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**Roll No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**BBA-1642**

**BBA (1st Semester) Examination December 2018**

**Business Administration**

**Statistics for Business Decision**

*Time Allowed: Three Hours] [Maximum Marks: 70*

**Note:** Answer **all** questions.

**Q.1** Attempt any six of the following questions. **5\*6=30**

1. What do you mean by Coefficient of variation? Discuss its importance in business decisions.
2. If a Toy shop sells 100 units of toys in a pattern given below

|  |  |  |
| --- | --- | --- |
| Toy | Price (in Rs.) | Quantity |
| Car | 3 | 50 |
| Train | 5 | 25 |
| Airplane | 7 | 15 |
| Bus | 9 | 10 |

Calculate the Average price of a single Toy through weighted average method.

1. What is regression analysis? Give its significance.
2. The ranking of 10 students in two subjects A and B are as follows:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| A | 6 | 5 | 3 | 10 | 2 | 4 | 9 | 7 | 8 | 1 |
| B | 3 | 8 | 4 | 9 | 1 | 6 | 10 | 7 | 5 | 2 |

Calculate rank correlation coefficient.

1. What is a time series? What are its significance or advantages?
2. What is Index number? How are the index number constructed?
3. What do you understand by Null hypothesis? Explain with the help of example.
4. What are the types of Errors in Hypothesis testing?

**Q.2.** What is the relationship between mean, median and mode? Give the advantages and disadvantages of mean, median and mode. **10**

**OR**

The life of 12 cars manufactured by two companies Ford and TATA are given below in years. Which company will you chose to purchase car? Use coefficient of variation method

|  |  |
| --- | --- |
| Ford | TATA |
| 14 | 21 |
| 15 | 18 |
| 18 | 14 |
| 12 | 22 |
| 18 | 23 |
| 17 | 19 |
| 19 | 20 |
| 21 | 16 |
| 19 | 16 |
| 16 | 13 |
| 12 | 20 |
| 11 | 14 |

**Q.3.** What is difference between correlation and regression analysis? Write the significance of both. **10**

**OR**

Calculate the Karl Pearson’s coefficient of correlation from the following data and interpret its value

|  |  |  |
| --- | --- | --- |
| Roll No of Student | Marks in Accounts | Marks in Statistics |
| 1 | 48 | 45 |
| 2 | 35 | 20 |
| 3 | 17 | 40 |
| 4 | 23 | 25 |
| 5 | 47 | 45 |

**Q.4.** What is a time series? Write about the utility of time series, its components and models of relationship between the components of time series. **10**

**OR**

From the data given below, calculate the index number by taking:

1. 2009 as the base year
2. 2016 as the base year
3. 2009 to 2011 as the base period.

|  |  |
| --- | --- |
| Year  | Price of Commodity ‘A’ |
| 2009 | 4 |
| 2010 | 5 |
| 2011 | 6 |
| 2012 | 7 |
| 2013 | 8 |
| 2014 | 10 |
| 2015 | 9 |
| 2016 | 10 |
| 2017 | 11 |

**Q.5.** What is Hypothesis testing and what are its procedures? What is one tailed and two tailed test of Hypothesis? **10**

**OR**

A bulb manufacturing company claims that his bulb have a mean life of 25 months with a standard deviation of 5 months. A random sample of 6 such bulbs gave the following values.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Bulb no** | **1** | **2** | **3** | **4** | **5** | **6** |
| **Life in Months**  | **24** | **26** | **30** | **20** | **20** | **18** |

Can you regard the bulb companies claim to be valid at 1% level of significance? Given that the table values of the appropriate test statistics at the said level are 4.032, 3.707 and 3.499 for 5, 6 & 7 degrees of freedom respectively.