2-1-109

SUBJECT: B.Com(Hons.)

SEMESTER- I

Paper I : 104 QUANTITATIVE TECHNIQUES - I

**Unit - I - Algebra and Commercial Arithmetic Algebra**

**Quadratic Equations:** Solution of a quadratic equation - Sum of the roots - Product of the roots - Formation of Quadratic Equation.

**Progressions:** Arithmetic Progression - general term sum and means of arithmetic progression. Geometric progression - general term. Sum of finite and infinite G.P. Geometric mean, Harmonic progression - general term and mean.

**Commercial Arithmentic:** Percentages, Ratio and Proportion, Profit and Loss, Simple Interest - Compound Interest - Time and Work - Time and distance - Discount - Partnerships.

**Unit- II - Calculus**

Differentiation : (Without proof) - Derivative of standard functions - rules of differentiation, sum, difference, product, quotient and function, differentiation on one function with respect to another function - criteria for maxima and minima and their applications in economics.

**Unit-III : Classification of Data**

Definition, Functions and Limitations of Statistics - Collection and classification of data : Methods and limitations.

**Presentation of Data:** Tabulation - parts of Table - Types of tables (Simple and Complex) - Graphs and Diagrams - Simple bar diagrams, Multiple and Sub-divided bar diagrams - pie diagrams - Histogram - Frequency polygon, frequency curve, Ogive curves

**Unit-IV : Central Tendency**

Measures of Central Tendency; Requisites of a good measure of central tendency - Mean, Median, Mode, Geometric mean and Harmonic Mean - Merits and demerits of averages - location of Median and Mode graphically.

**Unit-V: Dispersion**

Measures of Dispersion: Requisites of a good measures of Dispersion - Range, Quartile deviation, mean deviation, Variance and Standard Deviation - Coefficient of Variation - Merits and Demerits of measures of dispersion - Lorenz Curve.

**Suggested readings (Mathematics)**


1. Sancheti D.C. & Kapoor V.K.: Business Mathematics, Sultan Chand & Sons, N. Delhi.
2. Saha S. : Business Mathematics; New Central Agency, Calcutta.
3. Qazi Zameruddin Khanna VK & Bambri SK: Business Mathematics Vikas Pub. House, N. Delhi.
4. Chadha & Agarwal : Business Mathematics; S. Chand & Co. Ltd.


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(20.....Exams)

**Suggested readings (Statistics)**


1. Sancheti D.C. & Kapoor V.K.: Statistics; Theory, Methods and Applications, Sultan Chand & Co. N. Delhi.
2. Gupta S.C. : Fundamentals of Statistics, Himalaya Publishing House.
3. Gupta S.P. : Statistical Methods, S. Chand & Co;
4. Gupta B.N. : Statistics; Sahitya Bhavan, Agra.
5. S.K. Aggarwal, S.K. Bharadwaj & K. Raghu Veer: Business Statistics, Kalyani Publishers.


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2-1-109

**MODEL QUESTION PAPER**
**THREE YEAR B Com [Hons] DEGREE EXAMINATION**
**FIRST SEMESTER(CBCS)**
**Paper - 104: QUANTITATIVE TECHNIQUES-I**
(Semester Pattern w.e.f. 2015-16)

Time: 3 hours **Marks: 75**

**SECTION – A**
(Short Answer Questions)

**1. Write short notes on any FIVE of the following. Each question carries 3 marks.**
(Marks: 5X3 = 15)

a) Range
b) Define statics
c) Median
d) Find it $b_{xy} = 0.86$, $b_{xy} = 0.46$
e) Standard Deviation
f) Differenciate $5x^2 + 3X+8$
g) Arithmetic mean
h) Write importance of quartile deviation

**SECTION– B**

**Answer any ONE question from each unit** **(5 X 12 = 60)**

**UNIT-I**

2. In a series of G.P the sum of three terms is 14, the product of 3 terms is 64. Find the terms.

**(Or)**

3. In A.P the sum of three terms is 18. When we add 2 to the first term, 4 to second term and 11 to third term then we obtain numbers in G.P. Find the three terms.

**UNIT-II**

4. Differentiate $8x^2+10x+5 / 6x^2+9x+4$

**(Or)**

5. Differentiate $(6x^2 + 5X+6) (5x^2+3x+7)$

**UNIT- III**

6. By using the following data construct a Pie- diagram

| Items | Food | Clothing | Fuel | Health | Rent | Saving |
|---|---|---|---|---|---|---|
| Expenditure | 150 | 80 | 50 | 40 | 100 | 100 |

**(Or)**

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7. Represent the following data by a histogram.

| Class | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 |
|---|---|---|---|---|---|---|---|
| Frequency | 4 | 6 | 10 | 15 | 12 | 7 | 3 |

**UNIT- IV**

8.Calculate arithmetic mean for the following frequency distribution.

| Students marks | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 |
|---|---|---|---|---|---|---|---|
| No .of students | 10 | 14 | 36 | 44 | 30 | 24 | 16 |

**(Or)**

9.Compute median for the information given below

| Class | 100-110 | 110-120 | 120-130 | 130-140 | 140-150 | 150-160 | 160-170 |
|---|---|---|---|---|---|---|---|
| Frequency | 6 | 8 | 17 | 23 | 35 | 20 | 16 |

**UNIT- IV**

10. From the following find standard deviation.

| Class | 5-10 | 10-15 | 15-20 | 20-25 | 25-30 | 30-35 |
|---|---|---|---|---|---|---|
| Frequency | 2 | 9 | 29 | 54 | 11 | 5 |

**(Or)**

11.Calculate quartile deviation and its co-efficient for the marks of 215 students.

| Class | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 |
|---|---|---|---|---|---|---|---|---|
| Frequency | 10 | 15 | 28 | 40 | 30 | 35 | 26 | 14 |

R.P 23/9/15

Chairman BOS

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