



# Lingaya's Vidyapeeth

Deemed-to-be-University u/s 3 of UGC Act 1956, Government of India

**NAAC ACCREDITED**

Approved by MHRD / AICTE / PCI / BCI / COA / NCTE

Nachauli, Jasana Road, Faridabad- 121002 (Haryana)

Website: [www.lingayasvidyapeeth.edu.in](http://www.lingayasvidyapeeth.edu.in) | Ph: 0129-2598200-05

## COURSE PLAN & COURSE DATA SHEET

PROGRAM: B.Tech	DEGREE: B.Tech
COURSE: BUSINESS ANALYTICS	SEMESTER: IV CREDITS: 4
COURSE CODE: CS 315	COURSE TYPE: CORE /ELECTIVE / BREADTH/ S&H CORE
COURSE AREA/DOMAIN:	CONTACT HOURS: 3+1 (Tutorial) hours/Week.3+1+0
CORRESPONDING LAB COURSE CODE (IF ANY):	LAB COURSE NAME (IF ANY):

### PROGRAM EDUCATIONAL OBJECTIVES:

### SYLLABUS:

UNIT	DETAILS	HOURS
I	Introduction - History and Evolution	8
II	Data Mining	10
III	Data Validation	10
IV	Introduction to analytics process	10
V	Business Activity Monitoring	8
	TOTAL	46

### Teacher Centric Approach

TC1: Chalk and Talk,  
Blended learning

TC2: PPT,

TC3: Video Lectures

TC4:

### Learner Centric Approach:

**LC1: Assignment. LC2: Mini project. LC3: Quiz/Class test. LC 4: Seminar on recent trends.**  
**LC5: Group Task. LC6: Others**

## DETAILED SESSION PLAN

Lecture session/ Number	Topics to be covered	CO addressed	Teacher Centric Approach	Learner Centric Approach	References	Relevance with POs and PSOs
1.	History and Evolution	1	TC1, TC2	LC1,LC2,LC3		
2.	Effective and Timely decisions	1	TC1,	LC1		
3.	Data Information and Knowledge,	1	TC1,	LC1		
4.	Architectural Representation	1	TC2,			
5.	Role of mathematical Models, Real Time Business Intelligent	1				
6.	- Introduction to Data Mining, Architecture of Data Mining	2	TC1,	LC1		
7.	Functionalities & Classifications of Data Mining, Representation of		TC1,	LC1		
8.	- Introduction to Data Warehousing,	2	TC2,			
9.	Data Modelling, Difference between OLAP and OLTP, Schema - Star and	2				

10.	Data Validation - Introduction to Data Validation	3	TC1, TC2	LC1	
11.	Data Transformation - Standardization	3	TC1		
12.	Data Reduction - Sampling		TC1		
13.	PCA, Data Discretization	3			
14.	Introduction to analytics process	4	TC1		
15.	Types of Analytical Techniques in BI -	4	TC1	LC1	
16.	Business Activity Monitoring,	5		LC5	
17.	Complex Event Processing	5	TC1		
18.	Business Process Management, Metadata, Root Cause Analysis.	5	TC1,	LC1	

#### TEXT/REFERENCE BOOKS:

T/R	BOOK TITLE/AUTHORS/PUBLICATION
1	Carlo-Vercellis, "Business Intelligence Data Mining and Optimization for Decision-Making", First Edition
2	Drew Bentely, "Business Intelligence and Analytics" ,@2017 Library Pres., ISBN: 978-1-9789- 2136-

	8
3	Cindi Howson, "Successful Business Intelligence", Second Edition, McGraw-Hill Education, 2013
4	Videos & PPT

**# WEB SOURCE REFERENCES (W):**

1	
2	
3	
4	
5	
6	
7	

**COURSE PRE-REQUISITES:**

C.CODE	COURSE NAME	DESCRIPTION	SEM

**COURSE OBJECTIVES:**

1	Knowledge of Business and Commerce.
2	Knowledge and ability to pursue higher education.
3	Ability to identify problems and collect relevant data.
4	Ability to understand and use modern tools and technologies.
5	Understanding the impact of commercial activities on environment and sustainability.
6	Apply ethical principles in business and commerce.

**COURSE OUTCOMES:**

S.NO	DESCRIPTION	PO(1..12) MAPPING	PSO(1..3) MAPPING
Cxxx.1	Understand the essentials of BI & data analytics and the corresponding terminologies		
Cxxx.2	Analyze the steps involved in the BI - Analytics process		
Cxxx.3	Illustrate competently on the topic of analytics		
Cxxx.4	Understand & Implement the K-Means Clustering with Iris Dataset		
Cxxx.5	Demonstrate the real time scenario (Case study) by using BI & Analytics		

techniques		
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### COURSE OUTCOMES VS POs MAPPING (DETAILED; HIGH:3; MEDIUM:2; LOW:1):

S.NO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2
Cxxx.1	3	3	2	-	-	-	2	3
Cxxx.2	3	3	2	-	-	-	2	3
Cxxx.3	3	3	2	-	-	-	2	2
Cxxx.4	3	3	2	-	-	-	2	1

\* For Entire Course, PO & PSO Mapping

### POs & PSO REFERENCE:

PO1	Engineering Knowledge	PO7	Environment & Sustainability	PSO1	.....
PO2	Problem Analysis	PO8	Ethics	PSO2	.....
PO3	Design & Development	PO9	Individual & Team Work	PSO3	.....
PO4	Investigations	PO10	Communication Skills		
PO5	Modern Tools	PO11	Project Mgt. & Finance		
PO6	Engineer & Society	PO12	Life Long Learning		

### COs VS POs MAPPING JUSTIFICATION:

S.NO	PO/PSO MAPPED	LEVEL OF MAPPING	JUSTIFICATION
Cxxx.1			
Cxxx.2			
Cxxx.3			
Cxxx.4			
Cxxx.5			
Cxxx*			

### GAPS IN THE SYLLABUS - TO MEET INDUSTRY/PROFESSION REQUIREMENTS, POs & PSOs:

SNO	DESCRIPTION	PROPOSED ACTIONS
1		
2		
3		
4		
5		

PROPOSED ACTIONS: TOPICS BEYOND SYLLABUS/ASSIGNMENT/INDUSTRY VISIT/GUEST LECTURER/NPTEL ETC

### # TOPICS BEYOND SYLLABUS/ADVANCED TOPICS/DESIGN:

1	
2	

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3	
4	
5	
6	
7	

## DELIVERY/INSTRUCTIONAL METHODOLOGIES:

<input type="checkbox"/> CHALK & TALK	<input type="checkbox"/> STUD. ASSIGNMENT	<input type="checkbox"/> WEB RESOURCES	<input type="checkbox"/> NPTEL/OTHERS
<input type="checkbox"/> LCD/SMART BOARDS	<input type="checkbox"/> STUD. SEMINARS	<input type="checkbox"/> ADD-ON COURSES	<input type="checkbox"/> WEBNIARS

## ASSESSMENT METHODOLOGIES-DIRECT

<input type="checkbox"/> ASSIGNMENTS	<input type="checkbox"/> STUD. SEMINARS	<input type="checkbox"/> TESTS/MODEL EXAMS	<input type="checkbox"/> UNIV. EXAMINATION
<input type="checkbox"/> STUD. LAB PRACTICES	<input type="checkbox"/> STUD. VIVA	<input type="checkbox"/> MINI/MAJOR PROJECTS	<input type="checkbox"/> CERTIFICATIONS
<input type="checkbox"/> ADD-ON COURSES	<input type="checkbox"/> OTHERS		

## ASSESSMENT METHODOLOGIES-INDIRECT

<input type="checkbox"/> ASSESSMENT OF COURSE OUTCOMES (BY FEEDBACK, ONCE)	<input type="checkbox"/> STUDENT FEEDBACK ON FACULTY (TWICE)
<input type="checkbox"/> ASSESSMENT OF MINI/MAJOR PROJECTS BY EXT. EXPERTS	<input type="checkbox"/> OTHERS

## # INNOVATIONS IN TEACHING/LEARNING/EVALUATION PROCESSES:

1. Tutorials
2. Case studies

**Prepared by**  
**(Faculty)**  
**Dr Komal Jaiswal**

**Approved by**  
**Dr Samriti (HOD)**

*# Additionally, the details to be compiled separately by the Departmental Coordinator for the entire Department.*