

**B.V. Patel Institute of Business Management, Computer & Information Technology**  
**UkaTarsadia University**  
**2<sup>nd</sup> Internal Examination, BBA 1<sup>st</sup> Semester**  
**030030122-CC2 Business statistics.**

**Marks: 50**  
**Time: 2 hrs.**

**Date: 13/10/2017**

**Q-1 Answer the following. (Any Eight)**

**[16]**

1. Define: regression coefficient.
2. If  $b_{yx} = 1.02$  and  $b_{xy} = 0.53$  find the value of  $r$ .
3. Write any 3 point of difference between correlation and regression?
4. Define: alternative hypothesis.
5. Define: two-tailed test.
6. What is standard error for sample proportion?
7. What is level of significance?
8. Define: index number
9. State the characteristic of index number.

**Q-2 Answer the following. (Any Two)**

**[20]**

1. From the following data find regression equation and calculate standard error of estimate.

X	3	5	7	9	11
Y	6	8	10	9	12

2. A sample of 5 observation from a normal population gave the following result  $\sum X_i = 18$   $\sum X_i^2 = 80$  test the hypothesis that mean if population is 4. ( $t$  value for 4 degree = 2.776)
3. A sample of size 500 was drawn and sample mean was found to be 99 tests whether this sample could have come from a normal population with mean 100 and standard deviation 8 at 5% level of significance.

**Q-3 Answer the following in detail. (Any Two)**

**[14]**

1. If  $n = 10$ ,  $\sum x = 30$ ,  $\sum y = 40$ ,  $\sum x^2 = 222$ ,  $\sum y^2 = 985$  and  $\sum xy = 384$  then obtain (1) Two regression equation (2) Correlation coefficient.
2. 200 mangoes are taken at random from a large consignment and 20 of them are found to be bad. Test the hypothesis that the proportion of bad mangoes in the consignment is 15 %. Use 1% level of significance.
3. Calculate the fisher's price index from the following data:

commodity	P <sub>1</sub>	Q <sub>1</sub>	P <sub>0</sub>	Q <sub>0</sub>
A	5	14	3	8
B	8	18	6	25
C	3	25	1	40
D	15	36	12	48
E	9	14	7	18
F	7	13	5	19