

M.Com. (Part-II) New CBCS Pattern Semester-III  
**PCC3C01 - Statistical Techniques**

P. Pages : 4

Time : Three Hours



**GUG/S/24/13693**

Max. Marks : 80

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

1. Explain the concept of statistical decision theory. Determine characteristics and classification of decision environment. **16**

**OR**

- Find out Karl Pearson coefficient of correlation between Age and playing Habits of the following students also calculate its probable error. **16**

Age :	16	17	18	19	20	21	22
No. of Students :	250	200	150	120	100	80	60
Regular players :	200	150	90	48	30	12	6

2. Rudra company wishes to test whether its three salesman A, B and C trends to make sales of the same size whether they differ their selling ability as measured by the average size of their sales during the last week, their have been 14 sales calls. A made 5 calls, B made 4 calls and C made 5 calls. Following are the weekly sales records of the three salesman. **16**

A =	Rs. 3	Rs. 4	Rs. 3	Rs. 4	Rs. 0
B =	Rs. 6	Rs. 3	Rs. 3	Rs. 4	Nil
C =	Rs. 7	Rs. 3	Rs. 4	Rs. 6	Rs. 5

Perform the analysis of variance. Table value of F is 1.83.

**OR**

- i) 5 men in a company of 20 are Graduates if 3 men are picked up out of the 20 at random. **8**  
1) What is the probability that they are Graduate.  
2) What is the probability of at least one Graduate
- ii) A card is drawn at random from a well shuffled pack of card. What is the probability that it is a Heart or a Queen. **8**
3. From the following table find out the Number of students who obtained 50-55 marks. **16**

Marks =	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80
No. of students =	29	40	49	34	28

**OR**

- Marks obtained by 65 students in a subject are given below. **16**

Marks More than (out of 100)	25	36	45	55	70
No. of students	65	63	40	18	7

Estimate the number of students who obtained first class marks assuming that no fraction are allotted.

4. i) In a school there were 200 students their result Quarterly. Half Yearly and Annual Examination were as follows- 8
- 80 passed the quarterly examination.
  - 70 Passed the half yearly examination
  - 96 Passed the Annual examination
  - 25 Passed all three examination
  - 46 Failed all three examination
  - 29 Passed the first two and failed in Annual examination
  - 42 Failed the first two and passed in Annual examination
- Find out how many students passed at least two examination.

- ii) In a market survey of 10000 person it was found that 8
- 8110 like chocolate
  - 7520 like Toffees
  - 4180 like Boiled sweets
  - 5700 like chocolates and Toffees
  - 3500 like chocolates and Boiled sweets
  - 3480 like Toffees and Boiled sweets
  - 2970 like all the three

Show that this information as it stands must be in correct.

**OR**

- Nine individual are chosen at random from a population and their height are found in inches. 16
- 63 63 66 67 68 69 70 71 and 71
- In the height of data discuss the suggestion that the mean height of population is 66 inches. For 8 degree of freedom table value of 't' at 5% of significance is 2.26.

5. Answer in short.
- a) Utility theory. 4
  - b) Features of statistical quality control. 4
  - c) Moving average method. 4
  - d) Types of sampling. 4

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- सुचना :- 1. सर्व प्रश्न अनिवार्य आहेत.  
2. सर्व प्रश्नांना समान गुण आहेत.

1. सांख्यिकीय निर्णय सिध्दांताची संकल्पना स्पष्ट करा. निर्णयाचे मुलभूत लक्षणे तसेच निर्णय वातावरणाचे वर्गीकरण स्पष्ट करा. 16

किंवा

इंग्रजी माध्यमानुसार 16

2. इंग्रजी माध्यमानुसार 16

किंवा

i) इंग्रजी माध्यमानुसार 8

ii) इंग्रजी माध्यमानुसार 8

3. इंग्रजी माध्यमानुसार 16

किंवा

इंग्रजी माध्यमानुसार 16

4. i) इंग्रजी माध्यमानुसार 8

ii) इंग्रजी माध्यमानुसार 8

किंवा

इंग्रजी माध्यमानुसार 16

5. थोडक्यात उत्तरे लिहा.

अ) उपयोगितेचे सिध्दांत. 4

ब) सांख्यिकीय गुण नियंत्रणाची लक्षणे. 4

क) बदलती सरासरी पध्दती. 4

ड) नमुना निवडीचे प्रकार. 4

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- सुचनाएँ :- 1. सभी प्रश्न अनिवार्य हैं।  
2. सभी प्रश्नों के अंक समान हैं।

1. सांख्यिकीय निर्णय सिद्धांतकी संकल्पना स्पष्ट किजिए। निर्णयोके मुलभूत विशेषताएँ और निर्णय वातावरण के वर्गीकरण स्पष्ट किजिए। **16**
- अथवा**
- अंग्रेजीमाध्यम के अनुसार। **16**
2. अंग्रेजीमाध्यम के अनुसार। **16**
- अथवा**
- i) अंग्रेजीमाध्यम के अनुसार। **8**
- ii) अंग्रेजीमाध्यम के अनुसार। **8**
3. अंग्रेजीमाध्यम के अनुसार। **16**
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- अंग्रेजीमाध्यम के अनुसार। **16**
4. i) अंग्रेजीमाध्यम के अनुसार। **8**
- ii) अंग्रेजीमाध्यम के अनुसार। **8**
- अथवा**
- अंग्रेजीमाध्यम के अनुसार। **16**
5. संक्षिप्त में उत्तर लिखिए।
- अ) उपयोगिता के सिद्धांत। **4**
- ब) सांख्यिकीय गुण नियंत्रण के लक्षण **4**
- क) परिवर्तनीय औसत पद्धती **4**
- ड) प्रतिचयन के प्रकार **4**

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