\partial L} + K\frac{\partial P}{\partial K} = 2P$.

27. No. of shares = 325
Total Amount = 100+18
= 118
Market value = 118 × 325
= ₹ 38350

28. $N = 11$. $Q_1 = \left(\frac{N+1}{4}\right)^{th}$ term
$= \left(\frac{11+1}{4}\right)^{th} = 3^{rd} = 6$.
$Q_3 = 3\left(\frac{12}{4}\right)^{th} = 9^{th} = 18$
2, 4, 6, 8, 10, 12, 14, 16, 18, 20

29. $\Sigma xy = 120$, $\Sigma x^2 = 90$, $\Sigma y^2 = 640$
$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \Sigma y^2}} = \frac{120}{\sqrt{90}\sqrt{640}}$
$= \frac{120}{240} \simeq 0.5$

30. $A < D, E$; $B, D < F$; $C < G_1$
$B < H$.



31. $A = \begin{pmatrix} 2 & 4 \\ -3 & 2 \end{pmatrix}$ $|A| = 4+12 = 16 \neq 0$

$A^{-1} = \frac{1}{|A|}\text{adj}A = \frac{1}{16}\begin{pmatrix} 2 & -4 \\ 3 & 2 \end{pmatrix}$

$\text{adj}A = \begin{pmatrix} 2 & -4 \\ 3 & 2 \end{pmatrix}$

$\boxed{A^{-1} = \frac{1}{16}\begin{pmatrix} 2 & -4 \\ 3 & 2 \end{pmatrix}}$

32. $nP_4 = 12(nP_2)$

$n(n-1)(n-2)(n-3) = 12(n)(n-1)$

$(n-2)(n-3) = 12$

$n-2 = 4$

$\boxed{n=6}$

33. $\sqrt{x_1^2+y_1^2+8x_1+4y_1+8}$

at (2,3)

$\sqrt{(2)^2+(3)^2+8(2)+4(3)+8}$

$= \sqrt{49} = 7$ units.

34. $\sin^{-1}(-1/2) \Rightarrow y = \sin^{-1}(-1/2)$

$\sin y = -1/2$

$\boxed{y = -\pi/6}$

35. $u = \sin^3 x$, $u = \cos^3 x$

$\frac{du}{dx} = 3\sin^2 x \cos x$

$\frac{dv}{dx} = -3\cos^2 x(\sin x)$

$\frac{du}{dv} = \frac{3\sin^2 x \cos x}{-3\cos^2 x \sin x}$

$= -\frac{\sin x}{\cos x} = -\tan x$

36. $f(x) = x^3 - 3x^2 + 4x$

$f'(x) = 3x^2 - 6x + 4$

$= 3(x-1)^2 + 1 > 0.$

$\therefore$ The Function f is strictly increasing on $(-\infty, \infty)$

37. $P = 30,000$, $a = 675$, $k = 2$, $i = ?$

$P = \frac{a}{i/k}$

$30000 = \frac{675}{i/2}$

$= \frac{1350}{i}$

$i = \frac{1350}{30000}$

$i = 0.045$

interest $= 0.045 \times 100$

$= 4.5\%$

38. $S = \{BB, BG, GB, BB, GG\}$

$A = \{GG\}$

$n(A) = 1$

$P(A) = 1/4$

$B = \{BG, GB, GG\}$

$n(B) = 3$

$P(B) = 3/4$

$n(A \cap B) = 1$

$P(A/B) = \frac{P(A \cap B)}{P(B)} = \frac{1}{4} \times \frac{4}{3}$

$= 1/3$

39. $\bar{x} = \frac{80}{20} = 4$, $\bar{y} = \frac{40}{20} = 2$

$b_{yx} = \frac{N\Sigma xy - \Sigma x \Sigma y}{N\Sigma x^2 - (\Sigma x)^2}$

$b_{yx} = \frac{20(480) - 80(40)}{20(1680) - (80)^2}$

$= \frac{6400}{27200} = 0.24$

Y on X

$y - \bar{y} = b_{yx}(x - \bar{x})$

$y - 2 = 0.24(x - 4)$

$\boxed{y = 0.24x + 1.04}$

$b_{xy} = \frac{N\Sigma xy - \Sigma x \Sigma y}{N\Sigma y^2 - (\Sigma y)^2}$

$= \frac{20(480) - 80(40)}{20(320) - (40)^2}$

$= \frac{6400}{4800} = 1.33$

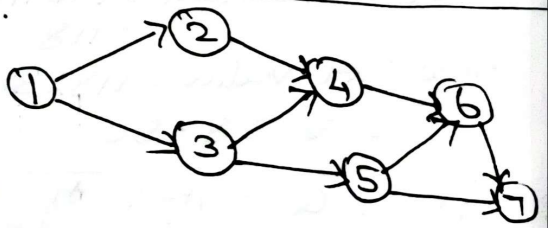
X on Y

$x - \bar{x} = b_{xy}(y - \bar{y})$

$x - 4 = 1.33(y - 2)$

$\boxed{x = 1.33y + 1.34}$

40.



III

41(a) $\begin{pmatrix} 3 & -2 & 3 \\ 2 & 1 & -1 \\ 4 & -3 & 2 \end{pmatrix}\begin{pmatrix} x \\ y \\ z \end{pmatrix} = \begin{pmatrix} 8 \\ 1 \\ 4 \end{pmatrix}$

$X = A^{-1}B$

$|A| = \begin{vmatrix} 3 & -2 & 3 \\ 2 & 1 & -1 \\ 4 & -3 & 2 \end{vmatrix} = -17 \neq 0$

$\text{adj } A = \begin{pmatrix} -1 & -5 & -1 \\ -8 & -6 & 9 \\ -10 & 1 & 7 \end{pmatrix}$

$A^{-1} = \frac{1}{-17}\begin{pmatrix} -1 & -5 & -1 \\ -8 & -6 & 9 \\ -10 & 1 & 7 \end{pmatrix}$

$x = \frac{1}{-17}\begin{pmatrix} -1 & -5 & -1 \\ -8 & -6 & 9 \\ -10 & 1 & 7 \end{pmatrix}\begin{pmatrix} 8 \\ 1 \\ 4 \end{pmatrix}$

$= \frac{1}{-17}\begin{pmatrix} -17 \\ -34 \\ -51 \end{pmatrix} = \begin{pmatrix} 1 \\ 2 \\ 3 \end{pmatrix}$

$x=1, \quad y=2, \quad z=3$

(b) $f(x) = \begin{cases} \frac{x^2-4}{x-2}, & x \neq 2 \\ 0, & x = 2 \end{cases}$

$x = 2-h, \quad h \to 0, \quad x \to 2$

$\lim_{h\to 0} f(2-h) = \lim_{h\to 0} \frac{(2-h)^2-4}{2-h-2}$

$\lim_{h\to 0} \frac{h^2-4h}{-h} = \lim_{h\to 0} \frac{h(h-4)}{-h}$

$\lim_{h\to 0} \frac{0-4}{-1} = 4$

$L(f(x))_{x=0}, \quad f(2) = 0$

$L(f(x)) \neq f(2)$

Function is not continuous at $x=2$.

42(a) $P(n) = 1+2+\cdots+n = \frac{n(n+1)}{2}$

$P(1) = 1 = \frac{1(1+1)}{2} = 1$

$P(1)$ is true.

$P(k) = 1+2+\cdots+k = \frac{k(k+1)}{2}$

$P(k+1) = P(k) + k+1$

$= \frac{(k+1)(k+2)}{2}$

$P(k+1)$ is true.

(b) $AC = MC$

$AC = \frac{C}{x} = \frac{x^3-12x^2+48x}{x}$

$AC = x^2-12x+48$

$MC = \frac{d}{dx}(C) = 3x^2-24x+48$

$3x^2-24x+48 = x^2-12x+48$

$x(x-6) = 0$

$x=0, \quad x=6$

output 6 units.

43(a) $y^2-8y+24 = 8x$

$y^2-8y+16 = 8x-24+16$

$(y-4)^2 = 8(x+1)$

$y^2 = 8x$.

Parabola Right open.

$V(0,0)$	$x=0$ $y=0$	$x=1, y=4$
$F(2,0)$	$x=2$ $y=0$	$x=3, y=4$
Axis		$y-4=0$
x-axis	$y=0$	$y=4$
$x+2=0$	$x+2=0$	$x=-1$
L.R	8	8

43(b) variables:

x_1 and x_2

objective function:

$F_1 = 50x_1, \quad F_2 = 70x_2$

$Z = 50x_1+70x_2$

constraints:

$4x_1+5x_2 \geq 6$ vitamin A

$6x_1+3x_2 \geq 9$ vitamin B

non-negative restriction:

$x_1, x_2 \geq 0$

Minimize $Z = 50x_1+70x_2$

$4x_1+5x_2 \geq 6$,

$6x_1+3x_2 \geq 9$, and $x_1, x_2 \geq 0$.

44(a) $\tan^{-1}(x+1)+\tan^{-1}(x-1) = \tan^{-1}(\frac{4}{7})$

$\tan^{-1}\left(\frac{x+1+x-1}{1-(x+1)(x-1)}\right) = \tan^{-1}(4/7)$

$\frac{2x}{1-x^2+1} = \frac{4}{7}$

$2x^2+7x-4=0,$

$x = 1/2 \mid x = -4$

(b) $A = \begin{pmatrix} 2 & 3 \\ 1 & 1 \end{pmatrix}, B = \begin{pmatrix} 0 & -1 \\ 1 & 2 \end{pmatrix}$

$(AB)^{-1} = B^{-1}A^{-1}$

$|A| = \begin{vmatrix} 2 & 3 \\ 1 & 1 \end{vmatrix} = -1 \neq 0$

$|B| = \begin{vmatrix} 0 & -1 \\ 1 & 2 \end{vmatrix} = 1 \neq 0$

$AB = \begin{pmatrix} 1 & 2 \\ 1 & 1 \end{pmatrix}\begin{pmatrix} 0 & -1 \\ 1 & 2 \end{pmatrix}$

$|AB| = \begin{vmatrix} 2 & 3 \\ 1 & 1 \end{vmatrix} = -1 \neq 0$

$\text{adj } AB = \begin{pmatrix} 1 & -3 \\ -1 & 2 \end{pmatrix}$

$(AB)^{-1} = \frac{1}{|AB|}(\text{adj } AB)$

$= \frac{1}{-1}\begin{pmatrix} 1 & -3 \\ -1 & 2 \end{pmatrix} = \begin{pmatrix} -1 & 3 \\ 1 & -2 \end{pmatrix}$

$A^{-1} = \frac{1}{|A|}\text{adj } A = \frac{1}{-1}\begin{pmatrix} 1 & -2 \\ -1 & 1 \end{pmatrix}$

$B^{-1} = \frac{1}{|B|}\text{adj } B = \frac{1}{1}\begin{pmatrix} 2 & 1 \\ -1 & 0 \end{pmatrix}$

$B^{-1}A^{-1} = \begin{pmatrix} 2 & 1 \\ -1 & 0 \end{pmatrix}\begin{pmatrix} 1 & -2 \\ -1 & 1 \end{pmatrix}$

$= \begin{pmatrix} -1 & 3 \\ 1 & -2 \end{pmatrix}$

$(AB)^{-1} = B^{-1}A^{-1}$

45(a) $y = a\cos mx + b\sin mx$,

$y = a\cos mx + b\sin mx$

$y_1 = -a\sin mx.m + b\cos mx.m$

$y_2 = -m^2\{a\cos mx + b\sin mx\}$

$y_2 = -m^2 y$

$\boxed{y_2 + m^2 y = 0}$

45(b) (i) Investment = ₹ 96000

Face value = ₹ 100.

Market value = ₹ 80

No. of shares $= \frac{96000}{80}$

$= 1200$

(ii) Total dividend

= no. of Shares × Rate of dividend × Face value

$= 1200 \times \frac{18}{100} \times 100 = 21,600$

(iii) Percentage $= \frac{21600}{96000} \times 100$

$= 22.5\%$

46 (a) $f(x) = 2x^3 + 9x^2 + 12x + 1$

$f'(x) = 6x^2 + 18x + 12$

$f'(x) = 0$

$6(x+2)(x+1) = 0$.

$x = -2, x = -1$

$f(-2) = 2(-8) + 9(4) + 12(2) + 1$

$= -3$

$f(-1) = -4$

$(-2, -3)$ and $(-1, -4)$

(b) $P(E_1) = P(E_2) = 1/2$

$P(A|E_1) = 3/7$

$P(A|E_2) = 5/11$

$P(E_2|A) = \frac{P(E_2)P(A|E_2)}{P(E_1)P(A|E_1) + P(E_2)P(A|E_2)}$

$= \frac{\frac{1}{2} \cdot \frac{5}{11}}{\left(\frac{1}{2} \times \frac{3}{7}\right) + \left(\frac{1}{2} \times \frac{5}{11}\right)}$

$= \frac{35}{68}$

47(a)

x	Y	R_x	R_y	d	d^2
40	45	1	4	-3	9
46	46	2	5	-3	9
54	50	3	6	-3	9
60	43	4	3	1	1
70	33	5	1	4	16
80	40	6	11	-5	25
82	75	7	7	0	0
85	55	8	10	-2	4
87	72	9	8	1	1
90	65	10	2	8	64
95	42	11	9	2	4
	70				

$\Sigma d^2 = 142$

$e = 1 - \frac{6\Sigma d^2}{N(N^2-1)}$

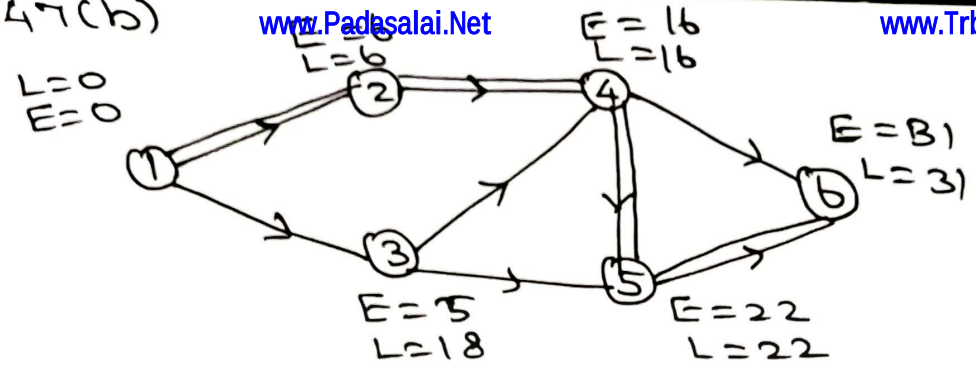
$= 1 - \frac{6(142)}{11(11^2-1)}$

$= 1 - \frac{852}{1320}$

$\rho = \frac{1320 - 852}{1320}$

$\boxed{\rho = 0.354}$

47(b)



Activity	Duration	EST	EFT	LST	LFT
1-2	6	0	6	6-6=0	6
1-3	5	0	5	18-5=13	18
2-4	10	6	16	16-10=6	16
3-4	3	5	8	16-3=13	16
3-5	4	5	9	22-4=18	22
4-5	6	16	22	22-6=16	22
4-6	2	16	18	31-2=29	31
5-6	9	22	31	31-9=22	31

Critical path : 1 → 2 → 4 → 5 → 6.
duration is 31 days to complete.

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