**Code: 17E00105**

MBA I Semester Regular Examinations December/January 2017/2018

**STATISTICS FOR MANAGERS**

(For students admitted in 2017 only)

Time: 3 hours Max. Marks: 60

**SECTION – A**

(Answer the following: (05 X 10 = 50 Marks)

*****

1 Explain the measures of central tendency for business decision making.

**OR**

2 Find standard deviation from the following data:

| Values | 5 | 10 | 15 | 20 | 25 | 30 | 35 |
|---|---|---|---|---|---|---|---|
| Frequency | 2 | 7 | 11 | 15 | 18 | 4 | 1 |

3 Calculate the coefficient of correlation of the following data:

| x | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| y | 7 | 9 | 10 | 14 | 15 |

**OR**

4 Compute rank correlation from the following table.

| x | 415 | 434 | 420 | 430 | 424 | 428 |
|---|---|---|---|---|---|---|
| y | 330 | 332 | 328 | 331 | 327 | 325 |

5 Difference between binomial and Poisson distribution.

**OR**

6 Fit a Poisson distribution to the following data and find out theoretical or expected frequencies.

| x | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| f | 48 | 72 | 99 | 73 | 43 | 20 | 8 | 2 |

7 Test the significance difference between simple mean and the population mean.

**OR**

8 The average hourly wage of a sample of 150 workers in plant A is Rs. 256 with a standard deviation of Rs. 1.08. Average wage of a sample of 200 workers in plant B Rs. 2.87 with a standard deviation of Rs. 1.28 can be applicant safely. Assume that the hourly wages paid by plant B is higher than plant A.

9 Tests are made on the proportion of defective costing produced by five different molds. If there were 14 defectives among 100 costing made with mold – I. 33 defectives among 200 costings made with mold – II. 21 defective among 180 costings made with mold – III. 17 defectives among 120 costings made with mold – IV and 25 defectives among 150 costings made with mold – V. Use the 0.01 level of significance to test whether the true proportion of defective is the same for each mold.

**OR**

10 The following figures show the distribution of digits in numbers chosen at random from a telephone directory.

| Digit | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency | 1026 | 1107 | 997 | 966 | 1075 | 933 | 1107 | 972 | 964 | 853 |

Test whether the digits may be taken to occur at equal frequency in the directory.

**SECTION – B**

(Compulsory question, 01 X 10 = 10 Marks)

11 **Case Study:**

The 3 samples given below have been obtained from a normal population with equal variance. Test the hypothesis that sample means are equal.

| A | 8 | 10 | 7 | 14 | 11 |
|---|---|---|---|---|---|
| B | 7 | 5 | 10 | 9 | 9 |
| C | 12 | 9 | 13 | 12 | 14 |