

SRI Y.N.COLLEGE(Autonomous),Narsapur
Affiliated to Aadikavi Nannaya University
Accredited by NAAC with 'A' Grade with a CGPA of 3.40
Recognized by UGC as 'College with potential for Excellence'
Mathematics Certificate Course
Business Statistics (w.e.f.2013-14)

The objective of this paper is to impart knowledge on the application of statistical tools and techniques in business decision-making \& use of MS-Excel in interpretation of statistical data.

## Unit-I: Introduction to Statistics:

Meaning, definition, importance and limitations of statistics. Collection of data - Primary data and Secondary data - (Sampling - Random - Non Random - Census) - Schedule and questionnaire - Frequency distribution - Tabulation.

## Unit-II: Measures of Central Tendency:

Definition, Objectives and Characteristics of measures of Central Tendency - Types of Averages - Arithmetic Mean, Geometric Mean, Harmonic Mean, Median, Mode, Deciles, Percentiles, properties of averages and their applications. Calculation of averages using computers.

## Unit-III: Measures of Dispersion:

Meaning, Definitions, Properties of dispersion - Range - Quartile Deviation - Mean Deviation - Standard Deviation, Coefficient of Variation.


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## Mathematics Certificate Course

Business Statistics Model Paper (w.e.f.2013-14)
Time: 2Hrs

## SECTION-I

Total Marks:50M
Answer any TWO of the following questions $2 \times 10=20 \mathrm{M}$

1. Compute Standard Deviation from the following data

| Classes | $40-50$ | $50-60$ | $60-70$ | $70-80$ | $80-90$ | $90-100$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Frequencies | 10 | 15 | 25 | 35 | 8 | 7 |

2. By using the following information show that $\mathrm{AM}>\mathrm{GM}>\mathrm{HM}$

| Classes | $0-5$ | $5-10$ | $10-15$ | $15-20$ | $20-25$ | $25-30$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Frequencies | 2 | 8 | 10 | 15 | 12 | 3 |

3. Calculate Mode using Mean and Median

| Classes | $10-20$ | $20-30$ | $30-40$ | $40-50$ | $50-60$ | $60-70$ | $70-80$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Frequencies | 4 | 6 | 20 | 32 | 33 | 17 | 10 |

4. Find out the Geometric mean and Harmonic mean from the following data

| Classes | $100-120$ | $120-140$ | $140-160$ | $160-180$ | $180-200$ | $200-220$ | $220-240$ | $240-260$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Frequenc <br> ies | 2 | 4 | 6 | 9 | 8 | 6 | 4 | 1 |

SECTION-II
Answer any FIVE of the following questions.
$5 \times 4=20 \mathrm{M}$
5. Define Statistics and give characteristic features of statistics.
6. What are the sources of the secondary data.
7. What is an Average? What are the qualities of a good average?
8. State the parts of table?
9. Find out Harmonic mean for the following values $60,120,150,240,300,450$
10. The total two quartiles is 40 and their difference is 1 . Find the quartile deviation and its Co efficient.
11. From the following data of the marks obtained by 60 students of a class, calculate the arithmetic mean

| Marks | 20 | 30 | 40 | 50 | 60 | 70 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. of students | 8 | 12 | 20 | 10 | 6 | 4 |

12. Calculate mean deviation and its coefficient for the series $6,10,26,28,30,32,35$.

## SECTION-III

Answer ALL of the following questions.

$$
5 \times 2=10 \mathrm{M}
$$

13. Define the range.
14. Define the range coefficient.
15. Write the merits of arithmetic mean.
16. Define the relation between arithmetic mean, median, mode.
17. Define the relation between arithmetic mean, geometric mean, harmonic mean.

