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EXAM. FINAL

ID. 13957

PAPER. BIO-STATISTICS

SEMESTER 6TH

IQRA NATIONAL UNIVERSITY PESHAWAR

TOTAL PAGES 6

Answer to Question No. 01 part a						
Price(X)	Demond(Y)	X-X_bar	Y-Y_bar	(X-X_bar)(Y-Y_bar)	(X-X_bar)^2	(Y-Y_bar)^2
3	25	-4.6	7.8	-35.88	21.16	60.84
4	24	-3.6	6.8	-24.48	12.96	46.24
5	20	-2.6	2.8	-7.28	6.76	7.84
6	20	-1.6	2.8	-4.48	2.56	7.84
7	19	-0.6	1.8	-1.08	0.36	3.24
8	17	0.4	-0.2	-0.08	0.16	0.04
9	16	1.4	-1.2	-1.68	1.96	1.44
10	13	2.4	-4.2	-10.08	5.76	17.64
11	10	3.4	-7.2	-24.48	11.56	51.84
13	8	5.4	-9.2	-49.68	29.16	84.64
7.6	17.2			-159.2	92.4	281.6

Correlation
coefficient= -0.98694

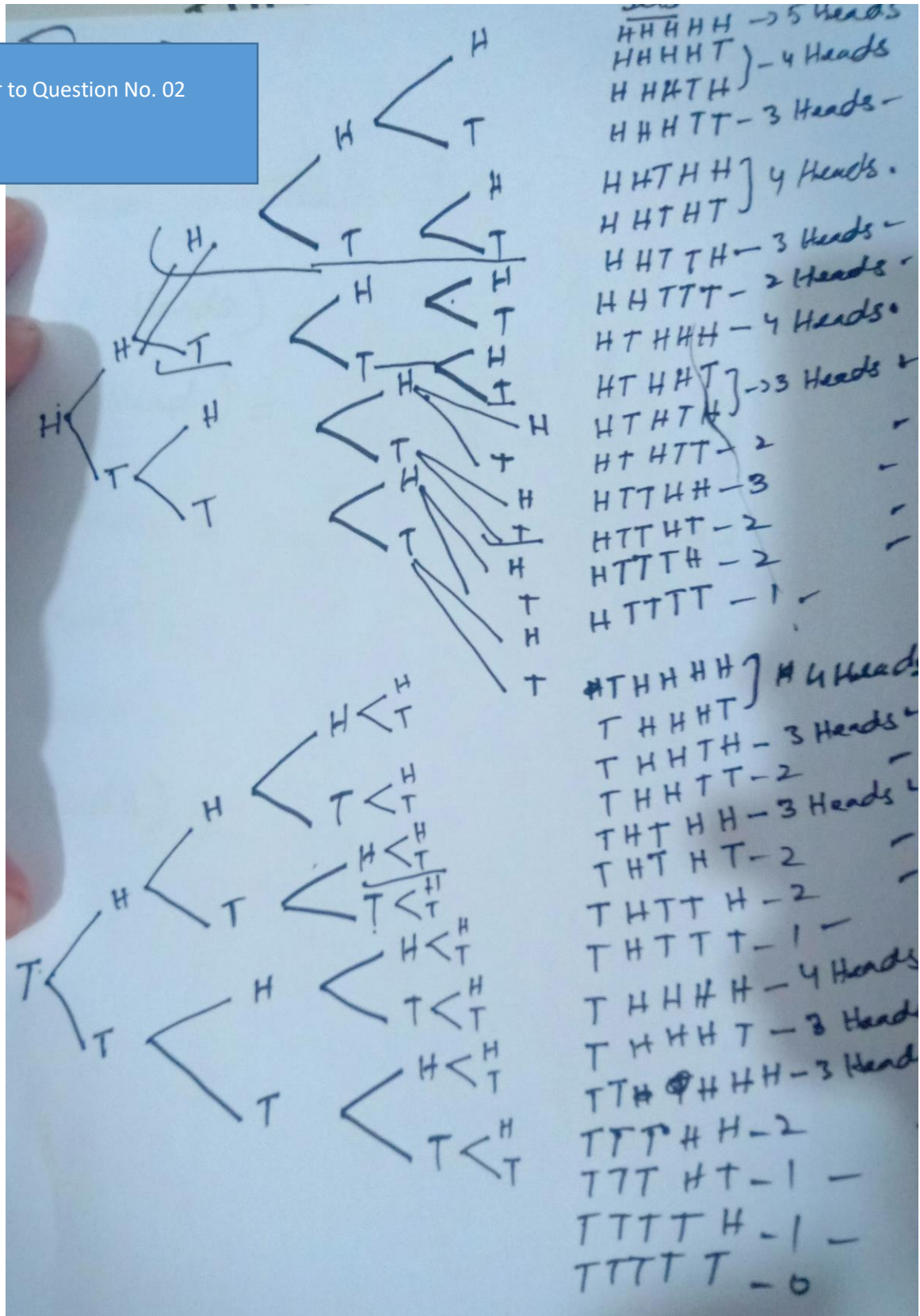
Answer to Question No 01 Part B						
X	Y	X-X_bar	Y-Y_bar	(X-X_bar)(Y-Y_bar)	(X-X_bar)^2	(Y-Y_bar)^2
20	5	1.6667	-7.6667	-12.77808889	2.77788889	58.77828889
11	15	-7.3333	2.3333	-17.11078889	53.77728889	5.44428889
15	14	-3.3333	1.3333	-4.44428889	11.11088889	1.77768889
10	17	-8.3333	4.3333	-36.11068889	69.44388889	18.77748889
17	8	-1.3333	-4.6667	6.22211111	1.77768889	21.77808889
18	9	-0.3333	-3.6667	1.22211111	0.11108889	13.44468889
21	12	2.6667	-0.6667	-1.77788889	7.11128889	0.44448889
25	16	6.6667	3.3333	22.22211111	44.44488889	11.11088889
28	18	9.6667	5.3333	51.55541111	93.44508889	28.44408889
Total 18.33333	12.66667	10.73333	-0.0003	8.99999999	284	160

Least square Coefficient of Y on X=0.03169

Least Square Coefficient of X on Y=0.05625

Note . All calculation and formulas are done in Excel

Answer to Question No. 02
Part B



$$P(\text{No Heads}) = \frac{1}{32}$$
$$P(1 \text{ Head}) = \frac{4}{32}$$
$$P(2 \text{ Heads}) = \frac{8}{32}$$
$$P(3 \text{ Heads}) = \frac{09}{32}$$
$$P(4 \text{ Heads}) = \frac{08}{32}$$
$$P(5 \text{ Heads}) = \frac{1}{32}$$

$$p = 2/3$$

$$1-p = 1/3$$

$$n = 10$$

$$(i) P(X \geq 4) = ?$$

$$(ii) P(X=4) \Rightarrow P(X=10)$$

$$(iii) P(X=11)$$

$$(iv) P(6 \leq X \leq 10)$$

$$P(X=x) = \binom{n}{x} p^x (1-p)^{n-x}$$

$$(i) P(X \geq 4) = P(X=4) + P(X=5) + P(X=6) + P(X=7) \\ + P(X=8) + P(X=9) + P(X=10)$$

$$= 0.057 + 0.1365455 + 0.227611 + \\ 0.26012 + 0.1951 + 0.0867 + 0.0173 \\ = \boxed{0.9803755}$$

$$(ii) P(X=4) = 0.057$$

$$P(X=10) = 0.0173$$

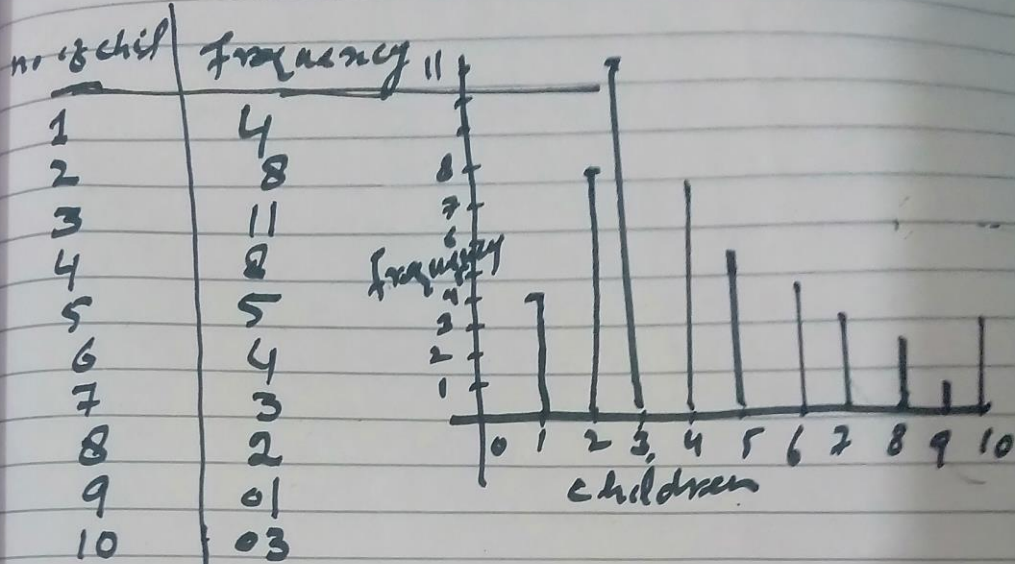
$$(iii) P(X=11) = 0 \quad \text{because } X=11 \text{ is not in our sample space.}$$

$$(iv) P(6 \leq X \leq 10) = P(X=6) + \dots + P(X=10)$$

$$= 0.227611 + 0.26012 + 0.1951 \\ + 0.0867 + 0.0173 = \boxed{0.56713}$$

Answer to Question No. 03 Part a and b (both)

(a) Frequency Distⁿ (ungrouped)



(b) frequency Distⁿ (Grouped Data).

