LNCT UNIVERSITY, BHOPAL

Program: BBA-BIA **Semester-IV** **Session:**

Name of Paper	Paper Code	Theory				
		L	T	EST	CAT	Total
OPERATIONS RESEARCH	BIA401	3	1	70	30	100

Objectives: *The objective of this course is to teach students the basic concepts of operation research and statistical programming.*

Unit	Contents (Theory)	Hours/Week
I	Introduction to Operation Research: Meaning, Evolution, Approaches, Techniques and scopes of operations research, Managerial application of Operation Research.	10 Hours
II	Linear programming: Introduction, Meaning characteristics, Graphical approaches and its utility simplex method.	8 Hours
III	Transportation and Assignment Problems: The general structure of the problem, Methods of initial allocation degeneracy, Assignment problem.	10 Hours
IV	Network Analysis: PERT/CPM background and development, stages in application PERT networking analysis, CPM, Determination of CPM.	8 Hours
V	Inventory control: Classification of Inventory control, EOQ model, Inventory control system, ABC Analysis, Advantages of EOQ model in management.	9 Hours

Name of Authors	Titles of the Book	Edition	Name of the Publisher
N.D.Vohra	Quantitative Techniques in Management		Tata McGraw Hill
H.Taha	Operations Research		Prentice Hall
Hera and Gupta	Operations Research		Himalaya Publication House
William P. Cooke	Quantitative Methods for Management Decisions		McGraw Hill
K.Swarup, R.K.Gupta and M.Mohan	Operations Research		Sultan Chand & Sons
V.K.Kapoor,	Operations Research		Sultan Chand & Sons

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Program: BBA-BIA **Semester-IV** **Session:** _____

Name of Paper	Paper Code	Theory				
		L	T	EST	CAT	Total
MARKETING OF SERVICE	**BIA402**	**3**	**1**	**70**	**30**	**100**

Objectives: *The objective of this course is to teach students about the service marketing activities and their role in growth of service industries.*

Unit	Contents (Theory)	Hours/Week
I	Meaning of services, Characteristics and features of services, Classification of services, Growth of service sector, Significance of service management.	10 Hours
II	Introducing services marketing, concept of service marketing and its significance, Differences between products and services, Service delivery process, Service pricing methods.	8 Hours
III	Introduction to tourism marketing, Tourism product, Significance of tourism industry, Marketing segmentation of tourism, Recent trends in tourism, Hospitality services, Types of hotels and accommodation.	10 Hours
IV	Marketing of banking and insurance services, personal care service, hospital services, education service, consultancy services, IT and communication services.	8 Hours
V	Service decision process, Service quality concept & dimensions, GAP model, service demand & capacity alignment strategy, Role of customer in service delivery process.	9 Hours

Name of Authors	Titles of the Book	Edition	Name of the Publisher
Sunil B Rao	Service Management		Vision Book House
K. Venkataramana,	Service Management		Seven Hill Book Publication
, S.M. Jha	Services Marketing		Himalaya Publishing House
Shajahan. S,	Service Marketing Concept, Practices & Cases		Himalaya Publishing
Cengiz Hakseveretal	Service Management and Operations,		Pearson Education

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Program: BBA-BIA **Semester-IV** **Session:**

Name of Paper	Paper Code	Theory				
		L	T	EST	CAT	Total
DATA VISUALIZATION	BIA403	3	1	70	30	100

Objectives: *The objective of this course is to teach student about construct their own data visualization using Tableau and Power-BI and understand various visual encodings.*

Unit	Contents (Theory)	Hours/Week
I	**Visualization with Tableau:** Tableau Software Ecosystem, Toolbar Icons, Data Window and Aggregation, Tableau Data Source, Data Extract, Connect to Data, Measure Names, Number of Records & Measures, Heat Maps, Tree maps, Bar Chart, Line Chart, Area Fill Charts, Pie Chart, Scatter Plot, Circle View, Bullet Graph, Packed Bubble, Histogram, Box plot and Gantt Chart, Sorting Data, Enhancing Views with Filters, Sets, Groups & Hierarchies.	9 Hours
II	**Visualization with Tableau:** Cross-tabulation, Dashboard Designing, Dashboard Actions, Joining Database, Functions in Tableau, Aggregate Functions, Numeric Functions, Date Functions, Stories, Advanced Mapping, Advanced Parameters, Tableau Best Practices, Combining Multiple Dashboards into Stories, Publishing Stories and Dashboards.	8 Hours
III	**Introduction to Power BI:** Power BI Deployment Modes, Project Discovery and Ingestion, Power BI Project Roles, Admin and Project Role Collaboration, Power BI Licenses, Data Warehouse Bus Matrix, Dataset Design Process, Data Profiling, Dataset Planning, Data Transformations, Import Mode and Direct Query Mode.	8 Hours
IV	**Data Transformation & M Query Design:** Query Design per Dataset Mode, Data Sources, Authentication, Privacy Levels, Power BI Desktop Options, M Queries, Data Source Parameters, Staging Queries, Fact and Dimension Queries, M Query Summary, Data Types, Direct Query Data Models: Relationships View, Data View, Report View, Fact Tables, Dimension Tables, Relationships.	10 Hours
V	**Creating and Formatting Reports:** Report Planning, Live Connections to Power BI Datasets, Choosing the Visual, Visual Interactions, Slicers, Report Filter Scopes, Report Filter Conditions, Visual-Level Filtering, Visualization Formatting, Custom Visuals and Dashboards : Drill through Report Pages, Bookmarks, Analytics Pane, Quick Insights, Custom Visuals, Dashboard Design, Multi-Dashboard Architectures.	10 Hours

Name of Authors	Titles of the Book	Edition	Name of the Publisher
Wickham Hadley	ggplot2: *Elegant Graphics for Data Analysis*		Springer
Chun-houh Chen, WolfgangHardle	*Handbook of Data Visualization*		Springer
Few, Stephen.	N*ow You See It: SimpleVisualization Techniques for QuantitativeAnalysis*.		Analytic Press

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Program: BBA-BIA **Semester-IV** **Session:**

Name of Paper	Paper Code	Theory				
		L	T	EST	CAT	Total
RESEARCH METHODOLOGY WITH "SAS"	**BIA404**	**3**	**1**	**70**	**30**	**100**

Objectives: *The objective of this course is to understand a variety of statistical methods and research designs that are essential for data science.*

Unit	Contents (Theory)	Hours/Week
I	Introduction to research methodology: Nature and scope of research. Categories of business research. The role of research in decision making. Issues and trends in business research. Role of data analysis and programming language in Research Methodology.	10 Hours
II	Sampling, measurement scales, questionnaire design: Sampling design and sampling procedure, determination of sample size, measurement and scaling concepts, questionnaire design, Working with Google Forms and SAS.	10 Hours
III	Statistical Inferential Techniques: Basic Concepts of Inference, Inferences for Single Samples, Inferences for Two Samples, Inferences for Proportions and Count Data, Working with SAS.	8 Hours
IV	Operation Research Methods: Linear Programming problem, Graphical methods of LPP, LPP using QM for Windows/SAS Programming/TORA.	8 Hours
V	Transportation and Assignment Problem: Introduction of Transportation Problem, NWCR, RMM, CMM, LCM, VAM, using QM for Windows/SAS Programming/TORA. Assignment Problem, Hungarian Method, Travelling salesmen problem, using QM for Windows/SAS Programming/TORA.	9 Hours

Name of Authors	Titles of the Book	Edition	Name of the Publisher
Beri G.C,	Marketing Research		McGraw Hill
Nargundkar Rajendra	Marketing Research		Himalaya Publishing House
Malhotra Naresh	Marketing Research		Pearson

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Name of Paper	Paper Code	Theory				
		L	T	EST	CAT	Total
PYTHON- II	BIA405	3	1	70	30	100

Objectives: *The objective of this course is to understand a variety of Visualization libraries for data science which are available in Python.*

Unit	Contents (Theory)	Hours/Week
I	Data Visualization using Python: Design fundamentals. Packages for data visualization- matplotlib, graphviz. Predictive modelling using visualization— Heat maps, Mosaic plot, Trees and clustering.	10 Hours
II	Functions: Built-in-function, User defined functions, function designing for I/O, arguments of functions, looping under functions, functions and conditional statements.	8 Hours
III	Internet Data Handling: Overview of the type of data, open source data, process common Internet data formats such as HTML, XML, and JSON, Provides detailed coverage of the Element Tree interface for parsing XML.	10 Hours
IV	STRING MANIPULATION: Introduction to Python String, Accessing Individual Elements, String Operators, String Slices, String Functions and Methods.	9 Hours
V	GUI PROGRAMMING & Anaconda: Introduction, Tkinter programming, Tkinter widgets, Frame, Button, Label, Entry. Anaconda- Jupyter Notebook, Spyder, Orange.	8 Hours

Name of Authors	Titles of the Book	Edition	Name of the Publisher
Brockwell, P. J., & Davis, R. A. (1991).	Time Series: Theory and Methods		
John Paul Mueller	Beginning Programming with Python for Dummies		