FY BBA

School of Commerce & Management

Sem II

MBC 104

Quantitative techniques for management

(OLD)

May2019    Examination: End Semester Exam, Max Marks: 100,Time3 Hrs

10:30am to 1:30pm

Wedhsdy 22nd may 2019

**Instructions:**    1) All Questions are compulsory.

|  |  | Marks | COs |
|---|---|---|---|
| Q.1 | Solve the following | 10 | |
| a) | State whether True & False ( any 5) | | CO104.1 |
| | 1. Mean is the best measure of central tendency. | | CO104.1 |
| | 2. Graph is a Bar diagram | | CO104.2 |
| | 3. Range of set of observation is the difference between largest and smallest of observations | | CO104.3 |
| | 4. Dispersion measures the concentration of set of observations | | CO104.4 |
| | 5. The value of correlation lies between -1 to +1 | | CO104.4 |
| | 6. Lower quartile is the first quartile. | | |
| b) | Answer the short questions (any 5) | 10 | CO104.1 |
| | | | CO104.1 |
| | 1. Index Number | | CO104.2 |
| | 2. Negative correlation | | CO104.3 |
| | 3. Fisher Index number | | CO104.4 |
| | 4. Merits of mean | | CO104.4 |
| | 5. Components of time series | | |
| | 6. Standard deviation definition | | |

Q.3    Solve/answer any Two

a)    Calculate the Mean, median and mode for the following data        10    CO104.2

| Marks | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| No. of boys | 7 | 10 | 16 | 17 | 26 | 31 | 11 | 2 | 1 |

b)    Calculate quartile deviation and its coefficient        10    CO104.2

| Size of Item | 11 | 12 | 14 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|
| Frequency | 8 | 13 | 25 | 36 | 23 | 15 | 9 |

c)    Following data gives demand for certain type of battery. Calculate coefficient of variation.        10    CO104.2

| Demand (in Units) | 5 | 10 | 15 | 20 | 5 | 30 |
|---|---|---|---|---|---|---|
| Frequency | 8 | 15 | 23 | 32 | 16 | 6 |

Q.4    Solve/answer any Two

a)    Obtain the equation of regression lines from following        10    CO104.3

| X | 10 | 12 | 13 | 17 | 18 |
|---|---|---|---|---|---|
| Y | 5 | 6 | 7 | 9 | 13 |

b)    Calculate co-efficient of correlation from the following Information        10    CO104.3

| Capital employed (crore Rs.) | 2 | 3 | 5 | 6 | 8 | 9 |
|---|---|---|---|---|---|---|
| Profit (lakh Rs.) | 6 | 5 | 7 | 8 | 12 | 11 |

page 3
ESE

Q.2  Solve/answer any Two

a)  Describe what is a histogram and its parts and solve the following. The data on waiting time for a customer at a bank branch is given below. The manager of the bank gets a feedback that the waiting time is too long. Draw a histogram to help the manager better visualize and analyze the data.    10    CO104.1

| Customer waiting time in seconds( n=customers=20) | |
|---|---|
| 43.1 | 42.2 |
| 35.6 | 45.5 |
| 37.6 | 30.3 |
| 36.5 | 31.4 |
| 45.3 | 35.6 |
| 43.5 | 45.2 |
| 40.3 | 54.1 |
| 50.2 | 45.6 |
| 47.3 | 36.5 |
| 31.2 | 43.1 |

b)  What is Bar chart. The following data represents the production (tons) in different states of India during the period 2016 -2019.    10    CO104.1

| States | production (tons) | | |
|---|---|---|---|
| | 2016-17 | 2017-18 | 2018-19 |
| Uttar Pradesh | 4110 | 4340 | 4245 |
| West Bengal | 7393 | 8245 | 8384 |
| Telangana | 3114 | 3045 | 3097 |
| Karnataka | 4432 | 3849 | 4249 |
| Maharashtra | 7492 | 7492 | 7990 |

Construct bar chart for the data.

c)  State the different measures of dispersion? Which of them is superior? Give reasons.    10    CO104.1

page 2

ESE

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page 3
ESE