

UCA2C06 - Statistics Techniques & Business Mathematics-II

P. Pages : 4

GUG/S/19/10654

Time : Three Hours



Max. Marks : 60

- Notes : 1. All question are compulsory.
2. All question carry equal marks.

1. a) Explain the uses of Index Number. **6**
b) From the following data given below compute price index number by using appropriate formula. **6**

Commodity	2018		2017
	Qty	Price	Price
A	5	4	2
B	10	6	5
C	12	5	4
D	20	4	2

OR

- c) From the following information compute Price Index Number by - **12**
i) Fisher Ideal Index No method
ii) Dorbish and Bowley's method

Commodity	Price		Quantity	
	2016	2018	2016	2018
A	10	8	100	118
B	12	10	96	97
C	16	14	38	42
D	5	7	32	40
E	7	10	17	20

2. a) Compute the co-efficient of correlation by rank method. **6**
x series- 63, 73, 51, 60, 50, 76, 47, 36, 30
y series- 87, 78, 30, 68, 42, 90, 70, 20, 60

- b) Calculate the Karl Pearson's co-efficient of correlation. **6**
x - 64, 65, 66, 67, 68, 69, 70
y - 66, 67, 65, 68, 70, 68, 72

OR

- c) Form the two lines of regression and estimate the age of wife when the Husband's age is 30 years and the age of Husband when the wife's age is 26 years. **12**

Age of husband -	18,	19,	20,	21,	22,	23,	24,	25,	26,	27
Age of Wife -	17,	17,	18,	18,	18,	19,	19,	20,	21,	22

3. a) You are given the following data. **6**

	Intelligent Boys	Dull Boy's	Total
Skilled mother	45	20	65
Unskilled mother	15	20	35
Total	60	40	100

Do these figures support the hypothesis that skilled mother have intelligent boy's.

(5% value of χ^2 for 1 d.f. is 3.841)

- b) Calculate the value of χ^2 and determine that intelligent fathers have intelligent son's. 6
- | | |
|--|-----|
| Intelligent father with intelligent sons | 372 |
| Intelligent father with Dull son's | 122 |
| Dull father with intelligent son's | 138 |
| Dull father with Dull son's | 868 |
- $(\chi^2 = 3.841 \text{ for } 5\% \text{ at } 1 \text{ d.f.}).$

OR

- c) The following table gives the information regarding the hair colour and eye colour is there any relation between the hair colour and eye colour. Analyse your conclusion with χ^2 test 12
- (The table value of χ^2 for 1% level at 4 d.f. is (13.28).

Eye Colour	Hair Colour		
	Black	Brown	Grey
Black	35	40	10
Brown	20	30	15
Grey	25	20	5

4. a) A Trader buys 3 types of Tea at Rs. 54, Rs. 60, Rs. 72 per kg respectively. He prepare a mixture by adding these Powder in the production 5:7:8 at what price per kg should the mixture be sold to gain 20% profit on cost. 6
- b) A and B are working together A worked for 7 day's and B worked 6 Day. Total wages received by them is Rs. 375, in the proportion of 7:8. find out Daily wage rate of A and B. 6

OR

- c) A shopkeeper has sold following items. 6

Items sold	Cost Price P.U. ₹	Selling price per unit ₹
A 1000 unit	9	11
B 5000 unit	8	10
C 3000 unit	10	15
D 2000 unit	15	18

Find out the percentage of profit on cost.

- d) The sum of present ages of 3 persons is 120 years five years ago their ages were in the ratio 4:5:6. Find their age. 6

5. Write the short answer.

- a) Limitation of Index Number. 3
- b) Types of correlation. 3
- c) Explain the concept of chi-square. 3
- d) Define the 'Profit' and loss. 3

B.Com. - I (C.B.C.S. Pattern) Sem-II
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- सूचना :- 1. सर्व प्रश्न अनिवार्य आहे.
2. सर्व प्रश्नांना समान गुण आहे.

- | | | | |
|----|----|---|----|
| 1. | अ) | निर्देशांकाचे महत्त्व व उपयोग स्पष्ट करा. | 6 |
| | ब) | इंग्रजी माध्यमानुसार. | 6 |
| | | किंवा | |
| | क) | इंग्रजी माध्यमानुसार | 12 |
| 2. | अ) | इंग्रजी माध्यमानुसार | 6 |
| | ब) | इंग्रजी माध्यमानुसार | 6 |
| | | किंवा | |
| | क) | इंग्रजी माध्यमानुसार | |
| 3. | अ) | इंग्रजी माध्यमानुसार | 6 |
| | ब) | इंग्रजी माध्यमानुसार | 6 |
| | | किंवा | |
| | क) | इंग्रजी माध्यमानुसार | 16 |
| 4. | अ) | इंग्रजी माध्यमानुसार | 6 |
| | ब) | इंग्रजी माध्यमानुसार | 6 |
| | | किंवा | |
| | क) | इंग्रजी माध्यमानुसार | 6 |
| | ड) | इंग्रजी माध्यमानुसार | 6 |
| 5. | | थोडक्यात उत्तरे लिहा. | |
| | अ) | निर्देशांकाच्या मर्यादा लिहा. | 3 |
| | ब) | सहसंबंधाचे प्रकार लिहा. | 3 |
| | क) | काई-वर्ग चाचणी संकल्पना स्पष्ट करा. | 3 |
| | ड) | 'नफा' आणि 'तोटा' स्पष्ट करा. | 3 |

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- सूचनाएँ :- 1. सभी प्रश्न अनिवार्य हैं।
2. सभी प्रश्नों के गुण समान हैं।

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|----|----|---|----|
| 1. | अ) | न्यादर्श के महत्व व उपयोग स्पष्ट किजिये। | 6 |
| | ब) | अंग्रेजी माध्यम के अनुसार। | 6 |
| | | अथवा | |
| | क) | अंग्रेजी माध्यम के अनुसार। | 12 |
| 2. | अ) | अंग्रेजी माध्यम के अनुसार। | 6 |
| | ब) | अंग्रेजी माध्यम के अनुसार। | 6 |
| | | अथवा | |
| | क) | अंग्रेजी माध्यम के अनुसार। | 12 |
| 3. | अ) | अंग्रेजी माध्यम के अनुसार। | 6 |
| | ब) | अंग्रेजी माध्यम के अनुसार। | 6 |
| | | अथवा | |
| | क) | अंग्रेजी माध्यम के अनुसार। | 12 |
| 4. | अ) | अंग्रेजी माध्यम के अनुसार। | 6 |
| | ब) | अंग्रेजी माध्यम के अनुसार। | 6 |
| | | अथवा | |
| | क) | अंग्रेजी माध्यम के अनुसार। | 6 |
| | ड) | अंग्रेजी माध्यम के अनुसार। | 6 |
| 5. | | संक्षिप्त में उत्तर लिखीये। | |
| | अ) | न्यादर्श की कमिया / मर्यादा स्पष्ट किजीए। | 3 |
| | ब) | सहसंबंध के प्रकार लिखो। | 3 |
| | क) | काई-वर्ग चाचणी की संकल्पना स्पष्ट किजीए। | 3 |
| | ड) | लाभ और हानि स्पष्ट किजिये। | 3 |
