

Shree Manibhai Virani and Smt. Navalben Virani Science College (Autonomous)

Affiliated to Saurashtra University, Rajkot

SEMESTER END EXAMINATION APRIL – 2017**Bachelor of Computer Application / B.Sc. Information Technology****16UCADA02 / 16UITDA02 – MATHEMATICS & STATISTICS -II****Duration of Exam – 3 hrs****Semester – II****Max. Marks – 70****Part A (10x1= 10 marks)**Answer **ALL** questions

- Write the equation of the line passing through origin & having slope m .
- Write formula to find slope between two points.
- Backward difference operator is denoted by which symbol?
- The process of finding the value of a function inside the given range of argument is called _____
- A ____ G ____ H
a) $\geq$ b) $\leq$ c) $=$ d) None
- For an A.P. if first term = 1, last term = 9 find S_{12} .
- Least Cost Method is also known as _____
- What is full form of NWCM?
- Generally Median is denoted by _____
- Find range: 5, 3, 10, 8, 4

Part B (5X5 = 25 marks)Answer **ALL** questions

- Find co-ordinates of the point which divides (1, 4) & (3, 9) internally in the ratio 2:1
OR
- Verify that the line passing through the points (-8, 3) & (2, 1) is parallel to the line passing through the points (11, -1) & (6, 0).
- For an A.P. $S_8 = 124$ & $S_{11} = 220$ find T_{30} & S_{30}
OR
- The A.M. & G.M. of two numbers are 20 & 12 resp. Find numbers.

- Construct forward difference table from the following data

x	30	40	50	60	70	80
y	10	12	24	20	30	5

OR

- Construct backward difference table from the following data

x	30	40	50	60	70	80
y	10	20	25	20	10	3

- 14a. From the following transportation problem find initial solution using LCM.

TO						
FROM		D ₁	D ₂	D ₃	D ₄	S
	S ₁	5	3	6	4	30
	S ₂	3	4	7	8	15
	S ₃	9	6	5	8	15
	D	10	25	18	7	60

OR

- 14b. From the following transportation problem find initial solution using NWCM.

FROM		D ₁	D ₂	D ₃	S
	S ₁	6	8	10	150
	S ₂	7	11	11	175
	S ₃	4	5	12	275
	D	200	100	300	600

- 15a. Find Mean:

Class	0-10	10-20	20-30	30-40	40-50	50-60
f	8	7	16	24	15	10

OR

- 15b. Find S.D.

x	6	7	8	9	10	11	12
f	3	6	9	13	8	5	4

Part C (5X7 = 35 marks)

Answer **ALL** questions

- 16a. Verify that (3, 2), (5, 4), (3, 6) & (1, 4) are the vertices of a square.

OR

- 16b. Find the equation of a line passing through (3, 1) & parallel to the line $x + 2y + 7 = 0$.

- 17a. Three numbers are in A.P. Their sum is 30. If 1 is added to first number & 4 is added to third number, we get G.P. Find numbers.

OR

- 17b.

Verify that $\frac{5A+4a}{A-b} + \frac{5A+4b}{A-a} = 8$

- 18a. Find f(105) by N.B.I.

x	80	85	90	95	100
y	5026	5674	6362	7088	7854

OR

- 18b. Find f(10) by Lagrange's Interpolation

x	5	6	9	11
y	12	13	14	16

19a From the following transportation problem find initial solution using Vogel's method

TO						
FROM		D ₁	D ₂	D ₃	D ₄	S
	S ₁	10	2	20	11	15
	S ₂	12	7	9	20	25
	S ₃	4	14	16	18	10
	D	5	15	15	15	50

OR

19b. From the following transportation problem find initial solution using Vogel's method

FROM		D ₁	D ₂	D ₃	S
	S ₁	2	7	4	5
	S ₂	3	3	1	8
	S ₃	5	4	7	7
	S ₄	1	6	2	14
	D	7	9	18	34

20a. Find Q_1 and Q_3

Class	50 - 100	100- 150	150 - 200	200 - 250	250 - 300	300 - 350	350 - 400	400 - 450
f	15	40	35	60	125	100	70	55

OR

20b. Find missing frequencies for which $M = 46$

Class	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60	60 - 70	70 - 80	Total
f	12	-	34	65	45	-	19	230
