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

**C-5203**

**B.Com (V Semester) Examination, Dec. 2018**

**COMMERCE**

**BUSINESS STATISTICS**

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

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

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

fuEufyf[kr esa ls fdUgha N% ds mRrj nhft, %

1. Discuss any five importances of statistics with special reference to business and industry.

okf.kT; rFkk m|ksx ds lUnHkkZsa esa lkaf[;dh ds egRo dks le>kb,A

1. Distinguish between primary and secondary data.

izkFkfed vkSj f}rh; ledksa ds chp vUrj crk;sA

1. What are the various methods of measuring dispersion?

vifdj.k eki dh fofHkUu fof/k;k¡ dkSu lh gS\

1. Define Regression.

izrhixeu dh ifjHkk"kk nhft,A

1. Explain clearly the Lagrange's method of interpolation.

ykUxjsUt dh vkUrZx.ku fof/k dh Li"V O;k[;k dhft,A

1. The production cost of wheat for 5 years is given in the following table calculate the index numbertaking average cost as base:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Yearo"kZ | 2014 | 2015 | 2016 | 2017 | 2018 |
| Pricedher | 4.00 | 5.50 | 6.75 | 8.25 | 10.50 |

xsgwW dh mRikn dher 05 o"kkZsa ds fy, lkj.kh esa nh x;h gSA vkSlr dher dks vk/kkj ekurs gq, funZs'kkad rS;kj dhft, %

1. Explain the terms 'permutation' and 'combination'

Øep; rFkk lap;\* 'kCn dks le>kb;sA

1. Two coins are tossed. Find the probability:

 **1-** Of getting two tails;

 **2-** Of getting at least one tail

nks flDds mNkys tkrs gSaA izkf;drk Kkr dhft,%

**1-** nks fpr vkus dh

**2-** de ls de ,d fpr vkus dh

**Q.2.** What is questionnaire? Draft a questionnaire containing 10 questions for the study of any topic. **10**

iz'ukoyh fdls dgrs gS\ fdlh fo"k; dk v/;;u djus gsrq 10 iz'uksa dh ,d iz'ukoyh rS;kj dhft,A

**OR/vFkok**

Calculate arithmetic mean, median and mode from the following data:

fuEufyf[kr vkadM+ksa ls lekUrj ek/;] ek/;dk rFkk cgqYkd Kkr dhft,%

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Marks (less than)vad ¼ls de½ | 10 | 20 | 30 | 40 | 50 |
| No. of Studentsfo|kfFkZ;ksa dh la[;k | 3 | 8 | 17 | 20 | 22 |

**Q. 3.** Find coefficient variation for the following frequency distribution: **10**

fuEu vko`fRr forj.k dk fopj.k xq.kkad Kkr dhft,%

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Weight (gm)Hkkj ¼xzke½ | 10-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60-69 | 70-79 | 80-89 |
| Frequencyvko`fRr | 5 | 7 | 12 | 20 | 16 | 10 | 7 | 3 |

**OR/vFkok**

Calculate Karl Pearson's coefficient of correlation from the following data, using 20 as theworking mean for price and 70 as the working mean for demand:

fuEufyf[kr ledksa ls dkyZ fi;lZu ds lglEcU/k xq.kkad dh x.kuk dhft,A ewY; ds fy, 20 dks dfri; ek/; rFkk ekax ds fy, 70 dks dfri; ek/; ds :I esa iz;qDr djsa&

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Price | 14 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| Demand | 84 | 78 | 70 | 75 | 66 | 67 | 62 | 58 | 60 |

**Q. 4.** What do you understand by interpolation? How is it useful in commerce and

industry? What are the assumptions on which methods of interpolation are based? **10**

vkUrjx.ku ls vki D;k le>rs gS\ ;g okf.kT; ,oa m|ksx esa fdl izdkj mi;ksxh gS\ os ekU;rk,a D;k gS ftu ij vUrjx.ku jhfr;ka fuHkZj djrh gSa\

**OR/vFkok**

Compute an appropriate index number for purpose of comparison from the following data. Alsoexamine the test of Time Reversal and Factor Reversal:

fuEu laedks ls rqyuk djus ds fy, mi;qDr lw= dk iz;ksx djrs gq, funZs'kkad Kkr dhft,A le; mRdzkE;rk rFkk rRo mRdzkE;rk ijh{k.k dh lR;rk dh ijh{k.k tkWp Hkh dhft, %

|  |  |  |
| --- | --- | --- |
| **RICE** | **WHEAT** | **BARLEY** |
| **Year¼o"kZ½** | **Price¼dher½** | **Quantity****¼ek=k½** | **Price****¼dher½** | **Quantity****¼ek=k½** | **Price****¼dher½** | **Quantity****¼ek=k½** |
| **2017****2018** | 410 | 5040 | 37.5 | 108 | 25 | 54 |

**Q. 5.** Defineprobability and discuss the importance of the concept of probability in statistics. **10**

izkf;drk dh ifjHkk"kk nhft, vkSj lkaf[;dh esa izkf;drk dh vko/kkj.kk dh egRrk dh O;k[;k dhft,A

**OR/vFkok**

Two dice are "thrown simultaneously. Find the probability:

* 1. Of getting odd digit on first dice,
	2. Of getting a sum of 9,
	3. Of getting a sum of 11,
	4. Of not getting a total of 9,
	5. Of getting a sum of 10.

Nks ikls ,d lkFk Qsds tkrs gSA izkf;drk Kkr dhft, %

 **v-** igys ikls ij fo"ke vad izkIr gksus dh

 **c-** ;ksx 9 gksus dh

 **l-** ;ksx 11 gksus dh

 **n-** ;ksx 9 ugha gksus dh

 **bZ-** ;ksx ds 10 gksus dh