

Assignment no : 01

Course : STA 201

Section : 05

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### Ans.to the Q.No - 1 (a)

i

There are 10 variables in Table - 1.

ii

Categorical: Model, Transmission, Fuel, Vehicle Class

Quantitative: Engine size, Cylinders, Number of gears, City MPG, Hwy MPG, Model Year

### Ans.to Q.No - 1 (b)

Class	Frequency
Small	2
Midsize	3
Large	1
Small SUV	2
Standard SUV	2

$\therefore$  Proportion  
of midsize

$$\text{cars} = \frac{3}{10}$$

$$= 0.3$$

(Ans)

Total = 10

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I(c)

Transmission	Vehicle Class					Total
	Small car	Midsize car	Large car	Small SUV	Standard SUV	
Automatic	0	3	0	2	2	7
Manual	2	0	1	0	0	3
Total	2	3	1	2	2	10

i) Modal Response for the variable

"Transmission" is "Automatic"

ii) Small car proportion =  $\frac{2}{10} = 0.20$

iii) "Standard SUV" proportion in "Manual cars" =  $\frac{0}{3} = 0.00$ .

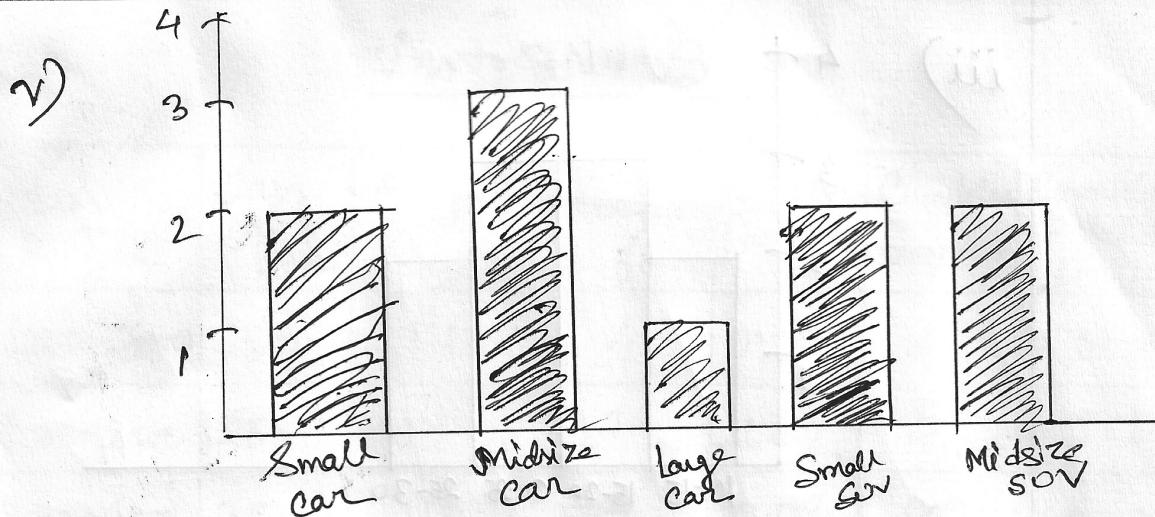
iv) "Automatic" proportion in "Large cars" =  $\frac{0}{7} = 0.00$ .

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(3)



1(d)

City MPG	Tally	Frequency	Relative Frequency	Cumulative Relative Frequency
10 - 15		2	0.2	0.2
15 - 20		3	0.3	0.5
20 - 25		3	0.3	0.8
25 - 30		2	0.2	1.0

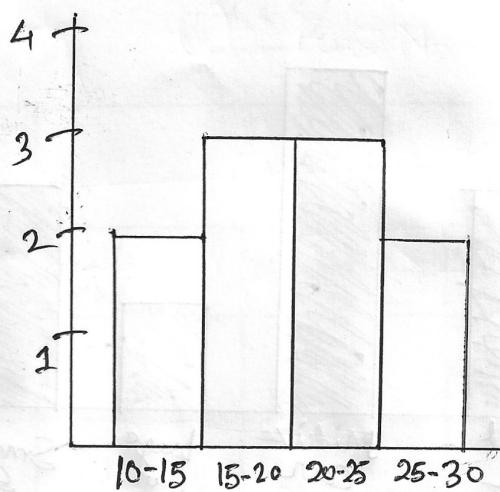
Total = 10

i) Proportion =  $(0.2 + 0.3) = 0.50$

ii) Proportion =  $(0.3 + 0.2) = 0.50$

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iii)



Ans to Q No - 2

Grades on Statistics Examination	Frequency	Relative Frequency	Percentage
A: 90 - 100	16	0.08	8%
B: 80 - 89	32	0.16	16%
C: 65 - 79	94	0.47	47%
D: 50 - 64	31	0.155	15.5%
E: F: Below 50	27	0.13	13.5%
Total	200	1.0	100 %

$$0.08 = (2 + 3 + 3 + 2) = \text{minimum}$$

$$0.16 = (3 + 3 + 2) = \text{maximum}$$

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(5)

Ans & No - 3

Class Range	Class mid value	Tally Bars	Frequency $f_i$	Relative frequency	Cumulative frequency	Cumulative Relative frequency
1000-2000	1500		4	0.08	4	0.08
2000-3000	2500		1	0.02	5	0.10
3000-4000	3500		4	0.08	9	0.18
4000-5000	4500		8	0.16	17	0.34
5000-6000	5500		3	0.06	20	0.40
6000-7000	6500		13	0.26	33	0.66
7000-8000	7500		6	0.12	39	0.78
8000-9000	8500.		7	0.14	46	0.92
9000-10000	9500		4	0.08	50	1.00
Total			50	1.00		

a) Loan Request =  $4 + 8 = 12$

b) Proportion =  $0.08 + 0.16 = 0.24$

c) No of loan req = ~~4+1+1+1~~ 39 (cumulative)

d) Proportion = 0.78 (cumulative)

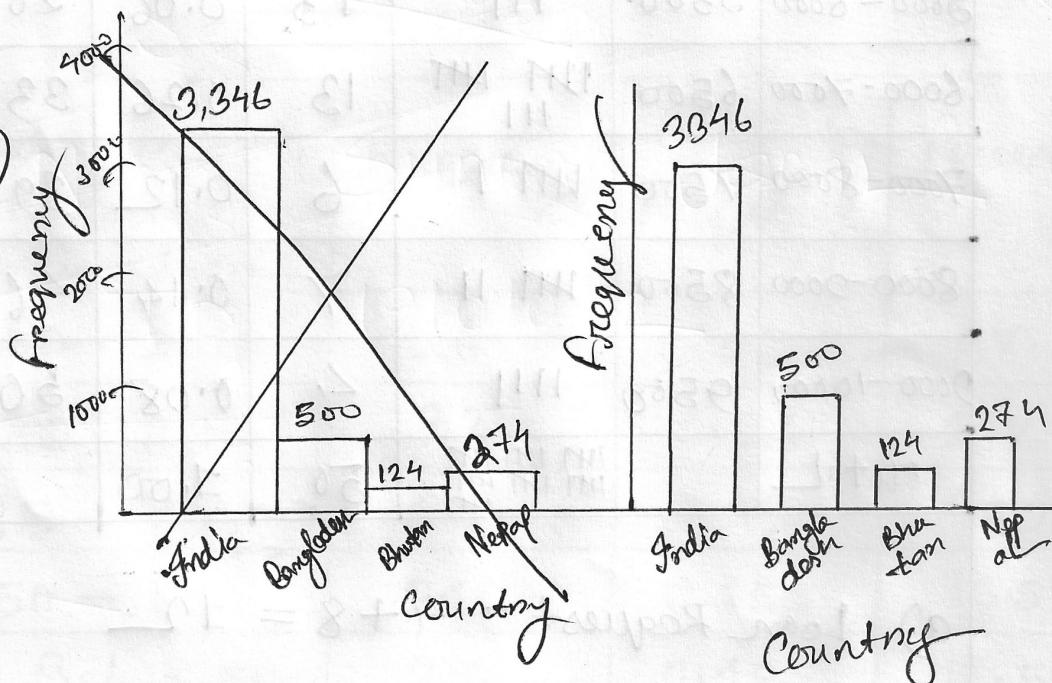
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### Ans to Q No - 4

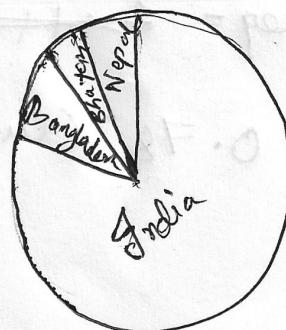
i)

Country	Estimate	Relative freq deny
India	3,346	0.788
Bangladesh	500	0.117
Bhutan	124	0.029
Nepal	274	0.064
Total	4244	$\approx 1.00$ (Apprx)

ii)



iii)



$$\text{India} = 0.788 \times 360^\circ = 283^\circ$$

$$\text{Bangladesh} = 0.117 \times 360^\circ = 42.732$$

$$\text{Bhutan} = 0.029 \times 360^\circ = 10.44^\circ$$

$$\text{Nepal} = 0.064 \times 360^\circ = 23.0^\circ$$

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(7)

- d) 11% of the remaining Tigers are in Bangladesh and 6% of the remaining tigers are in Nepal.

Ans to Q No - 5

a)

Class Range	Frequency
90 - 100	8
100 - 110	9
110 - 120	8
120 - 130	3
130 - 140	9
140 - 150	3
Total	40

b)

