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Rainfall x (inches)	1.53	1.78	2.6	2.95	3.42
Discharge y (1000 cc)	33.5	36.3	40.0	45.8	53.5

regression of y on x.

discharge in a certain river. Obtain the lines of

(b) Following table gives the data on rainfall and

x	5.1	5.3	5.6	5.7	5.8	5.9	5.10	5.11	6.0	6.1
y	11	17	19	14	8	15	20	6	18	12

(a) Calculate correlation coefficient for the following :

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the value  $x = 4$  are respectively 1, 4, 10 and 45.

moments of a frequency distribution  $f(x)$  about

(b) Compute skewness and kurtosis, if the first four

(c)

Marks obtained	1-10	11-20	21-30	31-40	41-50	51-60
No. of Candidates	3	16	26	31	16	8

mean and standard deviation.

100 candidates in an examination. Calculate the

(a) The following table shows the marks obtained by

Unit - III

bag Y.

red. Find the probability that it was drawn from

at random from one of the bags and is found to be

Y contains 4 white and 3 red balls. One ball is drawn

(b) A bag X contains 2 white and 3 red balls and a bag

variables, then find p.d.f of variable  $X + Y$ .

(a) If X and Y are independent continuous random

155 cm?

how many students have heights between 120 and

Assuming the heights are normally distributed, find

college is 151 cm and standard deviation is 15 cm.

(b) The mean height of 500 male students in a certain

3016 (4)

## Unit - IV

8. (a) In a sample of 600 men from certain city, 450 are found smokers. In another sample of 900 men from another city, 450 are smokers. Do the data indicates that the cities are significantly different with respect to the habit of smoking among men?
- (b) A random sample of size 25 form a normal population has the mean  $\bar{x} = 47.5$  and s.d  $s = 8.4$ . Does this information refute the claim that the mean of the population is  $\mu = 42.1$ .

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9. (a) In two groups of ten children each, the increase in weight due to different diets during the same period, were in pounds

3, 7, 5, 6, 5, 4, 4, 5, 3, 6

8, 5, 7, 8, 3, 2, 7, 6, 5, 7

Is there a significant difference in their variability.

- (b) The theory predicts the proportion of beans in the four groups,  $G_1, G_2, G_3, G_4$  should be in ratio  $9 : 3 : 3 : 1$ . In an experiment with 1600 beans the numbers in four groups were 882, 313, 287 and 118. Does the experimental results support the theory?

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