

2.7.2019

Exercise - 1

① In a survey of 30 families in a village, the number of children per family was recorded and following data obtained

15 6, 5, 2, 8, 3, 1, 7, 8, 7, 0, 2, 4, 6, 7, 2, 5, 2, 3, 4, 2, 3, 5, 5, 3, 4, 3, 4, 4, 6, 3

Represent the data in the form of a discrete frequency distribution.

Ans Discrete frequency Distribution

<u>X</u>	<u>Tally Bars</u>	<u>frequency</u>
0		1
1		1
2		5
3		6
4		5
5		4
6		3
7		3
8		2
		<u>30</u>

⑤ The class of 2004 of Osmania University had 30 students who scored the following letter grades

A, B, D, C, C, B, D, C, B, C, B, C, B, A, B, C, B, A, D, D, C, B, B, D, D, A, B, C, C, B

Represent the data in the form of a discrete frequency distribution

Ans

Discrete frequency distribution

Grades (X)	Tally Bars	frequency
A	IIII	4
B	IIII IIII I	11
C	IIII IIII	9
D	IIII I	6
		30

⑥ ~~Marks~~ Following are the marks secured by 60 students. Arrange the data in a frequency table by 'Exclusive Method'

56, 71, 18, 31, 56, 40, 81, 64, 59, 49, 42, 12, 67, 7, 39, 76, 48, 7, 80, 84, 34, 58, 61, 28, 45, 0, 63, 61, 11, 81, 12, 24, 75, 64, 68, 43, 58, 79, 36, 83, 09, 64, 38, 30, 32, 60, 27, 18, 54, 63, 37, 58, 83, 41, 47, 38, 83, 45, 56, 28.

Ans Exclusive Method

Marks (C-I)	f (No. of students)
0-10	4
10-20	5
20-30	4
30-40	9
40-50	9
50-60	8
60-70	10
70-80	4
80-90	7
	60

Q) from the following observations prepare a frequency distribution table in ascending order starting with 100-110 (exclusive method).

125, 108, 112, 126, 110, 132, 136, 130, 149, 155, 120,
130, 136, 138, 125, 111, 112, 125, 140, 148, 147, 137,
145, 150, 142, 135, 137, 132, 165, 154

Soll

C-I	frequency
100-110	1
110-120	4
120-130	5
130-140	10
140-150	6
150-160	3
160-170	1
	<u>30</u>

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⑤ Convert the following class intervals from inclusive form to exclusive form.

class Intervals : 0-9, 10-19, 20-29, 30-39, 40-49, 50-59

<u>Sol</u>	C-I (Inclusive m)	C-I (Exclusive m)
	0-9	0-9.5
	10-19	9.5-19.5
	20-29	19.5-29.5
	30-39	29.5-39.5
-5	40-49	39.5-49.5
+5	50-59	49.5-59.5

03/07/19 ⑥ From a frequency distribution from the following data by inclusive method taking 4 as the magnitude of class intervals.

10, 17, 15, 22, 11, 16, 19, 24, 29, 18, 25, 26, 23, 27, 30, 12, 15, 18, 15, 21, 28, 33, 38, 34, 13, 10, 16, 20, 22, 29, 19, 23, 31, 14, 32, 14, 17, 20, 24, 36

<u>ans</u>	C.I	f
	10-13	5
	14-17	9
	18-21	7
	22-25	7
	26-29	5
	30-33	4
	34-37	2
	38-41	1
	<u>N=40</u>	

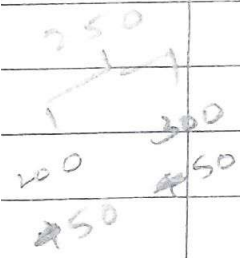
8) Mid-value of various class intervals pertaining to turnover of companies and number of such companies are presented below.

5	Turnover in (₹) Crosses (Mid Value)	No. of Companies
	250	50
	350	35
	450	25
	550	30
10	650	20

Convert the above data into a continuous series.

Sol

15	Turnover "C-I" (M.V)	f (No. of companies)
	200-300	50
	300-400	35
	400-500	25
	500-600	30
	600-700	20



$$M.V = \frac{L.L + U.L}{2} = \text{diff} = \frac{100}{2} = 50$$

9) Arrange the following data in a frequency table by 'more than' method.

25	class	frequency
	16-24	16
	24-32	24
	32-40	27
	40-48	36
	48-56	38
	56-64	32
	64-72	27
		200

<u>ans</u>	C.I	Frequency	More than	C.F
	16-24	16	16	200
	24-32	24	24	184
	32-40	27	40 32	160
	40-48	36	40 40	133
	48-56	38	56 48	97
	56-64	32	64 56	59
	64-72	27	64	27
		<u>N = 200</u>	72	0

- 10
- 15
- 10) From the frequency table prepare cumulative frequency table according to
- Less than Method
 - More than Method

Marks	No. of students
0-10	4
10-20	12
20-30	24
30-40	36
40-50	20
50-60	1
60-70	8
70-80	5

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(next page ans) →

Sol

Marks (C-I)	No. of students (f)	Less than	c.f	More than	c.f
0-10	4	10	4	0	110
10-20	12	20	16	10	106
20-30	24	30	40	20	94
30-40	36	40	76	30	70
40-50	20	50	96	40	34
50-60	1	60	97	50	14
60-70	8	70	105	60	13
70-80	5	80	110	70	5
				80	0
	<u>N = 110</u>				

05/07/19

(11) Convert the following cumulative frequency table into Simple frequency table.

Marks less than	80	70	60	50	40	30	20	10
No. of students	100	90	80	60	32	20	13	5

Sol

Marks less than	No. of students (f)	c-I	f
80	100	0-10	5
70	90	10-20	8 (13-5)
60	80	20-30	7
50	60	30-40	12
40	32	40-50	28
30	20	50-60	20
20	13	60-70	10
10	5	70-80	10

⑫ Convert the following into simple frequency table

Wages(₹) Above	30	40	50	60	70	80	90
No. of workers	600	520	470	399	210	104	45

<u>Sol</u>	wages(₹)	No. of workers	C.I	f
	30	600	30-40	80
	40	520	40-50	50
	50	470	50-60	71
	60	399	60-70	189
	70	210	70-80	106
	80	104	80-90	59
	90	45	90-100	45

⑬ The following data pertains to a post office

No. of packages received No. of times received
in month

Below 10	8
Below 20	11
Below 30	15
Below 40	20
Below 50	28
Below 60	30

Convert the above table into "more than cumulative frequency table"

<u>Soll</u>	No. of packages	f	C-I	F	more than	c-f
	10	8	0-10	8	0	30
	20	11	10-20	3	10	22
	30	15	20-30	4	20	19
	40	20	30-40	5	30	15
	50	28	40-50	8	40	10
	60	30	50-60	2	50	2
				<u>N=30</u>	60	0

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 (14) Draw a blank table showing exports and imports during the years 1990, 1991, 1992, 1993, 1994 relating to ports Bombay, Calcutta, Vizag and other parts.

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<u>Soll</u>	Name of the city	Bombay	Calcutta	Vizag	Other parts		
Year		Export	Import	Export	Import	Export	Import
	1990						
	1991						
	1992						
	1993						
	1994						

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✓
 (15) Following are the ages of various male and female contestants in a competition - Prepare a two ways table depicting the various age - categories and gender distribution of the contestants

Male Contestants (Ages) : 25, 34, 39, 29, 37, 66,

45, 31, 42, 57, 22, 36, 43, 62,

41, 44, 36, 26, 54, 41, 45, 51, 42, 31,

38, 42, 47, 35, 39, 49

Females Contestants (Ages) : 21, 21, 32, 52, 56, 65,

43, 36, 26, 41, 23, 33, 41, 21, 24,

42, 25, 23, 39, 43, 34, 46, 37, 26,

27.

S₁₁

Ages	Male (M)	Female (F)	Total
20-30	4	10	14
30-40	10	6	16
40-50	11	6	17
50-60	3	2	5
60-70	2	1	3
	<u>N = 30</u>	<u>N = 25</u>	<u>55</u>

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— x —

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