

Ch-21
Statistics

Ex-21(I)

1. a) The height of 20 plants measured in centimeter are given below

12 . 15 . 18 . 14 . 15 . 17 . 14 . 15 . 16 . 13
14 . 15 . 16 . 18 . 12 . 16 . 15 . 14 . 13 . 14

Form a frequency table.

→ Soln
Here,

12, 12, 13, 13, 14, 14, 14, 14, 14, 15, 15,
15, 15, 15, 16, 16, 16, 17, 18, 18

→

Height	Tally Marks	Frequency
12	//	2
13	//	2
14	////	5
15	////	5
16	///	3
17	/	1
18	//	2

b. The marks obtained by 25 students in first class test are as follows:

25 28 27 28 26 25 24 27 28 29
26 25 24 24 25 24 25 24 26 25
27 28 25 24 25

Also ~~for~~ Construct a frequency table.

→ ~~&~~ Also, find ~~a~~ cumulative frequencies.



→ Soln,

Here,

~~25~~ 24, 24, 24, 24, 24, 24, 25, 25, 25,
25, 25, 25, 25, 25, 26, 26, 26, 27, 27,
27, 28, 28, 28, 28, 29

Marks	No. of students	C.f.
24	6	6
25	8	$6+8=14$
26	3	$14+3=17$
27	3	$17+3=20$
28	4	$20+4=24$
29	1	$24+1=25$ #

- c) The weights (in kg) of 20 persons are presented below:
Prepare a cumulative frequency table.

55 58 57 54 58 56 55 54 53 55
 57 58 56 54 58 54 55 59 54 56

→ Soln
 Here,

53, 54, 54, 54, 54, 54, 55, 55, 55,
 55, 56, 56, 56, 57, 57, 58, 58,
 59,

Weights	No. of people	c.f.
53	1	1
54	5	$1+5=6$
55	4	$6+4=10$
56	3	$10+3=13$
57	2	$13+2=15$
58	4	$15+4=19$
59	1	$19+1=20$

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2 a) The wages (in Rs.) of 25 workers of a firm are given below:

125 136 147 156 138 145 152
 131 148 129 136 143 149 153
 155 138 159 163 165 167 144
~~154~~ 156 168 135 146

[Prepare a frequency ~~table~~ ^{distribution of the} wage of class-size 10.]

→ Solⁿ

Here,

125 , Wage (Rs.)	No. of workers
125-135	3
135-145	7
145-155	7
155-165	5
165-175	3

2 (b) Prepare a frequency distribution of the following time distribution measured in second taking 20-30 as the first class interval.

37 45 48 63 68 56 28 35 65 46
25 32 57 44 26 36 52 31 42 63.
49 54 58 43 58

Also find c.f.

→ Solⁿ,

Time duration (second)	Frequency	c.f.
20-30	3	3
30-40	5	3+5=8
40-50	7	8+7=15
50-60	6	15+6=21
60-70	4	21+4=25

2(c) Prepare a frequency distribution taking 5-10 as the first class interval.

17 8 6 21 24 13 16 9 14 23
15 14 7 23 28 19 6 18 12 16.

Also, find c.f.

→ Solⁿ,

Class	Frequency	c.f.
5-10	5	5
10-15	4	$5+4=9$
15-20	6	$9+6=15$
20-25	4	$15+4=19$
25-30	1	$19+1=20$

3 @ Prepare a cumulative frequency table from the following frequency table.

Height (cm) :	10	20	30	40	50	60
Frequency :	7	8	12	15	10	8

→ Solⁿ

Height (cm)	Frequency	c.f.
10	7	7
20	8 8	15 15
30	12 12	27
40	15 15	42

50

10

52

60

8

60

(b) Prepare a cumulative frequency distribution from the following:

Age (years) :	30-40	40-50	50-60	60-70	70-80	80-90
No. of people:	6	10	15	21	13	10

→ Soln

Age (years)	No. of people	c.f.
30-40	6	6
40-50	10	16
50-60	15	31
60-70	21	52
70-80	13	65
80-90	10	75