14 a A sample of 400 male students is found to have a mean height of 171.38 cms. Can it reasonably regarded as a sample from a large population with mean height 171.17 cms and standard deviation 3.30 cms?

OR

b A company has been producing steel tubes of mean inner diameter of 2.00 cm. a sample of 10 tubes gives an inner diameter of 2.01 cm and a variance of 0.004 cm^2. Is the difference in the value of mean significant? Value of't' for 9 d.f at 5% level is 2.262.

15 a The theory predicts that the proportion of bean in four given groups should be 9:3:3:1. In an examination with 1600 beans, the numbers in the four groups were 882,313,287 and 118. Does the experimental result support the theory.

OR

b Test whether there is evidence of significant association between the response and the area of work.

Response	Area of work	
	Production	Non-Production
In favour	129	171
Not in favour	31	69

SECTION - C 130 Marks)

Answer any **THREE** Questions
ALL Questions Carry **EQUAL** Marks (3 x 1 0 = 30)

16 Construct a histogram and frequency polygon for the following frequency distribution.

Weights (in kgs)	Number of men
41-45	4
46-50	5
51-55	9
56-60	6
61-65	11
66-70	5
71-75	7
76-80	3

17 The scores of two players A and B in 12 rounds are given below:

A	74	75	78	72	78	77	79	81	79	76	72	71
B	87	84	80	88 [1]	89	85	86	82	82	79	86	80

Identify the better player and the more consistent player.

Calculate rank correlation coefficient for the data given ?elow:

Marks in Physics	35	23	47	17	10	43	9	6	28
Marks in Maths	30	33	45	23	8	49	12	4	31

19 Wire cable is manufactures by two processors. Laboratory tests were performed by putting samples of cables under tension and recording the load required (coded units) to break the cable giving the following data:

Process I: 9 4 10 7 9 10 -
Process II: 14 9 13 12 13 8 10

Can we say that the two processes have the same effect on the mean breaking strength at 5% level of significance.

20 The following table gives the yields of 15 samples of plot under three varieties of seed.

A	20	21	23	16	20
B	18	20	17	15	25
C	25	28	22	28	32