University of Kerala

Discipline	STATISTICS				
Course Code	UK1DSCSTA101				
Course Title	BUSINESS DATA ANALYTICS-I				
Type of Course	**DSC**				
Semester	I				
Academic Level	100 – 199				
Course Details	Credit	Lecture per week	Tutorial per week	Practical per week	Total Hours/Week
	4	3 hours	-	2hours	5
Pre-requisites	NIL				

COURSE OUTCOMES

Up on Completion of the course, students should be able to:		Cognitive level	PSO Addressed
CO1	Explain the relevance of Statistics in Business	Understand	PSO -1
CO2	Explain different types of data, collection of data	Understand	PSO -1
CO3	Distinguish between different sampling methods	Understand	PSO -1
CO4	Visualize the data and interpret the information contained	Apply	PSO -2, PSO -4, PSO -5
CO5	Compute various descriptive statistics measures	Apply	PSO -1, PSO -2, PSO -4, PSO -5

COURSE CONTENT

Module	Content	Hrs
I	**Introduction**	**5**
	Meaning of Business Statistics. Applications of Statistics in various fields of business. Definition of data. Definition and sources of Primary and Secondary data. Design of questionnaire and schedules, Scaling Techniques-Nominal, ordinal, Ratio and Interval.	
II	**Data Collection Methods and Sampling Methods**	**10**
	Definition of Population and Sample. Methods of data collection- Census method and Sampling method. Advantages of sampling method over census method. Probability sampling: Simple random sampling (without replacement and with replacement) and Stratified random sampling, Systematic sampling, cluster sampling, multistage sampling (procedure with examples only and no need of estimation). Non-probability sampling: convenient sampling, purposive sampling, judgement sampling, quota sampling, snowball sampling (definitions and examples only).	
III	**Presentation and Visualization of Data:**	**15**

	Classification and tabulation, types of classification, types of tabulation frequency distribution and frequency table, discrete and continuous frequency distribution, relative frequency table, cumulative frequency table, Diagrammatic and graphical representation of data, different types of bar diagram, pie-diagram, histogram, frequency polygon, frequency curve, Ogives	
IV	**Measures of central tendency and Dispersion**	**15**
	Arithmetic Mean, Median, Mode, Geometric Mean, Harmonic Mean (definition, formula, numerical examples, merits and demerits). Partition values – Quartiles, Deciles, Percentiles, (definition, formula, numerical examples, uses), Percentile Rank and its uses. Graphical representation of partition values. **Measures of dispersion** – Standard Deviation, Mean deviation and Coefficient of Variation (Concepts, uses and problems) ; Lorenz curve - Uses and limitations. **Skewness and Kurtosis:** Skewness - Definition, Types of skewness, measures of skewness- Pearson and Bowley's measure; Kurtosis – Definition, Types of kurtosis, Coefficient measure of kurtosis (Moment measures of skewness and kurtosis not required).	
V	**Practicum**	**30**
	Practical Demonstration of the examples of modules III and IV, using spread sheet software	

PRACTICAL/LABWORK

List of Practical worksheets

1. Presentation and visualization of Data
2. Measures of Central tendency.
3. Measures of Dispersion

REFERENCES

1. Gupta, S. C., & Kapoor, V. K. (2020). Fundamentals of mathematical statistics. Sultan Chand & Sons.
2. Goon, A.M., Gupta, M.K. and Dasgupta, B. (2016). Fundamentals of Statistics, Vol. I, 8th Ed. The World Press, Kolkata.
3. Sharma J K, (2013). Fundamentals of Business Statistics, Second Edition, Vikas Publishing House Private Limited.
4. Siegel, Andrew, (2013). Practical Business Statistics, Irwin McGraw Hill International 4th Edition
5. www.libreoffice.org
6. Berk, K. N., & Carey, P. (1998). Data Analysis with Microsoft Excel. Pacific Grove, CA: Duxbury Press.

Name of the Course: BUSINESS DATA ANALYTICS-I

Credits: 3:0:1 (Lecture:Tutorial:Practical)

CO No.	CO	PO/PSO	Cognitive Level	Knowledge Category	Lecture (L)	Practical (P)

CO 1	Explain the relevance of statistics in business	PSO -1, PO -1	Understa nd	F, C	L	
CO 2	Explain different types of data, collection of data	PSO -1, PO -1	Understa nd	C	L	
CO 3	Distinguish between different sampling methods	PSO -1, PO -1	Understa nd	C	L	
CO 4	Visualize the data and interpret the information contained	PSO 1,2,4, 5 PO -1, 2, 4, 6,7	Apply	C, P	L	P
CO 5	Compute various descriptive statistics measures	PSO -1, 2, 4,5 PO -1, 2, 4, 6,7	Apply	C, P	L	P

F-Factual, C- Conceptual, P-Procedural, M-Metacognitive

Mapping of COs with PSOs and POs :

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO 1	1						1							
CO 2	1						1							
CO 3	1						1							
CO 4	2	2		2	2		2	1		2		1	2	
CO 5	1	2		2	1		2	1		2		1	2	

Correlation Levels:

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Assessment Rubrics:

- Quiz / Assignment/ Discussion / Seminar

- Internal Examination
- Practical Evaluation
- End Semester Examinations

Mapping of COs to Assessment Rubrics :

	Internal Exam	Quiz / Assignment/ Discussion / Seminar	Practical Evaluation	End Semester Examinations
CO 1	✓	✓		✓
CO 2	✓	✓		✓
CO 3	✓	✓		✓
CO 4	✓	✓	✓	✓
CO 5	✓	✓	✓	✓