| Salesman | Intelligence <br> test Score | Weekly Sales |
| :---: | :---: | :---: |
| A | 50 | 30 |
| B | 60 | 60 |
| C | 50 | 40 |
| D | 60 | 50 |
| E | 80 | 60 |
| F | 50 | 30 |
| G | 80 | 70 |
| $H$ | 40 | 50 |
| I | 70 | 60 |

(a) Obtain the Regression equation of sales on Intelligence Test scores of the salesmen.
(b) If the Intelligence test score of a salesman is 65 , what would be his expected weekly sales ?

## Unit IV

7. What is a Statistical Hypothesis ? Clearly differentiate between the null hypothesis and alternative hypothesis.

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(First Semester)
(Re-appear Only)
MBA-107
BUSINESS STATISTICS

Time : 3 Hours]
[Maximum Marks : 70

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt Five questions in all, selecting at least one question from each Unit. All questions carry equal marks.

## Unit I

1. What is Statistics? How do you think that the knowledge of statistics is essential in managerial decision making ?
2. Calculate the Mean, Median and Mode of the following data :

| Marks | No. of Students |
| :---: | :---: |
| $10-20$ | 4 |
| $10-30$ | 16 |
| $10-40$ | 56 |
| $10-50$ | 97 |
| $10-60$ | 124 |
| $10-70$ | 137 |
| $10-80$ | 146 |
| $10-90$ | 150 |

## Unit II

3. What is time series ? State its utility in business.
4. Calculate Laspeyre's Paasche's, MarshallEdgeworth, Fisher's Ideal Index for the data :

| Commodity | 2014 |  | 2015 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Price (Rs.) | Expenditure <br> on quantity <br> consumed <br> (Rs.) | Price (Rs.) | Expenditure <br> on quantity <br> consumed <br> (Rs.) |
|  | 8 | 200 | 10 | 120 |
| B | 20 | 120 | 12 | 96 |
| C | 5 | 40 | 5 | 50 |
| D | 10 | 56 | 3 | 60 |
| E | 27 | 100 | 25 | 150 |

## Unit III

5. What is Correlation ? Explain the various types of correlation. Does it always signify cause and effect relationship between the two variables.
6. The following data relate to the scores obtained by a salesman of a company in an intelligence test and their weekly sales (in Rs. 1000's) :
P.T.O.
7. You are working as a purchase manager for a company. The following information has been supplied to you by two manufacturers of electric bulbs :

|  | Company A | Company B |
| :--- | :---: | :---: |
| Mean Life (in Hours) | 1300 | 1248 |
| Standard Deviation | 82 | 93 |
| Sample Size | 100 | 100 |

Which brand of bulbs are you going to purchase if you desire to take a risk of $5 \%$.
8. You are working as a purchase manager for a company. The following information has been supplied to you by two manufacturers of electric bulbs :

|  | Company A | Company B |
| :--- | :---: | :---: |
| Mean Life (in Hours) | 1300 | 1248 |
| Standard Deviation | 82 | 93 |
| Sample Size | 100 | 100 |

Which brand of bulbs are you going to purchase if you desire to take a risk of $5 \%$.

