

Babu Banarasi Das University

Lucknow

School of Management

Course Curriculum

Bachelor of Business Administration -Business Analytics **(in collaboration with IBM)**

[Effective from Academic Session: 2022-23]

Course Curriculum of Bachelor of Business Administration - Business Analytics
(in collaboration with IBM)

Version Control

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BACHELOR OF BUSINESS ADMINISTRATION - BUSINESS ANALYTICS

(IN COLLABORATION WITH IBM)

INTRODUCTION

BBA - Business Analytics is a three-year Programme in collaboration with IBM comprising of six semesters which aims at providing inputs to the students relevant to the business, industry and trade so that they can function in different organizations and face the challenges arising there from. Right from the beginning of the Programme, the focus is on providing relevant inputs through live case discussion/analysis, simulation, Labs, Big Data handling etc. The Programme focuses on the development of the analytical skills in students and to provide them with opportunities to excel in the field of Business or Data Analytics.

The courses of the programme are divided into six categories namely Core Courses (C), Discipline Specific Elective (DSE), Ability Enhancement Compulsory Courses (AECC), Generic Elective (GE), Skill Enhancement Course (SEC) and Open Elective (OE). In the Open Electives the student has an option to opt from various courses which are offered by other Schools of the University.

The structure of the Programme is designed in a way that students study the core courses from different functional areas of management that are made compulsory along with one course in each semester which consists industrial applications and will be taught by IBM Professionals.

A Research Project has to be submitted as part of the compulsory courses of sixth semesters.

Case Study and Experimental Learning

At the end of fourth semester examination, the student has a choice to opt for The Case Study and Experimental Learning as a part of DSE under the supervision of IBM experts and one mentor from School of Management. The student, after the completion of the same will submit two hard bound reports to the School/University, which will form part of fifth semester examination. However, the report must be submitted by the end of August during fifth semester.

The number of pages in the report will be 75 or more. The report should be typed in Times New Roman font and font size 12, double space with at least one-inch margin on either side on A4 size paper.

RESEARCH PROJECT REPORT:

In the 6th semester, candidates will have to submit a Research Project Report on a problem/topic assigned by the School of Management, BBD University under the supervision of a core faculty member of the department.

The student will submit two hard bound copies of the report to the Head of the BBA program or to the Dean, School of Management. The number of pages in the report will be 75 or more. The report should be hard bound and typed in A-4 size paper.

COMPREHENSIVE VIVA:

In the 6th semester the students are evaluated on the overall learning acquired during the complete duration of the programme through comprehensive viva.

GENERAL PROFICIENCY.

In every semester, students will be assessed out of 100 marks based on co- curricular activities, initiatives and general discipline as part of General Proficiency with one Credit.

ELECTIVES:

In order to achieve the spirit of LOCF under CBCS and to empower the students, large number of optional courses under Ability Enhancement compulsory courses (AECCs), Generic Electives (GEs), Skill Enhancement Courses (SECs), Discipline Specific Elective Courses (DSEs) and Open Electives (OEs) have been included in the structure.

BBA- Business Analytics course structure has Twenty-nine Core Papers including six Practical Labs, Two Ability Enhancement compulsory courses, Twelve Generic Elective Courses placed in first four semesters; Eight Skill Enhancement Courses placed in third and fourth semesters and Twelve Discipline Specific Elective Courses are placed in the last two semesters and One Open elective in last Semester along with One Lab in each semester for practical implementation of Business Analytics and Data science software. In all, Thirty-two optional courses under three sets of course types (GE, SEC, DSE) have been developed with an idea to encompass all possible domains of knowledge and skills facilitating interface with various sections of the society so that a student can have a wide choice of courses to have a better living and to lead a meaningful and contented life. Keeping in view the needs of the students, Ability Enhancement Compulsory courses (AECCs) have been designed in a manner that provides relevant knowledge and skills.

One Open Elective is included in the sixth semester which the student has to opt from the courses offered by other schools of BBD University.

ELIGIBILITY CRITERIA:

As per the Babu Banarasi Das University norms.

ASSESSMENT AND EVALUATION OF COURSES:

Assessment and evaluation of courses will be as per Babu Banarasi Das University guidelines.

CREDIT SYSTEM

Credit system will be followed during the entire three-year course curriculum. One credit will be equivalent to 15 contact hours.

PROGRAM OBJECTIVES (POS) OF BBA- BUSINESS ANALYTICS
(IN COLLABORATION WITH IBM)

PO1	Management Knowledge: Students will acquire adequate understanding about management concepts and principles.
PO2	Business Analysis: Use the business and management knowledge gained to analyse the business problems and come up with viable solutions.
PO3	Communication: To impart knowledge to the students towards Business Communication for effective and Professional business management
PO4	Entrepreneurship: Build the entrepreneurship acumen.
PO5	Individual and Team Work: To inculcate the ability for leading a team and develop group behaviour in achievement of individual, group and organizational goals.
PO6	Regulatory Framework: To understand and discuss the broad legal and regulatory framework governing business activities.
PO7	Ethics: To recognize and solve business problems in an ethical manner for continuous development of business venture.
PO8	Technology Orientation: To develop competency in the use of technology in modern organizational operations.
PO9	Conduct Investigations: To stimulate an interest in research and its applications to find solutions for business problems.
PO10	The Business Leader and Society: To provide an environment that challenges the students' mind through competitive education which emphasizes on inculcating values, thus transforming them into socially responsible managers and business leaders.
PO11	Environment and Sustainability: Understand the relevant issues of environmental concern and sustainable development.
PO12	Life Long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes.

PROGRAM SPECIFIC OBJECTIVES (PSOs) OF BBA- BUSINESS ANALYTICS
(IN COLLABORATION WITH IBM)

PSO1	To prepare students to excel in industry /profession or postgraduate programmes through quality education.
PSO2	To inculcate analytical skills in students so that they can critically analyses the business situations.

PO MATRIX FOR ALL COURSES BBA- Business Analytics (in collaboration with IBM) (Program Code: 45)														
Course Title	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
BBAB4101-Data Visualization with Python	3	3	0.3	0	0	0	0	1.7	3	0	0	2	3	3
BBAB4102-Introduction to Business Analytics using MS Excel	3	3	0.8	0	0	0	0	2.6	3	0	0	2.7	3	3
BBAB4103-Essentials Of IT	1.7	1.6	1.6	1.7	2	1.1	1.4	0.7	0	0	0.1	2.3	2.3	3
BBAB4104-Quantitative Techniques for Business Analytics I	2.5	3	0.3	0	0	0	0	1.5	3	0	0	2	3	3
BBAB4105-Data Visualization with Python -Lab	3	3	0.3	0	0	0	0	1.7	3	0	0	2	3	3
GE44501-Business Organization	1.8	1.5	1.3	1.2	1.7	0.8	1.2	1	0.2	0	0.2	2.3	2.2	1
GE44502-Financial Literacy	1.8	1.3	0.5	1	0.8	1.8	0	1.8	0.8	1	0.5	1.5	2	1
GE44503-Business Economics –I	1.8	1.3	1.3	1.2	1.3	0.8	1	0.5	0	0	0	2.3	2.2	1
BBAB4201-Business Communication	1.9	1.5	1.6	1.5	1.6	1	1.4	0.5	0	0.4	0	2.3	2.3	1.3
BBAB4202-Big Data Fundamentals	3	2.3	0.2	0	0	0	0.5	2.4	2.3	0	0.5	2.4	3	3
BBAB4203-Fundamentals of Accounting	1.8	1.2	1.3	1.2	1.5	0.8	1	0.7	0	0	0	2	2	1.3
BBAB4204-Quantitative Techniques for Business Analytics II	3	2.3	0.2	0	0	0	0.5	2.4	2.3	0	0.5	2.4	3	3
BBAB4205-Business Environment	1.8	1.3	1.5	1.2	1.3	0.8	1.2	0.5	0	0.3	0	2	2	2
BBAB4206-Big Data Fundamentals - Lab	3	2.3	0.2	0	0	0	0.5	2.4	2.3	0	0.5	2.4	3	3
GE44504-People Management	3	1.8	0.5	0	1.5	1.8	0	0	0	2.3	0	2.2	2	2
GE44505-Business Law	1.8	1.5	1.7	1.8	2	1	1.3	0.5	0	0.2	0	2.2	2.2	1.2
GE44506-Business Economics –II	1.8	1.7	1.7	1.7	2	1	1.3	0.7	0	0	0.2	2.2	2.2	1.8
BBAB4301-Descriptive Analytics	3	2.3	0.2	0	0	0	0.5	2.4	2.3	0	0.5	2.4	3	3

BBAB4302- Marketing Research	3	2	2	0	0	0	0	2	2	0	1	2	3	3
BBAB4303- Marketing Management	1.8	1.7	1.8	1.7	1.8	1	1.5	0.5	0	0.2	0	2.2	2.2	1.2
BBAB4304- Human Resource Management	1.9	1.9	1.9	1.9	2	1.3	1.5	0.5	0	0.1	0	2.4	2.4	1.1
BBAB4305- Descriptive Analytics -Lab	3	2.3	0.2	0	0	0	0.5	2.4	2.3	0	0.5	2.4	3	3
GE44507- Organization Behaviour and Principles of Management	1.8	1.5	1.3	1.3	1.7	0.8	1.2	1	0.2	0	0.2	2.3	2.2	2
GE44508- Rural Management	2	1.7	1.9	2	2.1	1	1.6	0.4	0	0.1	0.1	2.4	2.4	1.6
GE44509- Integrated Marketing Communication	3	3	1.4	0	2	2	0	1.4	0	2	0	3	2	0.8
SEC44501- International Financial Management	1.8	1.8	1.8	1.7	1.8	1.2	1.3	0.5	0	0.2	0	2.2	2.5	1.8
SEC44502- Training & Development	3	3	0	0	2.2	3	0	0	0	2.2	0	3	3	1.6
SEC44503- Direct and Digital Marketing	3	2	0	0	1.6	3	0	1.3	0	3	0	3	3	1.3
SEC44504- Database Management	1.8	1.7	1.7	1.8	1.8	1	1.5	0.5	0.2	0.5	0	2.2	2.2	1.2
BBAB4401- Predictive Analytics	3	3	0.2	0	0	0	0.5	2.4	2.3	0	0.5	2.4	3	3
BBAB4402- Planning Analytics	3	2.5	0.2	0	0	0	0.5	2.4	2.3	0	0.5	2.4	3	3
BBAB4403- Financial Management	1.7	1.6	1.6	2	2.1	1.1	1.9	0.6	0.1	0.3	0.4	2.3	2.3	1.1
BBAB4404- Data Warehousing and Mining	3	3	0.2	0	0	0	0.5	2.4	2.3	0	0.5	2.4	3	3
BBAB4405- Predictive Analytics -Lab	3	3	0.2	0	0	0	0.5	2.4	2.3	0	0.5	2.4	3	3
GE44510- Management Information System & E Commerce	1.7	1.6	1.6	2	2.1	1.1	1.9	0.6	0.1	0.3	0.4	2.3	2.3	1.1
GE44511- Creativity and Innovation	1.8	1.7	1.7	1.8	1.8	1.2	1.3	0.5	0	0	0.2	2.2	2.2	1.2
GE44512- Production and Operations Management	3	3	0	0	2.5	2.8	0	0	0	2.8	0	3	2	2.8
SEC44505- Cost & Management Accounting	1.9	2	1.8	2	2	1.4	1.5	0.5	0	0	0.1	2.4	2.4	1.1

SEC44506- Financial Analysis and Decision	1.8	1.3	1.3	1.2	1.3	0.8	1	0.5	0	0	0	2.3	2.2	2
SEC44507- Business Policy and Strategy	1.8	1.5	1.8	1.7	1.8	1.2	1.3	0.7	0	0	0.2	2.2	2.7	1.7
SEC44508- Social Media Marketing	1.9	1.9	1.7	1.9	2	1	1.6	0.4	0.1	0.1	0.1	2.3	2.3	1.1
BBAB4501- Sectoral Functional Analytics	3	3	0	0	2	3	0	3	0	3	0	3	3	2
BBAB4502- Business Ethics and Human Values	2	1.7	1.9	2	2.1	1	1.6	0.4	0	0.1	0.1	2.4	2.3	1.1
BBAB4503- System Analysis & Designing	3	2.3	0.2	0	0	0	0.5	2.4	2.5	0	0.5	2.4	3	3
BBAB4504- Operation Research	3	3	0	0	2	3	0	3	0	3	0	3	3	2
BBAB4505- Sectoral Functional Analytics -Lab	3	3	0	0	2	3	0	3	0	3	0	3	3	2
DSE44501- Business Data Management	2	1.7	1.9	2	2.1	1	1.6	0.4	0	0.1	0.1	2.4	2.3	1.1
DSE44502- Entrepreneurship and Small Business Management	3	2.3	0.2	0	0	0	0.5	2.4	2.5	0	0.5	2.4	3	3
DSE44503- Marketing of Services	1.8	1.5	1.7	1.8	2	1	1.3	0.5	0	0.2	0	2.2	2.3	1.5
DSE44505- Auditing	3	2.2	0.2	0	0	0	0.5	3	3	0	0.5	2.4	3	3
DSE44506- Sustainable Development	1.7	1.7	1.7	1.8	1.8	1	1	0.5	0	0.5	0	2	1.7	1.3
BBAB4601- Data Privacy and Security	2.3	1.3	1.8	1.3	2.3	0.8	1	0.5	0	0	3	1.8	2	1.3
BBAB4604- Data Privacy and Security -Lab	2.3	1.3	1.8	1.3	2.3	0.8	1	0.5	0	0	3	1.8	2	1.3
DSE44507- Enterprise Design Thinking	3	3	0.6	0	0	0.6	0.4	2.4	3	1.3	0	3	3	3
DSE44508- Income Tax: Law & Practices	2	2	2	3	3	0	1	2.5	2.5	3	2	2	3	3
DSE44509- Supply Chain Management	1.7	1.6	1.6	1.9	1.9	1.1	1.4	0.7	0	0	0	2.3	2.3	1.1
DSE44510- Industrial Relations& Labour Laws	2.3	2	2	2	2.3	1	1.3	0.3	0	0	0	2.7	2.7	2
DSE44511- Brand Management	3	3	0	0	0	3	0	0	0	3	0	3	3	0
DSE44512- Goods & Services Tax (GST)	3	3	0	0	0	3	0	0	0	3	0	2.4	2	0.4

BBA- Business Analytics (in collaboration with IBM)**Course Structure**

SEMESTER I										
Course Category	Theory/ Practical	Course Code	Course Title	Contact Hours			Evaluation Scheme			Credits
				L	T	P	CIA	ESE	Total	
AECC-1	Theory		Environmental Studies*	4	0	0	40	60	100	4
C-1	Theory	BBAB4101	Data Visualization with Python	3	0	1	40	60	100	4
C-2	Theory	BBAB4102	Introduction to Business Analytics using MS Excel	2	0	2	40	60	100	4
C-3	Theory	BBAB4103	Essentials of IT	3	1	0	40	60	100	4
C-4	Theory	BBAB4104	Quantitative Techniques for Business Analytics I	3	1	0	40	60	100	4
GE-1	Theory		Generic Elective	3	1	0	40	60	100	4
C-5	Practical	BBAB4105	Data Visualization with Python -Lab	0	0	2	20	30	50	2
	Practical	GP4101	General Proficiency				100		100	1
TOTAL									750	27

* The Syllabus will be offered by School of Basic Sciences

One Generic Elective (GE-1) can be opted from

GE-1	Code	Course Title
	GE44501	Business Organization
	GE44502	Financial Literacy
	GE44503	Business Economics –I

SEMESTER II										
Course Category	Theory/ Practical	Course Code	Course Title	Contact Hours			Evaluation Scheme			Credits
				L	T	P	CIA	ESE	Total	
AECC-2	Theory	BBAB4201	Business Communication	4	0	0	40	60	100	4
C-6	Theory	BBAB4202	Big Data Fundamentals	3	0	1	40	60	100	4
C-7	Theory	BBAB4203	Fundamentals of Accounting	3	1	0	40	60	100	4
C-8	Theory	BBAB4204	Quantitative Techniques for Business Analytics II	3	1	0	40	60	100	4
C-9	Theory	BBAB4205	Business Environment	3	1	0	40	60	100	4
GE-2	Theory		Generic Elective	3	1	0	40	60	100	4
C-10	Practical	BBAB4206	Big Data Fundamentals-Lab	0	0	2	20	30	50	2
	Practical	GP4201	General Proficiency				100		100	1
TOTAL									750	27

One Generic Elective (GE-2) can be opted from

GE-2	Code	Course Title
	GE44504	People Management
	GE44505	Business Law
	GE44506	Business Economics –II

SEMESTER III										
Course Category	Theory/ Practical	Course Code	Course Title	Contact Hours			Evaluation Scheme			Credits
				L	T	P	CIA	ESE	Total	
C-11	Theory	BBAB4301	Descriptive Analytics	3	0	1	40	60	100	4
C-12	Theory	BBAB4302	Marketing Research	4	0	0	40	60	100	4
C-13	Theory	BBAB4303	Marketing Management	3	1	0	40	60	100	4
C-14	Theory	BBAB4304	Human Resource Management	3	1	0	40	60	100	4
GE-3	Theory		Generic Elective	3	1	0	40	60	100	4
SEC-1	Theory		Skill Enhancement Course	3	1	0	40	60	100	4
C-15	Practical	BBAB4305	Descriptive Analytics-Lab	0	0	2	20	30	50	2
	Practical	GP4301	General Proficiency				100		100	1
TOTAL									750	27

One Generic Elective (GE-3) can be opted from

GE-3	Code	Course Title
	GE44507	Organization Behaviour and Principles of Management
	GE44508	Rural Management
	GE44509	Integrated Marketing Communication

One Skill Enhancement Course (SEC-1) can be opted from

SEC-1	Code	Course Title
	SEC44501	International Financial Management
	SEC44502	Training & Development
	SEC44503	Direct and Digital Marketing
	SEC44504	Database Management System

SEMESTER IV										
Course Category	Theory/ Practical	Course Code	Course Title	Contact Hours			Evaluation Scheme			Credits
				L	T	P	CIA	ESE	Total	
C-16	Theory	BBAB4401	Predictive Analytics	3	0	1	40	60	100	4
C-17	Theory	BBAB4402	Planning Analytics	3	0	1	40	60	100	4
C-18	Theory	BBAB4403	Financial Management	3	1	0	40	60	100	4
C-19	Theory	BBAB4404	Data Warehousing and Mining	3	1	0	40	60	100	4
GE-4	Theory		Generic Elective	3	1	0	40	60	100	4
SEC-2	Theory		Skill Enhancement Course	3	1	0	40	60	100	4
C-20	Practical	BBAB4405	Predictive Analytics-Lab	0	0	2	20	30	50	2
	Practical	GP4401	General Proficiency				100		100	1
TOTAL									750	27

One Generic Elective (GE-4) can be opted from

GE-4	Code	Course Title
	GE44510	Management Information System & E Commerce
	GE44511	Creativity and Innovation
	GE44512	Production and Operations Management

One Skill Enhancement Course (SEC-2) can be opted from

SEC-2	Code	Course Title
	SEC44505	Cost & Management Accounting
	SEC44506	Financial Analysis and Decision
	SEC44507	Business Policy and Strategy
	SEC44508	Social Media Marketing

SEMESTER V										
Course Category	Theory/ Practical	Course Code	Course Title	Contact Hours			Evaluation Scheme			Credits
				L	T	P	CIA	ESE	Total	
C-21	Theory	BBAB4501	Sectoral Functional Analytics	3	0	1	40	60	100	4
C-22	Theory	BBAB4502	Business Ethics and Human Values	4	0	0	40	60	100	4
C-23	Theory	BBAB4503	System Analysis & Designing	3	1	0	40	60	100	4
C-24	Theory	BBAB4504	Operation Research	3	1	0	40	60	100	4
DSE-1	Theory		Discipline Specific Enhancement Course	3	1	0	40	60	100	4
DSE-2	Theory		Discipline Specific Enhancement Course	3	1	0	40	60	100	4
C-25	Practical	BBAB4505	Sectoral Functional Analytics-Lab	0	0	2	20	30	50	2
	Practical	GP4501	General Proficiency				100		100	1
TOTAL									750	27

One Generic Elective (DSE-1) can be opted from

DSE-1	Code	Course Title
	DSE44501	Business Data Management
	DSE44502	Entrepreneurship and Small Business Management
	DSE44503	Marketing of Services

One Skill Enhancement Course (DSE-2) can be opted from

DSE-2	Code	Course Title
	DSE44504	Case Study and Experimental Learning
	DSE44505	Auditing
	DSE44506	Sustainable Development

SEMESTER VI										
Course Category	Theory/ Practical	Course Code	Course Title	Contact Hours			Evaluation Scheme			Credits
				L	T	P	CIA	ESE	Total	
C-26	Theory	BBAB4601	Data Privacy and Security	3	0	1	40	60	100	4
C-27	Practical	BBAB4602	Research Project Report	4	0	0	40	60	100	4
C-28	Practical	BBAB4603	Comprehensive Viva Voce	3	1	0	40	60	100	4
OE	Theory		Open Elective**	3	1	0	40	60	100	4
DSE-3	Theory		Discipline Specific Enhancement Course	3	1	0	40	60	100	4
DSE-4	Theory		Discipline Specific Enhancement Course	3	1	0	40	60	100	4
C-29	Practical	BBAB4604	Data Privacy and Security -Lab	0	0	2	20	30	50	2
	Practical	GP4601	General Proficiency				100		100	1
TOTAL									750	27

**** The Open Elective (OE) will be offered by other schools**

One Generic Elective (DSE-3) can be opted from

DSE-3	Code	Course Title
	DSE44507	Enterprise Design Thinking
	DSE44508	Income Tax: Law & Practices
	DSE44509	Supply Chain Management

One Skill Enhancement Course (DSE-4) can be opted from

DSE-4	Code	Course Title
	DSE44510	Industrial Relations & Labour Laws
	DSE44511	Brand Management
	DSE44512	Goods & Services Tax (GST) and Customs Law

Course Title: Data visualization with Python**Course Code: BBAB4101****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ IDE of python ❖ number of different concepts such as introduction to Data Science including concepts such as Linear Algebra, Bayesian inference, combinatorics, Distributions, Probability and Statistics, Matplotlib, Charts and Graphs. ❖ Data Analysis, Visualization of non-uniform data, Hypothesis and Gradient Descent, Data Clustering and so much more. ❖ Advance visualization library “Plotly”. Projects to help you show exactly how to build visuals using Python. ❖ understand and implement each unit according to New Education Policy 2020 and Bloom’s Taxonomy.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Brief knowledge of python with crash course. 2. Mathematical concepts like: Algebra, probability etc. 3. Master the mathematical foundation of Data science. Able to create graphical visualization for your data. 4. Create Maps and advance Visualization. Uber NYC, Hotel booking, Covid-19, Amazon customer data analysis which are the most demanded analysis to highlight your resume.		
Module I: Introduction to PYTHON Sample Scripts with Loops in python, Data Visualization Understanding Data Visualization, history and, architecture of Matplotlib Data Analysis Understanding Data Analysis, Series and Data frame, Exploring 1-D data, Exploring 2-D data, Bubble chart representation, Data Munging.		15	1
Module II: Linear Algebra What are vectors? various operations of vectors, Understanding Matrices, Advance Statistics, Single set of data, Concept of Central Tendencies, Dispersion, Probability, Probability concept, Normal Distribution, Central Limit Theorem, Bayesian inference, Combinatorics, Distributions.		15	1
		15	1

Module III: Visualization with Matplotlib library Basic plots: Line Plots, Bar plot, Histograms, Scatter plot, pie chart, Area Plots, Pie Charts, Box Plots, Bubble Plots, Waffle Charts, Word Clouds, <i>Pyplot in Matplotlib</i> : Line Plot, Histogram, Scatter, 3D Plot, Image, Contour, and Polar, <i>Multiple Subplot</i> : Create multiple subplots, add title to subplots, set single main title for all subplots, turn off the axes for subplots, Advance Data Visualization, Visualizing the content of a 2D array, Adding a colormap legend to figure, Visualization nonuniform 2D data, Visualizing contour lines, Polar charts, Plotting log charts for research, Tableau, Introduction and use Plotly		
Module IV: Power BI and Tableau Different types of tools or libraries used in Data visualization and concepts of power BI, visualize with the help of it, some basics of Tableau	15	1
Suggested Readings: 1. “Matplotlib 3.0 Cookbook” by Srinivasa Rao Poladi. 2. “Data Visualization in Python” by David Landup.		

Course Title: Introduction to Business Analytics using MS Excel**Course Code: BBAB4102****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Implementation of Business Analytics in Management domain ❖ Understand the spreadsheet software	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Understand about the Business Analytics 2. Understand the domain and decision making using the tools of Business Analytics 3. Create model using the knowledge of MS Excel 4. Understand the basic features and environment of MS Excel 5. Understand the formula and function and creation of models.		
Module I: Introduction to Business Analytics Introduction to business Analytics, Business Analytics Applications, Importance and Evolution of Business Analytics, Classification of Business Analytics, Business Analytics for Management decisions, Framework of Business Analytics, Scope and framework of Business Analytics, Variables for Business Analytics, Data handling in Business Analytics, Decision Models, Problem solving and decision making		15	1
Module II: Experiment with Worksheets and Workbooks Create a workbook, Import data from a delimited text file, Add a worksheet to an existing workbook, Copy and move a worksheet, Search for data within a workbook, Navigate to a named cell, range, or workbook element, Insert and remove hyperlinks, Change worksheet tab color, Rename a worksheet, Change worksheet order, Insert and delete columns or rows, Change workbook themes, Adjust row height and column width, Insert headers and footers, Hide or unhide worksheets, Hide or unhide columns and rows, Customize the Quick Access toolbar, Modify document properties, Display formulas, Inspect a workbook for hidden properties or personal information, Inspect a workbook for accessibility issues, Inspect a workbook for compatibility issues		15	1
Module III: Formula and Functions Insert references, Perform calculations by using the SUM, MIN and MAX functions, Perform calculations by using the COUNT function, AVERAGE function, Perform logical operations by using the IF function, SUMIF function, AVERAGEIF function, Perform statistical operations by using the COUNTIF function, Format text by using RIGHT, LEFT, and MID functions UPPER, LOWER, and PROPER functions, Format text by using, Format text by using		15	1

the CONCATENATE function. Financial Functions like PV, FV and PMT, Other relevant functions, Formula Writing technique.		
Module III: Custom data and Formats Create custom number formats, Populate cells by using advanced Fill Series options, Configure data validation, Create custom conditional formatting rules, Create conditional formatting rules that use formulas, Manage conditional formatting rules, Create an Excel table from a cell range, Convert a table to a cell range, Add or remove table rows and columns, Apply styles to tables, Configure table style options, Insert total rows, Filter records, Sort data by multiple columns, Change sort order, Remove duplicate records, Create a new chart, Add additional data series, Switch between rows and columns in source data, Analyze data by using Quick Analysis, Resize charts, Add and modify chart elements, Apply chart layouts and styles, Move charts to a chart sheet.	15	1
Suggested Readings: 1. Business Analytics for Managers: Taking Business Intelligence Beyond Reporting, Wiley 2. Business Analytics: Data Analysis and Decision Making, Cengage		

Course Title: Essentials of IT**Course Code: BBAB4103****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Fundamentals of computer hardware and software. ❖ Advanced concepts such as security, networking, and operating system.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Understand the basic concepts of computer and its evolution. 2. Identify basic input, output & memory devices and their use. 3. Develop a broad understanding of IT and its other interdisciplinary interfaces. 4. Describe the internal components of a computer and establish their working. 5. Understand the concept of operating system and GUI. 6. Understand the importance and relevance of data communication, networking & security. 7. Cater to the needs of effectively managing the business by bridging the gap between managerial practices in vogue and Information Technology.		
Module I: Basics of Computer and evolution Evolution of computer. Data, Instruction and Information. Characteristics of computers, Various fields of application of computers. Hardware, Software, Human ware and Firmware. Advantages and Limitations of computer. Block diagram of computer, Function of different units of computer. Classification of. Different Generation of computers Types of software: System and Application. Compiler and Interpreter. Generation of language: Machine Level, Assembly, High Level, 4GL. Indian computing Environment, Data Representation: Different Number Systems like Decimal, Binary, Octal and Hexadecimal and their inter conversion: Fixed Point Only. Binary arithmetic: Addition, Subtraction, Multiplication and Division.		15	1
Module II: Input and Output Devices Input and Output Devices: Keyboard, Mouse, Joystick, Digitizer, Scanner, MICR, OCR, OMR, Light Pen, Touch Screen, Bar Code Reader, Voice Input Device, Monitor and its type: VGA, SVGA and XGA, Printer and its type: Impact and Non-Impact with example, Plotter. Computer Memory: Primary Memory, ROM and its types: PROM, EPROM, EEPROM, RAM. Secondary memory: SASD, DASD Concept. Magnetic Disks: Floppy disks, Hard disks, Magnetic Tape. Optical disks: CD ROM and its types: CD ROM, CD ROM-R, CD ROM-EO, DVD ROM Flash memory.		15	1

Module III: Operating System Concept and GUI Operating System Concept: Introduction to operating system, Function of OS, Types of operating systems PC-software Packages, An Introduction to Disk. Operating system and windows GUI, Other system software. Computer software system, software development process, files design & Report design, Data files types, Master & Transaction file. Data Hierarchy; data file structure, Use of files in Programming. Introduction to Word processor and Spread Sheets, Creating Presentations Management of data processing systems, Programmes development cycle, Output analysis, Programming Concept, Software Development process.	15	1
Module IV: Concept of Data Communication, Networking and Security Networking Concepts, Types of networking: LAN, MAN AND WAN. Communication Media. Mode of Transmission: Simplex, Half Duplex, Full Duplex, Analog and Digital Transmission, Synchronous and Asynchronous Transmission. Different Topologies, Concepts related to computer security.	15	1
Suggested Readings: 1. Leon and Leon, Introduction to Information Technology, Leon Tech World. 2. Microsoft Office-2000 Complete, BPB Publication. 3. Sinha Kr. Pradeep, SinhaPreeti., Foundations of Computing, BPB Publication.		

Course Title: Quantitative Techniques for Business Analytics I**Course Code: BBAB4104****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Quantitative information and mathematical ideas. ❖ Recognition of patterns through statistical diagrams. ❖ Formulation and solution of linear programming problems. ❖ Probability and its application in business decisions.		
LEARNING OUTCOMES:	The students should be able to: 1. Understand the basic concept of QAM and its implementation in various business situations. 2. Evaluate information, both quantitative and qualitative, through sets and Venn diagrams. 3. Present statistical data through diagrams and graphs. 4. Apply and relate decision making through statistical tools and techniques. 5. Recognize problems that linear programming can handle and find optimal solutions subject to some constraints. 6. Sharpen ability to make quality, reasoned business decisions through matrices and probability.	No. of Contact Hours	No. of Credits
Module I: Sets and Business Mathematics Set theory, form of writing a set, subset, equal set, operation on set: complement of a set, union, and intersection. Venn-diagram. Relations and functions - Relations and their types, Functions and their types Diagrammatic and graphical presentation of statistical data: bar diagram, histogram, frequency polygon, frequency curve, ogive curve. Matrices: Types of matrices, algebra of matrices. Solution of equations		15	1
Module II: Coordinate Geometry Elements of Coordinate Geometry, Distance between two points, Equation of line, Slope of a line, Area of Triangles, Quadratic Functions, Slope of quadratic function, Polynomials and Arithmetic of Polynomials. Quadratic Functions - Quadratic functions, Minima, maxima, vertex, and slope, Quadratic Equations		15	1

Module III: Elementary Statistics Measurement of central tendency: Mean, median, mode, quartile, deciles, and percentile. Measures of dispersion: mean deviation, standard deviation. Business application of statistical tools and techniques. Skewness and Kurtosis.	15	1
Module IV: Probability, Correlation and regression Probability: Definition, addition and multiplication rule, conditional probability, Bayes' theorem, Binomial, Poisson and Normal distribution. Correlation and Regression: Scatter diagram, Karl Pearson's coefficient of correlation, rank correlation, simple linear regression, method of least square.	15	1
Suggested Readings: Suggested Readings: 1. Tulsian P.C., Business Statistics, S. Chand Publication, New Delhi. 2. Pundir, Mathematical Foundation for Business Administration, PragatiPrakashan. 3. Zameeruddin, Khanna and Bhambri, Business Mathematics, Vikas Publishing. 4. Raghavachari, Mathematics for Management, Tata McGraw Hill, 2004.		

Course Title: Data visualization with Python -Lab**Course Code: BBAB4105****Course Credit: 2**

COURSE OBJECTIVE:	To familiarize students with: ❖ how visualization helps in business to provide a solution to industries using real case studies. ❖ the different visualization tools. ❖ how library help in visualization ❖ Summarizing Reports for Analysis.		
LEARNING OUTCOMES:	The students should be able to: 1. Understand and critically apply the concepts and methods of Data visualization. 2. Understand Power BI concepts like Microsoft Power BI desktop layouts, BI reports, dashboards, and Power BI DAX commands and functions 3. Learn how to experiment, fix, prepare and present data quickly and easily 4. Explain the meaning and objective of Data visualization tool for managing and analyzing data. 5. Interpret the results/solutions and identify which tool is best in which time for managerial situation whether we want to analyze when we have data. 6. Understand and Form relationships in your data model and learn data visualization best practices	No. of Contact Hours	No. of Credits
Module I: Create a report from a personal data source, Which type of tools are used for different types of charts, graphs etc Will learn about the basics of power BI and apply on data Make a data visualization report and a pie chart report Using the power BI try to visualize the data of uber-trip analysis		30	1
Module II: Using the power BI try to visualize the amazon customer analysis Creating Bins and Distributions using Power BI Working and exploring the Bar graph, scatter graph in Power BI Develop a dashboard using Power BI using custom datasets Using the power BI analyze the Bank churn data		30	1
Suggested Readings: 1. IBM Cognos Business Intelligence V10.1 Handbook, An IBM Redbooks publication 2. IBM Cognos Business Intelligence by O'Reilly 3. Can also take the help from google for Power BI 4. <i>A Practical Guide to Self-Service Data Analytics with Excel 2016 and Power BI</i>			

Course Title: Business Organization**Course Code: GE44501****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Management and business concepts and practices. ❖ Emerging challenges of managing resources, managing business processes and managing managers.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Define the concept of business organization and list down forms of organization. 2. Understand the role of sole proprietorship decision-making at the level of the firm. 3. Understand the concept of Partnership firm and joint stock concerns. 4. Develop the understanding of the concepts of financial institutions like IFCI, SFC, ICICI, IDBI. 5. Understand market structure and apply it to different industries to understand the four P's of marketing structure of these industries. 6. Apply the concepts of advertisement and sales promotion to real life situations.		
Module I: Introduction to Organization Concepts and objectives of business organization, establishment of a new business, pre-establishment considerations and social responsibility of business. Meaning, objective and principles of organization, line and staff, functional organization, concept of scalar chain.		15	1
Module II: Forms of Business Organization Sole Proprietorship: Meaning, characteristics and legal requirements. Partnership firms: Meaning, partnership deed and legal requirements as per Partnership Act 1932. Joint stock concerns: Meaning, features, kinds of companies, legal requirements as per Companies Act 2013.		15	1
Module III: Business Finance Business Finance: Concept, need and significance. Methods of financing: long term, medium term and short term. National finance and international finance. Financial institutions: Brief introduction to IFCI, SFC, ICICI, IDBI. Security market: An introduction to primary and secondary market.		15	1
Module IV: Marketing Marketing: Concept of marketing, four P's of Marketing. Distribution channel: Meaning, importance, and significance of middlemen. Advertisement and sales promotion: Meaning and objectives. Introduction to Consumer Behaviour.		15	1

Suggested Readings:

1. Tulsian P. C. and Pandey V., Business Organization and Management, Pearson Education.
2. Bhushan Y. K., Fundamentals of Business Organization and Management, Sultan Chand and Sons.
3. Chhabra T.N., Business Organisation, DhanpatRai and Sons.
4. Robert., Modern Business Administration, McMillan India. “Data Visualization in Python” by David Landup.

Course Title: Financial Literacy**Course Code: GE44502****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Offer an integrated approach to understand the concepts and applications of financial planning.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Describe the importance of financial literacy and list out the institutions providing financial services; 2. Prepare financial plan and budget and manage personal finances; 3. Open, avail, and manage/operate services offered by banks; 4. Open, avail, and manage/operate services offered by post offices;		
Module I: Introduction Meaning, importance and scope of financial literacy; Prerequisites of Financial Literacy – level of education, numerical and communication ability; Various financial institutions – banks, insurance companies, Post Offices; Mobile App based services. Need of availing of financial services from banks, insurance companies and postal		15	1
Module II: Financial Planning and Budgeting Concept of economic wants and means for satisfying these needs; Balancing between economic wants and resources; Meaning, importance and need for financial planning; Personal Budget, Family Budget, Business Budget and National Budget; Procedure for financial planning and preparing budget; Budget surplus and Budget deficit, avenues for savings from surplus, sources for meeting deficit		15	1
Module III: Banking Services Types of banks; Banking products and services – Various services offered by banks; Types of bank deposit accounts – Savings Bank Account, Term Deposit, Current Account, Recurring Deposit, PPF, NSC etc.; Formalities to open various types of bank accounts, PAN Card, Address proof, KYC norm; Various types of loans – short term, medium term, long term, micro finance, agricultural etc. and related interest rates offered by various nationalized banks and post office; Cashless banking, e-banking, Check Counterfeit Currency; CIBIL, ATM, Debit and Credit Card, and APP based Payment system; Banking complaints and Ombudsman.		15	1

Unit 4: Financial Services from Post Office Post office Savings Schemes: Savings Bank, Recurring Deposit, Term Deposit, Monthly Income Scheme, Kishan Vikas Patra, NSC, PPF, Senior Citizen Savings Scheme (SCSS), Sukanya Samriddhi Yojana/ Account (SSY/SSA); India Post Payments Bank (IPPB). Money Transfer: Money Order, E-Money order. Instant Money Order, collaboration with the Western Union Financial Services; MO Videsh, International Money Transfer Service, Electronic Clearance Services (ECS), Money gram International Money Transfer, Indian Postal Order (IPO)..=	15	1
Suggested Readings: 1. Avadhani, V. A. (2019). Investment Management. Mumbai: Himalaya Publishing House Pvt. Ltd. 2. Chandra, P. (2012). Investment Game: How to Win. New Delhi: Tata McGraw Hill 3. Education. Kothari, R. (2010). Financial Services in India-Concept and Application. New Delhi: Sage Publications India Pvt. Ltd. Milling, 4. B. E. (2003). The Basics of Finance: Financial Tools for Non-Financial Managers. Indiana: universe Company. 5. Mitra, S., Rai, S. K., Sahu, A. P., & Starn, H. J. (2015). Financial Planning. New Delhi: Sage Publications India Pvt. Ltd. Zokaityte, A. (2017). Financial Literacy Education. London: Palgrave Macmillan		

Course Title: Business Economics –I**Course Code: GE44503****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Initial introduction to the topic of economics and business economics. ❖ Demand analysis, its elasticity and forecasting. ❖ Market structure and types of competition in it. ❖ Planning and policies of profit.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Conceptualize the scope of economics and business economics and become familiar with objectives of firm. 2. Analyze market demand and the factors governing it. 3. Identify various methods of demand analysis and demand forecasting. 4. Analyze cost and its concepts and their classification on different basis. 5. Decide about different market structures and the pricing decisions according to them. 6. Conceptualize profit maximization and policies made and planning done to achieve the goal of profit maximization with customer satisfaction.		
Module I: Introduction Business Economics: Definition, Nature and Scope of Business Economics and relationship with other subjects. Fundamental Economic Tools-Opportunity cost concept, Incremental concept, Principle of time perspective, discounting principle and Equi-marginal principle. Role of managerial economics in decision making, Role and responsibility of a managerial economist. Objectives of a firm.		15	1
Module II: Demand Analysis Elasticity of demand: Concepts, types, measurements of elasticity of demand, implications in decision-making. Demand forecasting: meaning and significance of demand forecasting, methods of demand forecasting, characteristics of a good demand forecasting.		15	1
Module III: Production and Cost Analysis Production function, Law of variable proportion and laws of return to scale, Cost concepts and classification of costs. Cost-output relationship: Short run and Long run. Cost curves, Economies and diseconomies of scale. Cost control and reduction.		15	1

Module IV: Pricing Decision and Profit policies and planning Pricing decision policies, Pricing Decisions under different market structures: Perfect competition, monopoly, monopolistic competition, oligopoly. Main features of each market structure, price determination and managerial implications. Pricing policies and methods Concept, theories of profit, measurement of profit. Break-even analysis: Concepts, methods of estimation, application in profit planning.	15	1
Suggested Readings: 1. Ahuja, H. L., Business Economics, S. Chand Limited. 2. Mishra and Puri., Business Economics, Himalaya Publishing House. 3. Koutsoyuianni, Modern Micro Economics, Macmillan.		

Course Title: Business Communication**Course Code: BBAB4201****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Professional communication: written and oral. ❖ Aspects of work team communication, electronic communication and business correspondence planning. ❖ Facets of report writing.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Develop their ability to write and speak efficiently in the workplace. 2. Develop effective interpersonal communication skills. 3. Understand and utilize constructive negotiation and conflict management skills. 4. Use communication technology appropriately and effectively. 5. Prepare letters that meet professional standards of format, presentation and style. 6. Develop clear and meaningful understanding of business reports and its characteristics. 7. Understand how to gather and organize information for a report. 8. Plan, proof-read and edit copies of business correspondence.		
Module I: Understanding Business Communication Communication: Concept, definition, nature, importance and components of communication. Communication process, directions of communications, networks of communication. Types of communication: formal, informal, verbal, and non-verbal. Barriers to communication. Principles of effective communication: 7C's of communication.		15	1
Module II: Work Team Communication Communication in work team: Group communication, Initial group goals, solving group problems: negotiation and conflict, Group Decision Making. Listening skills.		15	1
Module III: Technology and Communication Accessing electronic information: internet, internet protocol, browsing and searching the internet. Sharing electronic information: Word processing, MS-Word. E-mail: Effective e-mail practices. Correspondence Planning, drafting, revising. Replies, routine claim letters, adjustment letter, goodwill messages, congratulating messages, thank-you notes, sympathy notes. Persuasive messages: Request.		15	1

Module IV: Report Writing Characteristics of business reports, types of reports, purpose of reports. Collecting and analyzing data through questionnaire & interviews. Constructing tables, preparing charts and interpreting data. Writing report: planning, drafting, revising, formatting and proof reading.	15	1
Suggested Readings: 1. Kaul A., Business Communication, PHI Learning Pvt. Ltd. 2. Sharma, R.C. and Krishna Mohan, Business Correspondence and Report Writing, Tata McGraw-Hill. 3. Ober Scot, Contemporary Business Communication, Cengage Learning.		

Course Title: Big Data Fundamentals**Course Code: BBAB4202****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ concepts of Bigdata and its importance. ❖ the concept of data ingestion. ❖ the fundamental concepts and tools of Hadoop.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. To introduce the tools required to manage and analyze big data like Hive and pig. 2. Exemplify the role of various tools of hadoop and recognize their impact in business decisions. 3. Develop the skills that will help them to solve complex real-world problems in decision support. 4. Explain the meaning and objective of Hadoop tools 5. learn the fundamental techniques and principles in achieving big data analytics with scalability and streaming capability.		
Module I: Introduction Explain what Big Data is, Describe the complete open-source Hadoop ecosystem and its near-term future directions, Describe the major challenges of data, explain how the growth of interconnected devices contributes big data, List real-life examples of Big Data, List the types of Big Data, Identify Big Data use cases, Describe the evolution from traditional data processing to big data processing,		15	1
Module II: Introduction to Hortonworks Data Platform (HDP): Describe the functions and features of HDP, List the IBM value-add components, explain what IBM Watson Studio is, give a brief description of the purpose of each of the value-add components, Understand the basic need for a big data strategy in terms of parallel reading of large data files and internode network speed in a cluster.		15	1
Module III: Storing and querying data List the characteristics of representative data file formats including flat/text files CSV XML JSON and YAML, List the characteristics of the four types of NoSQL datastores, Describe the storage used by HBase in some detail, Describe and compare the open-source programming languages Pig and Hive, List the characteristics of programming languages typically used by Hbase		15	1

Module IV: Loading data with Sqoop List some of the load scenarios that are applicable to Hadoop Understand how to load data at rest, understand how to load data from common sources such as a data warehouse relational database web server or database logs, explain what is Sqoop Describe how Sqoop can be used to import data from relational systems into Hadoop and export data from Hadoop into relational systems.	15	1
Suggested Readings: 1. Gelman, Andrew, and Jenifer Hill. Data Analysis using Regression and Multilevel/Hierarchical Models 1st ed. Cambridge, UK Cambridge University Press, 2006. ISBN 9780521867061 2. Gelman, Andrew, John B Carlin, Hal S Stern and Donald B. Rubin, Bayesian Data Analysis, 2nd ed. New York: Chapman & Hall 2003, ISBN: 9781584883883 3. Bigdata Analytics Shankarmani wiley 2017, 2nd Edition		

Course Title: Fundamentals of Accounting**Course Code: BBAB4203****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Basic concepts and standards underlying financial accounting systems. ❖ Construction of the basic financial accounting statements as well as their interpretation. ❖ Measurement and reporting of corporate performance.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Understand and perceive the development of accounting and purpose of maintaining records. 2. Prepare financial statements of sole proprietor and explain the meaning of certain key terms. 3. Compute depreciation according to different methods of providing depreciation. 4. Explain the meaning and objective of preparing a Bank Reconciliation Statement. 5. Make appropriate accounting entries under Hire purchase and Installment payment system. 6. Understand and make appropriate accounting entries regarding issue, forfeiture, redemption of shares and debentures.		
Module I: Introduction Meaning and concepts of financial accounting, users of accounting information, fundamental books of accounting, accounting cycle, journal entries, ledger, cash book: three column.		15	1
Module II: Financial Statements Trial Balance: need, importance, limitations. Preparation of trading and P & L Account and balance sheet with simple adjustments.		15	1
Module III: BRS, Depreciation and Hire Purchase Bank reconciliation statement. Depreciation: concept, rationale and methods of SLM, WDV, SFM. Hire purchase and installment systems.		15	1
Module IV: Company Accounts Issue of shares including forfeiture of shares, issue of bonus shares, issue of Preference Share. Debenture: Redemption of Debenture and its methods. Cash conversion. Sinking fund and miscellaneous Accounts.		15	1

Suggested Readings:

1. Chaturvedi C. L., Advanced Accountancy, Shree Mahavir Book Depot.
2. Gupta R. L. and Radha Swami M., Financial Accounting, Sultan Chand and Sons.
3. Gupta R. L., Advanced Accountancy, Sultan Chand and Sons.
4. Maheshwari S.N & Maheshwari S.K, An Introduction to Accountancy, Vikas Publication

Course Title: Quantitative Techniques for Business Analytics II**Course Code: BBAB4204****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Important and growing role of Business Mathematics in modern society. ❖ Reading cum practical applications of Business Mathematics in every field of management. ❖ Working knowledge of current trends, interpretation and relation of these trends to different sectors of firms.		
LEARNING OUTCOMES:	The students should be able to: 1. Use the basic principles of arithmetic and apply mathematical skills to financial decisions. 2. Apply the concept of ratio and percentage on calculating cost, discount, commission and profit & loss. 3. Explain the use of interest, annuities and present value of money and apply this in risk and decision making. 4. Develop strong problem-solving skills and the ability to handle non-routine problems by applying appropriate concepts and notation. 5. Analyze the procedures for Sets, Matrices and Permutation & Combination. 6. Recognize problems that linear programming can handle and find optimal solutions subject to some constraints. 7. Solve basic differentiation and integration problems.	No. of Contact Hours	No. of Credits
Module I: Basic Arithmetic Ratio and Percentage: its application in calculating cost and invoice price, discount, commission and brokerage, Profit & Loss. Progression: Arithmetic, Geometric and Harmonic Progression. Basic problem on Time, speed and distance and Mensuration		15	1
Module II: Algebra and Calculus Permutation and Combination. Surds and Indices, Law of Indices, Simultaneous linear equation Basic operations of Differentiation and Integration.		15	1

Module III: Algebra of Polynomial Algebra of Polynomials - Addition, subtraction, multiplication, and division, Algorithms, Graphs of Polynomials - X-intercepts, multiplicities, end behavior, and turning points, Graphing & polynomial creation, Functions - Horizontal and vertical line tests, Exponential functions, Composite functions, Inverse functions, Logarithmic Functions - Properties, Graphs, Exponential equations, Logarithmic equations	15	1
Module IV: Introduction to vector spaces Introduction to vector spaces - Introduction to vector spaces; Some properties of vector spaces; Linear dependence, Basis and dimension - What is a basis for a vector space?; Finding bases for vector spaces; What is the rank/dimension for a vector space; Rank and dimension using Gaussian elimination	15	1
Suggested Readings: 1. Zameeruddin, Khanna and Bhambri, Business Mathematics, Vikas Publishing. 2. Sharma J. K., Business Mathematics: Theory and Application, Ane Books Pvt. Ltd, 2nd Edition. 3. Shukla S. M., Business Mathematics, Sahitya Bhawan Publication, Agra. 4. Vector Calculus (By Michael Corral) 5. Mathematics for Machine Learning Author: Marc Peter Deisenroth, A. Aldo Faisal, and Cheng Soon Ong. Publisher: Cambridge University		

Course Title: Business Environment**Course Code: BBAB4205****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Business scenarios in today's world. ❖ Various policies, laws and their impact on the business. ❖ General issues relating to the economic and non-economic environment of the business. ❖ Global business environment and the natural environment in which the business operates.		
LEARNING OUTCOMES:	The students should be able to: 1. Understand and enhance their knowledge about the various types of business environment: Political, Economic, Socio-cultural, Legal, Technological and Global environment. 2. Analyze the framework of economic planning, its importance and contribution in regional, national and international context. 3. Comprehend the role of public sector along with various government regulatory acts and policies regarding business environment including industrial, monetary and fiscal policies. 4. Interpret and highlight the impact of globalization, liberalization and privatization with policies related to foreign companies. 5. Develop the understanding of concepts of financial Institutions and economic policies. 6. Get a deeper understanding towards recent economic trends.	No. of Contact Hours	No. of Credits
Module I: Introduction Business Environment: Nature, dimensions and meaning. Components of business environment: economic, political, technological and social environment. Consumerism and consumer protection in India. A brief study of capitalism, socialism and mixed economy.		15	1
Module II: Industrial and Legal Environment Industrial Growth and policy, industrial licensing policy. MRTP. Economic planning: aims, objectives and framework of development planning in India. Legal Environment. India's Fiscal and Monetary Policies.		15	1

Module III: Public Sector and Economic Organizations Public Sector: Concept, Rationale, Government Programme, Role of Public Sector in India. Foreign Trade Policies. Development Banks: IFCI, IDBI, SIDBI, IIBI.	15	1
Module IV: Recent Economic Trends Economic Liberalization, Privatization and Globalization. Foreign investment policy. Export Promotion councils and boards. Import Control. EXIM policy, FEMA, IPR (International and Indian Patent Rights Acts). Anti Pollution Act. Environmental Groups and Bodies. Euro I, II and III Norms, Introduction to Goods and Services Tax.	15	1
Suggested Readings: 1. Mishra S. K. and Puri V. K., Economic Environment of Business, Himalaya Publication. 2. Paul, Justin., Business Environment Text and Cases, Tata McGraw Hill. 3. Shaikh and Saleem, Business Environment, Pearson, 1st Edition.		

Course Title: Big Data Fundamentals-Lab**Course Code: BBAB4206****Course Credit: 2**

COURSE OBJECTIVE:	To familiarize students with: ❖ the concepts of Bigdata and its importance. ❖ the concept of data ingestion. ❖ the fundamental concepts and tools of Hadoop.		
LEARNING OUTCOMES:	The students should be able to: 1. introduce the tools required to manage and analyze big data like Hive and pig. 2. Exemplify the role of various tools of hadoop and recognize their impact in business decisions. 3. Develop the skills that will help them to solve complex real-world problems in for decision support. 4. Explain the meaning and objective of Hadoop tools. 5. learn the fundamental techniques and principles in achieving big data analytics with scalability and streaming capability	No. of Contact Hours	No. of Credits
Module I Implement the following file management tasks in Hadoop: Adding files and directories ● Retrieving files ● Deleting files Hint: A typical Hadoop workflow creates data files (such as log files) elsewhere and copies them into HDFS using one of the above command line utilities. Install and Run Hive then use Hive to create, load, alter, and drop databases and internal, external tables. Install and Run Pig then write Pig Latin scripts to sort, group, and filter your data. Implement sqoop commands. Implement Hbase DDL and DML commands		30	1
Module II Implement joins using pig. Implement Hive bucketing with data set Implement Hive Partitioning with data set Implement the hive joins POC (Proof of concept) on public dataset using hive and pig		30	1
Suggested Readings:			

3. Gelman, Andrew, and Jennifer Hill. Data Analysis Using Regression and Multilevel/Hierarchical Models. 1st ed. Cambridge, UK: Cambridge University Press, 2006. ISBN:9780521867061.
4. Gelman, Andrew, John B. Carlin, Hal S. Stern, and Donald B. Rubin. Bayesian Data Analysis. 2nd ed. New York, NY: Chapman & Hall, 2003. ISBN:9781584883883
5. Bigdata Analytics Shankarmani wiley 2017 2nd Edition
6. IBM Material

Course Title: People Management**Course Code: GE44504****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Meaning of effective people manager. ❖ The programme is designed in such a manner so that the learners can develop leadership and communication skills and manage people in an Organisation effectively.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Perform meditation technique for mind management; 2. Create a personal development plan for oneself 3. Demonstrate decision making skills and prepare Time Management framework in real life situations 4. Analyze the applicability of People First Strategy in an Organisation; 5. Demonstrate team building skills and leadership qualities; 6. Demonstrate skills to resolve conflicts in an Organisation and lead teams.		
Module I: Managing and Evaluating Oneself: Mind Management, Time Management, Tackling Time Robbers, planning workload, Active Listening, Decision Making - steps, managing your Manager, Evaluating and building a personal development plan for oneself.		15	1
Module II: Managing and Motivating Others Basics of People Management and its significance, Difference between People Management and Human Resource Management; impact of individual and Organisational factors on people management, Motivating Others - Employee First Strategy: Employee First Customer Second. Developing Intrinsic Motivation amongst People - People First Strategy: Emerging cases.		15	1
Module III: Building Team and Peer Networks Team Building Process, Managing Diversity in Teams, Competency mapping, Team Roles, Team Identity, Team Charter, Team Performance, Managing Behaviour of people in groups, 360 Degree Feedback as a Development tool. Group Dynamics, Challenges of getting work done; Significance of prioritization and assigning work to team members, Importance of peer networks in an Organisation.		15	1
Module IV: Leading People & Resolving Conflicts Leading people to achieve the vision and mission of the Organisation. Leadership for high performance culture, Leadership Styles for creating conducive Organisational climate and culture of excellence. Managing		15	1

different types of conflicts in an Organisation, Problem solving and quality improvement process.		
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Suggested Readings:

1. Wellington, P. (2011). Effective People Management: Improve Performance Delegate More Effectively. London: Kogan Page Publishers.
2. Thomas, M. (2007). Mastering People Management. London: Thorogood Publishing.
3. Randall, J., & Sim, A. J. (2013). Managing People at Work. Abingdon: Routledge.
4. Thomson, R., & Thomson, A. (2012). Managing People. Abingdon: Routledge.

Course Title: Business Law**Course Code: GE44505****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Essential features of various business laws. ❖ Emerging legal issues in business. ❖ Ethical and logical approaches to deal with business issues and conflicts.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Have sound knowledge of law related to Indian contract act and understand essential features of valid contract. 2. Distinguish between indemnity and guarantee, bailment and pledge and would know about the contingent contracts, remedies for breach of contracts. 3. Describe the sales of goods act with reference to formation of contract of sale and agreement to sell, conditions and warranties, sale of goods by non-owner, delivery of goods. 4. State the nature & definition of companies with their types. 5. Identify the basics of partnership and its formation. 6. Understand the kinds of negotiable instruments and their endorsements.		
Module I: Indian Contract Act Introduction: Nature of contract offer and acceptance, consideration, capacity to contract, free consent, legality of object, agreements declared void, quasi contracts, contingent contracts. Breach of contract, remedies for breach of contract. Indemnity and guarantee. Bailment and pledge. Agency. Performance of contract.		15	1
Module II: The Sale of Goods Act Formation of contract of sale, and agreement to sell, conditions and warranties, implied conditions, caveat emptor, sale of goods by the non owners, delivery of goods, unpaid seller and his rights, remedies for breach of contract of sale.		15	1
Module III: The Companies Act, 2013 Essential characteristics of a company, types of companies. Memorandum and articles of association. Prospectus. Shares: kinds, allotment and transfer. Debentures. Essential conditions for a valid meeting, kinds of meetings and resolutions. Directors, Managing Directors: their appointment, qualifications, powers and limits on their remuneration, prevention of oppression and mismanagement.		15	1

Module IV: Partnership Act and Negotiable Instrument Act Nature of partnership, Registration of firm and effect of non- registration, Rights and duties of partners, Position of Minor. Dissolution of firm: Rights and liabilities of partners on dissolution. Negotiable instruments: Kinds, features, Crossing and types of crossing. Payment in due course, holder and holder in due course, privileges of holder in due course. Dishonour of negotiable instrument, discharge of negotiable instruments, banker and customer.	15	1
Suggested Readings: 1. Kuchhal M. C., Business Law, Vikas Publishing House, New Delhi, 2004. 2. Kapoor N. D., Elements of Mercantile Law, Sultan Chand and Sons, New Delhi, 2003. 3. Gulshan J.J. , Business Law Including Company Law, 13th Edition, New Age International Publisher. 4. Avtar Singh, Principles of Mercantile Law, 7th Edition, Eastern Book Company.		

Course Title: Business Economics II**Course Code: GE44506****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Basic concepts of macroeconomics. ❖ Preliminary concepts associated with the determination and measurement of aggregate macroeconomic variables.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Understand and appreciate the concepts of macroeconomics in theory and practice. 2. Define and measure national income and rates of unemployment and inflation. 3. Use appropriately the marginal efficiency techniques of investment employed in macroeconomic theory. 4. Critically appraise the classical and modern theoretical models of macro market analysis. 5. Understand and apply the concept of economics in the money market. 6. Construct the IS-LM model and establish the relationship between product market and money market.		
Module I: Concepts of Macro Economics and National Income Determination Macro Economics: Definitions, importance, growth, limitations of macro-economics, macro-economic variables. Circular flow of income in two, three, four sector economy, relation between leakages and injections in circular flow. National Income: Concepts, definition, methods of measurement. National income in India. Problems in measurement of national income and precautions in estimation of national income.		15	1
Module II: Macro Market Analysis Theory of full employment and income: classical, modern (Keynesian) approach. Consumption function, relationship between saving and consumption. Investment function, concept of marginal efficiency of capital and marginal efficiency of investment. National income determination in two, three and four sector models. Multiplier in two, three and four sectors model.		15	1
Module III: Money Market Functions and forms of money. Demand for money: Classical, Keynesian and Friedmanian approach. Measures of money supply. Quantity theory of money. Inflation and deflation.		15	1

Module IV: Equilibrium of Product and Money Market The IS-LM model, product market and money market, derivation, shift. Equilibrium of IS-LM curve, Application of IS-LM model in monetary and fiscal policy.	15	1
Suggested Readings: 1. Dwivedi, D. N., Macro Economics, Tata McGraw Hill, 2005. 2. Edward Shapiro, Macro-Economic Analysis, Tata McGraw Hill, 2003. 3. Khanna, O.P. and Jain, T.R., Macroeconomics, F.K. Publications.		

Course Title: Descriptive Analytics**Course Code: BBAB4301****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ how analytics provided a solution to industries using real case studies. ❖ how a business analysis software works, and its architecture ❖ in designing different report types. ❖ Summarizing Reports for Analysis.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Understand and critically apply the concepts and methods of business analytics. 2. Understand Power BI concepts like Microsoft Power BI desktop layouts, BI reports, dashboards, and Power BI DAX commands and functions 3. Learn how to experiment, fix, prepare and present data quickly and easily 4. Explain the meaning and objective of business intelligence tool for managing and analyzing data. 5. Interpret results/solutions and identify appropriate courses of action for a given managerial situation whether a problem or an opportunity 6. Understand and Form relationships in your data model and learn data visualization best practices		
Module I: Analytics Overview The history of analytics and how it has changed today. Understanding how to analyze unstructured data. Understanding how analytics is making the world smarter. Understanding where the future of analytics lies. Explaining why successful enterprises need business analytics. defining various types of analytics. Explaining how analytics supports retail companies. Understanding how analytics can reduce crime rates and accidents. Explaining the use of analytics in law enforcement and insurance companies. Comprehend how big data and analytics can help in understanding consumer/customer behavior.		15	1
Module II: Business Intelligence using Tools Power BI – Advantages and Scalable Options, History – Power View, Power Query, Power Pivot, Business Analyst Tools, MS Cloud Tools, Power BI Installation and Cloud Account, Power BI Cloud and Power BI Service, Power BI Architecture and Data Access, Sample Reports and Visualization Controls,		15	1

Power BI Cloud Account Configuration. Understanding Desktop & Mobile Editions, Report Rendering Options and End User Access, chart report types and properties, stacked bar chart, stacked column chart, clustered bar chart, clustered column chart, 100% stacked bar chart, 100% stacked column chart line charts, area charts, stacked area charts, line and stacked row charts, line and stacked column charts, waterfall chart, scatter chart, pie chart, Field Properties: Axis, Legend, Value, Tooltip, Field Properties: Color Saturation, Filters Types, Formats: Legend, Axis, Data Labels, Plot Area, Data Labels: Visibility, Color and Display Units		
Module III: IBM Cognos Analytics Demonstrating how to apply business intelligence. Learning how to access content, use reports, and create dashboards. Group, format, and sort list reports. Describing the various options for aggregating data.. Creating filters to narrow the focus of reports. Examining detail filters and summary filters. Determining when to apply filters on aggregate data. Formatting and sort crosstab reports. Creating charts containing peer and nested columns. Presenting data using different chart type options. Introduction to visualization. Presenting key data in a single dashboard report. Identifying various prompt types. Using parameters and prompts to focus data. Searching for prompt types. Reusing objects within the same report. Sharing layout components among separate reports. Discussing report templates.	15	1
Module IV: Summarize report information Passing parameter values to filter the data in drill-through targets, Modifying existing report structures. Applying horizontal formatting. Specifying print options for PDF reports, Describing Active Reports, and their value. Saving Active Reports. Creating Active Reports , Converting existing reports to Active Reports	15	1
Suggested Readings: 7. IBM Cognos Business Intelligence V10.1 Handbook, An IBM Redbooks publication 8. IBM Cognos Business Intelligence by O'Reilly 9. <i>A Practical Guide to Self-Service Data Analytics with Excel 2016 and Power BI Desktop (2nd Edition)</i>		

Course Title: Marketing Research**Course Code: BBAB4302****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Concept and relevance of marketing research ❖ Marketing research process and report preparation.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Describe marketing research process and illustrate its applications. 2. Identify various types of experimental errors. 3. Apply sampling techniques in research process. 4. Formulate hypothesis. 5. Distinguish and select between different methods of data collection. 6. Prepare analysis and interpretation of research work. 7. Prepare a research report.		
Module I: Introduction to Marketing Research and Research Design Introduction of Marketing Research: Definition, aims and objectives of marketing research, Applications of marketing research, Marketing information system, Evaluation and control of marketing research, Value of information in decision making, Steps in marketing research. Research Design: Formulating the research problem, Choice of research design, Types of research design and Sources of experimental errors.		15	1
Module II: Sample and Sampling Design Sample and Sampling Design: Some basic terms, Advantages and limitation of sampling, Sampling process, Types of sampling, Types of sample designs, Determining the sample size, Sampling distribution of the mean, Testing of hypothesis.		15	1
Module III: Data Collection, Data Processing and Tabulation Methods of data collection: Secondary data, Sources of secondary data, Primary data, Collection of primary data, Observation, Questionnaire, Designing of questionnaire, Interviewing. Data Processing and Tabulation: Editing, Coding, Problems in editing, Tabulation.		15	1
Module IV: Data Analysis, Interpretation and Report Writing Data Analysis: Measurement of central tendency, Dispersion, Univariate analysis, Bivariate analysis, Multidimensional analysis I, Multivariate analysis II, Factor analysis, cluster analysis, multidimensional analysis, conjoint analysis. Interpretation and Report Writing: Interpretation, Types of research reports, Guidelines for writing a report, report format, Evaluation of research report.		15	1

Suggested Readings:

1. Beri, G.C., Marketing Research, Tata McGraw Hill, 2003.
2. Gupta, S.L., Marketing Research, Excel Books, 2004.
3. Aaker, Marketing Research, John Willey & Sons, 2001.
4. Tull & Hawkins, Marketing Research, Prentice Hall of India, 2000.

Course Title: Marketing Management**Course Code: BBAB4303****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ All aspects of marketing, including product planning & development, promotion, distribution, pricing and branding. ❖ Theories of the marketing mix variables. ❖ Practical applications of marketing theories in the context of the marketing management.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Understand and appreciate the concept of marketing in theory and practice. 2. Identify different types of marketing environment and the forces which affect the working of the company in short and long run. 3. Understand segmentation and learn different ways of selecting the appropriate target and positioning the product in the market. 4. Discuss different types of products, levels of hierarchy and classification of products along with the concept of branding and its types. 5. Describe the marketing channels, channel dynamics and pricing of the products. 6. Evaluate different promotional strategies and media planning.		
Module I: Introduction and Marketing Segmentation Marketing: Nature, meaning, scope, concepts and orientation towards market. Marketing mix. Customer's value and satisfaction: concepts and delivery. Marketing environment: Needs and trends in macro environment forces. Introduction to strategic marketing. Segmentation: Concept of market Segmentation, Patterns and Process of Segmentation, Segmenting Consumer Markets. Market Targeting. Positioning concept and types.		15	1
Module II: Concepts of Product and Branding Product: Concepts, Product Level Hierarchy, Classification of Products, Product Mix, Product Line, Product Life Cycle, Product Positioning. Brand: Concept, Challenges, Brand Equity, Brand Repositioning.		15	1
Module III: Marketing Channels and Pricing Nature of Marketing Channels, Channel functions and flows, Channel Design and Management Channel Dynamics, Factors affecting choice of distribution channel Pricing: objectives, factors influencing pricing, basic methods of pricing and pricing strategies.		15	1

Module IV: Promotion and Marketing Program Promotion: Promotion Mix. Managing Advertisement: Objectives, Budget, Message. Media planning and Sales Promotion Tools.	15	1
Suggested Readings: 1. Kotler Philip and Armstrong G., Principles of Marketing, Pearson. 2. Sherlekar S. A., Marketing Management, Himalaya Publishing House. 3. Saxena R., Marketing Management, Tata McGraw Hill.		

Course Title: Human Resource Management**Course Code: BBAB4304****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Importance and function of HR department. ❖ Process of recruitment and selection. ❖ Different training methods used for employees. ❖ Wage determination and welfare activities for employees.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Understand HRM and its objectives and identify its importance and functions in present scenario. Meaning and importance of Human Resource Development 2. Explain manpower planning and personnel policies. 3. List the factors affecting recruitment and sources of recruitment. 4. State the objectives of promotion, demotion and transfer. 5. Describe the basic concepts of different training and development methods used for employees. 6. Understand concept of career planning and counseling. 7. Distinguish between performance appraisal techniques. 8. Identify wage determination & incentive plan and also different welfare activities for employees.		
Module I: Introduction Basic of HRM: Concept, objectives, importance and functions of HR department. Manpower planning. Personnel policies, programs and procedures. Staffing: Recruitment: Factors affecting recruitment, sources of recruitment. Selection: Process, selection test, interview, group discussion, orientation, placement, promotion, demotion, transfer and job analysis		15	1
Module II: Training & Development and Performance Appraisal Objectives and importance of training. Training methods: on the job training, vestibule training, apprenticeship. Development methods: case study, business games, in basket, role playing, sensitivity training, transactional analysis, special courses, coaching, understudy, position rotation, multiple management, selective readings, special meetings and special projects Welfare activities, Health and safety to workers, social security measures. Wages and salary determination, Performance appraisal: objectives, methods and job evaluation.		15	1

Module III Human Resource Development HRD: Meaning, need, mechanism, processes and outcomes, HRD strategies, HRD areas, individual employee, the role, the team, the Organization. HRM matrix. Role of line manager in HRD. Various forms of HRD Organization, HRD departments and their tasks. Trends of issues relating to HRD functions. Task Analysis: Meaning & Uses. Potential Appraisal	15	1
Module IV Job Enrichment, Stress Management & HR Analytics Job Enrichment: Concept, Principles, steps for job enrichment, hurdles in job enrichment, making job enrichment effective, job and work redesign. Stress Management: Definition, sources of stress, consequences of stress, managing stress. Introduction to HR Analytics, Functions and needs of HR Analytics, Key issues in HR Analytics, Dealing with challenges in HR Analytics, Basic Tools in HR Analytics. Meaning and concept of Human Resource Information system.	15	1
Suggested Readings: 1. Aswathappa K., Human Resource and Personnel Management, TMH, 5th Edition. 2. Rao V.S.P., Human Resource Management: Text and Cases, Excel Books, 2nd Edition. 3. Ivansevich, Human Resource Management, Tata McGraw Hill, 10th Edition. 4. Predictive HR Analytics: Mastering the HR Metric Kirsten & Martin Edwards		

Course Title: Descriptive Analytics-Lab**Course Code: BBAB4305****Course Credit: 2**

COURSE OBJECTIVE:	To familiarize students with: ❖ how analytics provided a solution to industries using real case studies. ❖ how a business analysis software works, and its architecture ❖ Designing different report types. ❖ Summarizing Reports for Analysis.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Understand and critically apply the concepts and methods of business analytics. 2. Understand Power BI concepts like Microsoft Power BI desktop layouts, BI reports, dashboards, and Power BI DAX commands and functions 3. Learn how to experiment, fix, prepare and present data quickly and easily 4. Explain the meaning and objective of business intelligence tool for managing and analyzing data. 5. Interpret results/solutions and identify appropriate courses of action for a given managerial situation whether a problem or an opportunity 6. Understand and Form relationships in your data model and learn data visualization best practices		
Module I: Create a report from a personal data source Create a report using filters, detail filter on fact data in a report Conditionally format one crosstab measure based on another Create a gauge report and a pie chart report Create a prompt by adding a parameter, add value and select-search prompt in a report		30	1
Module II: Add calculations to a report and display prompt selections in the report title Creating Bins and Distributions using Power BI Working and exploring the Bar graph , scatter graph in Power BI Develop a dashboard using Power BI using custom datasets Creating a Customer Segmentation Dashboard		30	1

Suggested Readings:

1. IBM Cognos Business Intelligence V10.1 Handbook, An IBM Redbooks publication
2. IBM Cognos Business Intelligence by O'Reilly
3. *A Practical Guide to Self-Service Data Analytics with Excel 2016 and Power BI Desktop (2nd Edition)*

Course Title: Organization Behaviour and Principles of Management**Course Code: GE44507****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Topics and concepts in the field of Organizational Behaviour. ❖ Practical implications of various theories of human behaviour at work. ❖ Specific topics such as leadership, motivation, personality, perception, etc.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Understand the concept of behaviour at workplace and analyze the work values, relations between attitude and behaviour. 2. Understand the concept of personality, perception, learning and their implication on individual life as well as on workplace. 3. Devise methods to increase motivation and handle emotions in work setting. 4. Understand the management practices of business organizations in the dynamic global environment 5. Comprehend effective management planning and organizing staff 6. Get an understanding of the basic principles of motivation and leadership		
Module I: Introduction to Organization Behavior Concept and nature of Organizational behavior, Contributing disciplines to the field of O.B, O.B. Models, Need to understand human behavior, Impact of Global and Cultural diversity in OB. Ability & Values. Attitudes: Formation, Theories, And Personality: determinants and traits.		15	1
Module II: Motivation and Leadership Motivating and Leading: Nature and Importance of motivation, Types of motivation, Theories of motivation: Maslow, Herzberg, X, Y and Z. Leadership and its Types.		15	1
Module III: Introduction to Principles Management Concept, nature, process and significance of management. Managerial levels, skills, functions and roles. Management Vs. Administration. Coordination as essence of management. Development of management thought: classical, neo-classical, behavioral, systems and contingency approaches.		15	1
Module IV: Planning & Organizing, Directing & Control Planning: Nature, scope and objectives of planning, Types of plans, Planning process		15	1

Organizing: Concept, process and significance. Principles of an organization, Types of organization: Formal and Informal Organization. Directing: Concept & principles of directing Controlling: Concept, Principles, Process and Relationship between planning and controlling		
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Suggested Readings:

1. Prasad, L.M., Organizational Behaviour, Sultan Chand and Sons, 2003.
2. Stephen P. Robbins, Organizational Behaviour, Prentice Hall of India Pvt. Ltd., New Delhi, 2003.
3. Luthans Fred, Organizational Behaviour, Tata McGraw Hill, New Delhi, 2003.
4. Chhabra T.N. and Singh B.P., Organization Behaviour, Sultan Chand and Sons.
5. Stoner, Freeman and Gilbert Jr., Management, Prentice Hall of India, New Delhi, 2003.
6. Gupta, C.B., Management Concepts and Practices, Sultan Chand and Sons, New Delhi, 2003.
7. Koontz, O Donnel and Weirich, Management, Tata McGraw Hill Publishing Company, New Delhi, 2001

Course Title: Rural Management**Course Code: GE44508****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ The role of rural sector in the development of the country's economy in recent years. ❖ The rural market, consumers and marketing strategies for the rural sector. ❖ The working of Co-operative Credit Societies and various financial schemes for rural development.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Discuss rural management, its scope and the rural problems & their remedies. 2. Identify the characteristics of rural consumers, their sources and structure of income. 3. Understand the rural financial environment for rural development. 4. Explain the Credit policies, deposits schemes and various credit programmes for rural development. 5. Explain various marketing strategies adopted by rural industry for seeds, fertilizers and other rural products. 6. Understand the working of Co-Operative Credit societies. 7. Illustrate some successful co-operative organizations.		
Module I: Introduction Definition, Scope and Importance of Rural Management. Agriculture and Non-Agriculture sections of Economy. Rural Development problems and Remedies.		15	1
Module II: Rural Consumer and Rural Finance Consumption theory and Characteristics of Rural Consumers. Village Economy sources and structure of Income. Rural Financial Environment: Organization of rural Credit supply, Credit Planning and Implementation of Credit Programmers for Rural Development, Saving and Deposits. Mobilization in Rural India.		15	1
Module III: Rural Marketing Marketing: Meaning, principles and practice. Rural marketing for Seed, Fertilizers, Pesticides Machinery and other inputs of Rural Industry. Marketing Strategies for rural industry.		15	1
Module IV: Co-operative Management Co-operation: Meaning, Objectives and Scope. Development of Co-operatives in Rural Area: Co-operative Credit Societies& Co-operative Marketing. Some successful Co-operative organization.		15	1

Suggested Readings:

1. Kashyap ,Pradeep., Raut, Siddhartha. And Biztantra ., Rural Marketing.
2. GopalSwamy, T.P. , Rural Marketing, Vikas Publishing House, 2/e
3. Barkar, J.W., Agricultural Marketing, Oxford University Press, New York.
4. Mathur., Rural Marketing ,Excel Books.

Course Title: Integrated Marketing Communication**Course Code: GE44509****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Knowledge, understanding and skills in Integrated marketing communication among the student. ❖ Understanding about the subject matter by instilling them basic ideas about IMC and advertising ❖ The role of E-Commerce in Marketing Communication ❖ Apply an IMC approach in the development of an overall advertising and promotional plan. ❖ Enhance creativity, critical thinking and analytical ability through developing an integrated marketing communication campaign		
LEARNING OUTCOMES:	The students should be able to: 1. Appreciate and use of the range of tools available for marketing communications. 2. Get an understanding of the basic principles of planning and execution in Integrated Marketing Communications. 3. Evaluate the functions of advertising agency and understand how effective advertisement made. 4. Develop a managerial perspective and an informed decision-making ability for effective and efficient tackling of promotional situations. 5. Evaluate the role of E-Commerce in Marketing Communication and their practical implication in marketing field. 6. Apply Sales Promotion schemes with different marketing strategies and to identify relationship between Sales promotion and advertising.	No. of Contact Hours	No. of Credits
Module I: Introduction Integrated Marketing Communication (IMC): concepts and process, IMC promotion Mix, Advertising -Meaning, objectives its role and functions, Classification of advertising, economic, social and ethical issues in advertising, DAGMAR approach, STP strategies in advertising, Advertising Agencies		15	1
Module II: Advertising Process Process in Advertising: Consumer and mental process in buying, AIDA model, Hierarchy of effects model, Information processing model, Advertising Budget		15	1

– Top down and Build up approach, methods of advertising – Affordable method, arbitrary allocation method, percentage of sales method, competitive parity method, Objective and Task method.		
Module III: Advertising Creativity and Appeals Advertising Creativity: Meaning of creativity, Creative strategy, Creative tactics. Advertising Appeals, USP theory of creativity, Copywriting: Meaning and Definition of Copywriting, The Copywriter, Copywriting for Print, Copywriting guidelines, Radio Copywriting, TV Copywriting, Writing for the Web, Tips for writing good web content	15	1
Module IV: Media Planning Media Planning and Strategy: Media Types and their characteristics; Setting Media objectives; Steps involved in media planning, evaluation of media, media scheduling strategy, Evaluation of advertising effectiveness – need and purpose of evaluation, pre-testing and post testing techniques, Advertising research, decision areas in international advertising. Role of E-Commerce in Marketing Communication, Corporate Communication.	15	1
Suggested Readings: 1. George E Belch & Michael A Belch: Advertising and promotion- An integrated Marketing Communication Perspective-McGraw Hill Education 2. Chunawala & Sethia : Foundations of Advertising Theory & Practice; Himalaya Publishing House 3. Copley Paul: Marketing Communications Management Concepts & theories, Cases and Practices; Butterworth Heinemann Publication.		

Course Title: International Financial Management**Course Code: SEC44501****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ International financial management and international trade. ❖ Foreign exchange rate fluctuations and political risk that have a basic bearing on management of global investment and financing decisions. ❖ Institutions of international financial markets, instruments, trade modalities. ❖ Impacts and responses of governments, markets, and firms to various international situations.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Understand the globalised and integrated economic environment of international trade. 2. Comprehend the fundamental concepts of International Finance and Exchange Rate Systems. 3. Determine the role of International Institutions and risk management in International Trade. 4. Understand the existence of various currency and negotiable instruments in international market. 5. Analyze and use the tools, techniques and strategies to make International finance related decisions. 6. Discuss issues involved in international investment and financing alternatives, international trade financing, and international working capital management.		
Module I: International Financial Environment International economic environment: Issue and dimensions. International financial flow: Comparative Cost Advantage Theory and Balance of payment framework. Indian Experiences in International Capital Market. Instruments of Sources of Finance in International Financial Market: ADR, GDR, EURO BOND etc.		15	1
Module II: Foreign Exchange Risk Management Foreign exchange markets and instruments. Exchange rate determination and Factors forecasting: Foreign exchange risk, Management of Risk, Currency Risk Management, Country Risk Management.		15	1
Module III: International WCM and Export & Import Financing International Working Capital Management: Concept and financing foreign trade. International financing systems and institutions. International Cash Management, International Receivables and Inventory Management. Export Financing and Import Financing, Modes of Payment: DA/DP, L/C, and consignment basis.		15	1

Module IV: Multinational Business Financing Project Appraisal: An International Context. Multinational business finance: trends towards international operations, changing Organization and structure of multinational business. Reason for foreign investment: benefits and risks. Accounting treatment of foreign subsidiaries. International capital budgeting: evolution, investment opportunities, financing the project, strategic tie-up mergers and takeovers.	15	1
Suggested Readings: 1. Apte P.G., International Financial Management, Tata McGraw Hill. 2. Somnath V.G., International Financial Management, I. K. International Pvt. Ltd. 3. Jain P.K., International Financial Management, Macmillan India Limited, 1 st Edition. 4. Cheol S. Eun and Bruce G. Resnick, International Financial Management, Tata McGraw Hill.		

Course Title: Training & Development**Course Code: SEC44502****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ The concept and practice of Training and Development in the modern organisational setting through the pedagogy of case discussions and recent experiences	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Analyze the training strategies adopted by companies in real situations; 2. Identify training needs of an individual by conducting Training Need Analysis; 3. Differentiate between the applicability of various training strategies and select a strategy based upon the result of TNA; 4. Develop a training and development module; 5. Evaluate and assess the cost and benefits of a training and development programme.		
Module I: Introduction: Concepts and Rationale of Training and Development; overview of training and development systems; organizing training department; training and development policies; linking training and development to company's strategy; Requisites of Effective Training; Role of External agencies in Training and Development.		15	1
Module II: Training Need Analysis (TNA) Meaning and purpose of TNA, TNA at different levels, Approaches for TNA, output of TNA, methods used in TNA.		15	1
Module III: Training and Development Methodologies: Overview of Training Methodologies- Logic and Process of Learning; Principles of Learning; Individual differences in learning, learning process, learning curve, learning management system; Criteria for Method Selection; Skills of an Effective Trainer; Use of Audio-Visual Aids in training; Computer Aided Instructions Distance Learning, Open Learning, E- Learning; Technologies Convergence and Multimedia Environment. Development Techniques for enhancing decision-making and interpersonal skills, Case-study, in-basket exercise, special projects, multiple management Programme Learning, Action learning, Syndicate Work, Games, Action Maze, Role Play; Demonstration and Practice Monitoring; Coaching; Self Diagnostic Skills, Experience Learning, Discovery Learning, Brainstorming, Counselling, Position Rotation, Team Building, and Sensitivity Training		15	1

Module IV: Designing Training & Development Programme and its Evaluation Organisation of Training and Development programmes, Training design, kinds of training and development programmes- competence based and role-based training; orientation and socialization; diversity training, choice of training and development methods, Preparation of trainers; developing training materials; E-learning environment; Flexible learning modules; Self-development; Training process outsourcing Evaluation of Training and Development Reasons for evaluating Training and development programmes,	15	1
Suggested Readings: 1. Blanchard, N. P., & Thacker, J. W. (2012). Effective Training: Systems, Strategies and Practices. New York: Pearson Education. 2. Noe, R. A., & Kodwani, A. D. (2018). Employee Training and Development. New York: McGraw Hill Education. 3. Prior, J. (1991). Handbook of Training and Development. Mumbai: Jaico Publishing House.		

Course Title: Direct and Digital Marketing**Course Code: SEC44503****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ The scope of online and offline marketing. ❖ The business and marketing objectives in today's challenging environment. ❖ The effective and emerging trends of digital marketing and online advertising.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Understand direct and digital marketing strategies and its underpinning principles and concepts. 2. Examine role and applications of marketing research, and the concept and practice of profiling, segmentation and targeting. 3. Discuss multichannel marketing, customer behaviour, brands and integrated marketing communications. 4. Develop the strategy, plan, implement and evaluate effective, integrated direct and digital marketing programmes. 5. Examine ROI driven customer acquisition campaigns and key metrics. 6. Gain a thorough understanding of the creative process from proposition to promotional delivery. 7. Explore the direct & digital future and looking at trends that shape the use of technology.		
Module I: Direct Marketing Direct Marketing: Introduction, Definition, Scope, Objectives, Growth and Benefits of Direct Marketing. Benefits to Buyers, Benefits to Sellers, New Direct Marketing approaches, Integrating the communication, Direct Marketing Media, Developing a positioning strategy, Managing the creative process, Copy appeals, Guidelines to create good copy, Improving the mailing package.		15	1
Module II: Direct, Mail Marketing Forms of Direct Marketing: Direct, Mail Marketing, Catalog Marketing, Telephone Marketing, Direct, Response Television Marketing, Direct Response Radio marketing, Kiosk Marketing, Direct Response in print media, B2B Direct Marketing. New Digital Direct Marketing Technologies, Managing the lead generation program, Direct Marketing profitability, Direct Marketing testing and experimentation, Direct Marketing research and its future.		15	1
Module III: Introduction to Digital Marketing Introduction to Digital marketing and its Evolution, digital marketing for the 21st century, Importance and scope of digital marketing. Working of websites: dynamic, static, blogs. Search engine optimization marketing. Introduction to Search Engines: Google guidelines, Best Practices, Quality guidelines, Design guidelines, Search engine page results, familiarizing Google results. Working		15	1

of Google: Search engine ranking methods, Techniques to get on top of Google, Meta tags best practices.		
Social media: Examples, Uses, Impact and benefits of social media. Analytics.		
Module IV: Digital Marketing Management Online Ads, Working of online ads: Interactive ads, Creative ads, Google Ad words, Online ad methods. Types of online advertisements: Face book ads, LinkedIn ads, Video ads, Text ads, Image ads, Local ads, Content network ads. Best practices, Campaign set up, Billing, Budget, Segment, Audience Effective Ads. Calculating ROI, Budget, Choosing ad partner. Digital Marketing Management: Role of web marketing manager, Web marketing department structure, Roles and responsibilities, Job description, Targets and goals. Digital Marketing Plan: Goals, objectives, KPI's, Market research, Value creation process.	15	1
Suggested Readings: 1. McDonald, William. J., (1998), Direct Marketing: An integrated approach, McGraw Hill, Singapore, 1st Edition, 2. Stone, Bob., (1995), Successful Direct Marketing Methods, NTC Business BOOK, USA, 5th Ed. 3. Chaffey, Dave. and Chadwick, Fiona Ellis.,(2012), Digital Marketing: Strategy, Implementation and Practice, Pearson Education.		

Course Title: Database Management System**Course Code: SEC44504****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ The evolution of Database Management system. ❖ The importance of database technology in today's environment and to use this technology to manage their own data requirements. ❖ The know, how of database design and their applications.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should able to : 1. Understand the role of Database management system applicable in an organization. 2. Analyze the role of keys in designing the database. 3. Interpret languages of data and architecture of DBMS. 4. Know the handling of file and normalization of data. 5. Understand and construct the security system relevant to database management system. 6. Categorize the various system devices that apply to database management system.		
Module I: Introduction Data Base Management System: Introduction, Advantages and Disadvantages. Data Models: Network data model, Hierarchical data model, Relational data model. Keys: Primary Key, Foreign Key and Candidate Key. Referential Integrity.		15	1
Module II: Languages of Data and DBMS Architecture DDL and DML. E,R Diagram. Architecture of DBMS. Data Independence. Schema and Subschema. Functions of DBA.		15	1
Module III: File Handling Types of files: Sequential files, Random files and Indexed Sequential files. Functional Dependency. Normalization: 1NF, 2NF, 3NF, BCNF.		15	1
Module IV: System Devices and Security System Input and Output devices, offline storage devices, Tapes, Disks, Drums Information System and their Application. Programme Files, Security Consideration in Data Base Management System and performance improvements in Data Base.		15	1

Suggested Readings:

1. Leon, Alexis. and Leon ,Matthews., Data Base Management System ,Leon Vikas Publishing.
2. Ramakrishnan, R. and J. Gehrke., (2000), Database Management Systems, McGrawHill, Company, Higher Education.
3. Elmasri, R. and S B Navathe.,(2000), Fundamentals of Database Systems, Addison Wesley.

Course Title: Predictive Analytics**Course Code: BBAB4401****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ an overview of Predictive Analytics. ❖ the tools required For the Predictive Analytics. ❖ skills that will help them to solve complex real-world problems in for decision support. ❖ Designing different models of predictive modeling.		
LEARNING OUTCOMES:	The students should be able to: 1. Understand and critically apply the concepts and methods of Predictive analytics. 2. Understand and apply IBM SPSS Modeler in Data Mining, what kinds of data can be mined, what kinds of patterns can be mined. 3. Apply and analyze how to use functions, deal with missing values, use advanced field operations, handle sequence data and improve efficiency. 4. evaluate the Model on the basis of different Predictive Methods.	No. of Contact Hours	No. of Credits
Module I: ANALYTICS OVERVIEW Definition of business Analytics with real time examples, How Predictive analytics: Transforming data into future insights, Analytics trends: Past, Present & Future, Towards a Predictive enterprise.		15	1
Module II: IBM SPSS MODELER & DATA MINING What is a Data Mining applications? Strategy for data mining: CRISP-DM, Identify nodes and streams, The framework of a Data – mining project, Brief the unit of analysis, Explain the type of dialog box.		15	1
Module III: UNIT OF ANALYSIS Concepts of Unit of analysis (Distinct, Aggregate, SetToFlag), Integrate data, CLEM Expression, Role of Relationship between two fields, Identifying the modeling objective.		15	1

Module IV: PREDICTIVE ANALYTICS WITH IBM WATSON STUDIO IBM Watson Studio, Watson studio Components, Data preparation, Watson Machine learning, Data Refinery, Watson Studio Neural Network Modeler, IBM Watson Studio jobs, Use case with AutoAI.	15	1
Suggested Readings: 1. IBM Courseware 2. Predictive Analytics Mesmerizing & fascinating By ERIC SIEGEL		

Course Title: Planning Analytics**Course Code: BBAB4402****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Financial Performance Management ❖ the Overview of Cognos TM1 ❖ Importing Data to Create Objects ❖ Creating and Customizing Dimensions & Cubes	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Understand how to get flexible and timely planning answers 2. create world-class score carding and dashboarding 3. create Accurate reporting and analysis		
Module I: Performance Management Understanding of Enterprise Performance Management Finance function in an organization financial performance management Importance of financial performance management for CFO; Architecture and components of Planning Analytics /TM1 server fundamentals modeling concepts TM1 MOLAP Solution In-Memory Data Storage.		15	1
Module II: Identify Common Data Structure Identify characteristics of Operational and Reporting Databases Online Analytical Processing Core Model Design Principles create a TM1 model and deploy it; Guided Import data to create a dimension Import Data to Create and populate cube; Cubes dimensions and elements Create dimensions manually Import dimensions Edit dimensions Create dimension calculations		15	1
Module III: Create and Customize Cubes Construct a new cube property Edit a cube structure Review and use a pick list Create cube calculations; Import Data: Identify data sources Create processes to load data Create a process to delete data in a cube Create processes to update and maintain the model; Share Data Across Cubes with Links: Types of links Create and modify links Review rule- and process-based links.		15	1
		15	1

Module IV: Customize Business Rules and Creation of Applications

Rule Automatically generated rules Rule Blocks Disable & Enable auto-generated rules Manual Rules; Optimize Rule Performance: Consolidations and Sparsity SKIPCHECK FEEDERS Application types Create a new application Apply security in the application Activate and de-activate an application; Additional Modeling Techniques: Create dynamic subsets.

Suggested Readings:

1. Fintech: The Beginner's Guide to Financial Technology Paperback by Jacob William ISBN-10 1533443866 Publisher: CreateSpace Independent Pub
2. Supply Chain Planning and Analytics by Gerald Feigin Publisher: Business Expert Press
3. IBM Cognos TM1 Cookbook Publisher Packet Publishing ISBN 9781849682114

Course Title: Financial Management**Course Code: BBAB4403****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Financial decisions made by financial managers. ❖ Theories of finance. ❖ Techniques which assist in the decision making process. ❖ Capital Structure for the value maximization of the firm.		
LEARNING OUTCOMES:	The students should be able to: 1. Identify financial management techniques with their implications in business. 2. Understand investment and financial decisions to maximize the value of the firm and Shareholder's wealth maximization. 3. Evaluate and make capital budgeting decisions based on NPV, IRR and PI concepts. 4. Understand the relevance of Cost of capital and weighted average cost of capital. 5. Prepare the working capital requirements of different projects and firms. 6. Understand how specific techniques and decision rules can be used to develop Capital structure for an organization. 7. Reconcile the leverage effect of capital mix and impact of leverage.	No. of Contact Hours	No. of Credits
Module I: Introduction Nature and scope of financial management, finance function, profit/wealth maximization. Functions of financial managers. Concept of time value of money. Sources of finance: Short Term sources, Long term sources and shares debentures, term loans, GDR, mutual funds, venture capital financing.		15	1
Module II: Capital Budgeting Meaning, objectives, nature of investment decisions. Pay back methods, net present value method, profitability index, and internal rate of return method.		15	1
Module III: Cost of Capital and Management of Working Capital Introduction, significance, concept, components of cost of capital. Capital Asset Pricing Model. Weighted Average Cost of Capital. Working capital management: meaning, scope, Importance, determinants and sources. Approaches of working Capital Management of Cash, inventories and receivables.		15	1

Module IV: Capital Structure Capitalization: meaning, importance, Over Capitalization, under capitalization and optimum Capitalization. Capital Structure: meaning, forms and determinants of capital structure, operating and financial leverage, planning the capital structure by EBIT-EPS Analysis.	15	1
Suggested Readings: 1. Maheshwari S.N., Financial Management, Principles and Practice, Sultan Chand and Sons, 9th Edition 2004. 2. Khan M.Y and Jain P.K., Financial Management, Tata McGraw Hill, 2001, 3rd Edition. 3. Pandey I. M., Financial Management, Vikas Publishing House, Revised Ed., 2003		

Course Title: Data Warehousing and Mining**Course Code: BBAB4404****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: 1. Understand the architecture of Data warehouse and its organization. 2. Introduce DM as a cutting edge business intelligence method and acquaint the students with the DM techniques for building competitive advantage through proactive analysis, predictive modeling, and identifying new trends and behaviors. 3. Describing and demonstrating basic data mining algorithms, methods, and tools. 4. Identifying business applications of data mining. 5. Overview of the developing areas - web mining, text mining, and ethical aspects of data mining.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	After successful completion of this course, the students would be able to: 1. Define what knowledge discovery and data mining are; define the concept, structure and major issues of data warehousing. 2. Discover interesting patterns from large amounts of data to analyze and extract patterns to solve problems, make predictions of outcomes. 3. Select and apply proper data mining algorithms to build analytical applications. 4. Comprehend the roles that data mining plays in various fields and manipulate different data mining techniques.		
Module I: Introduction: Data Mining Definition, Steps In Data Mining, Architecture Of Data Mining System, Types Of Data For Data Mining: Relational Databases, Data Warehouses, Transactional Databases, Adverse Data Information System And Advance Applications, Classification Of Data Mining Systems, Data Mining Task Primitives, Integration Of A Data Mining System With A Data Base Or Data Warehouse System, Major Issues In Data Mining, Approaches to Build A Data Warehouse, Building A Data Warehouse, Metadata & Its Types.		15	1
Module II: Data Preprocessing: Need of data preprocessing, descriptive Data Summarization: Measuring the crystal Tendency, Measuring the Dispersion of data, Graphic Display of Basic Descriptive Data Summaries, Data cleaning, Data Integration and transformation, Data Reduction. Data Warehouse and OLAP Technology: Data warehouse, differences between operational Database systems and Data warehouses, Multidimensional data model. A three- tier data warehouse architecture.		15	1

Module III: Mining Frequent Patterns: Basic concepts Frequent Item set mining method: the Apriori Algorithm, Generating Association Rules from frequent item sets. FP-Growth Algorithm: FP Tree Representation. Frequent item set Generation in FP- Growth Algorithm.	15	1
Module IV: Classification: General Approach to solving classification problems, Classification by decision Tree Induction: Attribute selection measure, Tree pruning, Bayesian Classification: Bayes' Theorem Rule based classification, Nearest neighbor classifier. Evaluating the performance of a classifier: Holdout Method, Random sub sampling, cross-validation	15	1
Suggested Readings 1. Data Warehousing, Data Mining, and OLAP, Alex Berson, First Edition, Tata Mc Graw Hill 2. Modern Data Warehousing, Mining & Visualization Core Concepts, George M Marakas, First Edition, Pearson Education 3. Data Warehousing, Architecture & Implementation, Hawkin, Prentice Hall 4. Data Mining: Modeling Data for Marketing, Risk and Customer Relationship Mgmt, Rud, Olivia, Paperback Edition. 5. Data Mining, Data Warehousing and OLAP, Sharma, Gajendra, Second Edition 6. Data Mining with Case Studies, Gupta GK, Second Edition		

Course Title: Predictive Analytics-Lab**Course Code: BBAB4405****Course Credit: 2**

COURSE OBJECTIVE:	To familiarize students with: ❖ an overview of Predictive Analytics. ❖ the tools required For the Predictive Analytics. ❖ the skills that will help them to solve complex real-world problems in for decision support. ❖ Designing different models of predictive modeling.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Understand and critically apply the concepts and methods of Predictive analytics. 2. Understand and apply IBM SPSS Modeler in Data Mining, what kinds of data can be mined, what kinds of patterns can be mined. 3. Applying and analyzing how to use functions, deal with missing values, use advanced field operations, handle sequence data and improve efficiency. 4. evaluate the Model on the basis of different Predictive Methods.		
Module I: Work with IBM SPSS Modeler. Create a data-mining project to predict churn in telecommunications. Set the unit of analysis for the telecommunications data. Integrate telecommunications data. Derive and reclassify fields for the telecommunications data.		30	1
Module II: Identify relationships in the telecommunications data Derive and reclassify fields for the ACME data Predict churn in telecommunications and cluster customers into segments Getting started with IBM Watson Studio Getting started with Data Refinery and AutoAI.		30	1
Suggested Readings: 1. IBM Courseware 2. Predictive Analytics Mesmerizing & fascinating by ERIC SIEGEL			

Course Title: Management Information System & E Commerce**Course Code: GE44510****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ The information systems and information technologies that help in taking right decisions for betterment of an organization. ❖ The concepts of E.Commerce, Networking and Data Communication. ❖ The latest trends of IT and security issues.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Understand the role of information system in an organization. 2. Design the physical and information systems according to organizational requirement. 3. Understand the concept of system and design for developing managerial perspective and an informed decision making ability. 4. Develop an understanding of the concept of data communication and the requirement of hardware & software systems. 5. Understand the recent trends of networking, E.Commerce and security issues. 6. Identify the emerging trends in IT.		
Module I: MIS and Decision Making Information System: Foundation of Information System, Operating elements of Information System, Structure of Information System, Evaluation of Information System, Typical Information Systems including MIS and DSS. Types of Information. Structured and Unstructured decisions.		15	1
Module II: System Analysis and Design System: Concept, system concepts applied to MIS, Distinction between physical system and information system. Multiprogramming, Multiprocessing, Real Time systems. Online and distributed environments. Design considerations.		15	1
Module III: Data Communication and Networking Data Communication: Fundamental communication concepts, Hardware and Software requirements, Simplex, Duplex, Half, Duplex. Communication Medium: Wired and Wireless. Networking: Concept, LAN, MAN and WAN, Topologies, Types of switching.		15	1
Module IV: E. Commerce and Recent Trends in IT E. Commerce: Concept, importance, recent trends, problems, internet tools and techniques, legal & security issues of E. Commerce. Emerging trends in IT including ERP and Business Process Re-engineering.		15	1
Suggested Readings: 1. Agarwala, Kamlesh. N. and Agarwala ,Deeksha., Macmillan, India, New Delhi.			

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| <ol style="list-style-type: none">2. Diwan, Parag. and Sharma, Sunil. , E,commerce, A Managers Guide to E,Business, Excel.3. Javadekar, W.S.(2003),Management Information System, Tata MacGraw Hill Publication. |
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Course Title: Creativity and Innovation**Course Code: GE44511****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Approaches used by managers and organizations for creating and sustaining high levels of innovation.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Analyze the creative thoughts of renowned personalities in the past and its contribution towards the success and shortcomings of business mode 2. Generate Innovative idea for business and defend/ justify the same; 3. Interpret the Business Competence achieved by various organisations by using the Innovative Business Model; 4. Describe the significance of Innovative Leadership.		
Module I: Introduction Meaning & Concept of Creativity; Creativity Process; Nature & Characteristics of Creativity and Creative Persons; Factors affecting Creativity; Recognizing and Avoiding Mental Blocks; Thinking Preferences; Risk Taking; Creativity Styles; Creative Thinking Tools; Innovation vs Creativity; Types of Innovations: Incremental & Radical.		15	1
Module II: Idea Generation & Creativity in Problem Solving Ideation; Pattern Breaking Strategies; Mind stimulation: games, brain-twisters and puzzles; Idea-collection processes: Brainstorming/Brain-writing, SCAMPER methods, Metaphoric thinking, Outrageous thinking, Mapping thoughts; Eight-Dimensional (8D) Approach to Ideation; Systematic Inventive Thinking: TRIZ methodology.		15	1
Module III: Innovation. Invention and Discovery- Process and Typology; Methods and Techniques; Arenas of Innovative Competence; Categories of Innovation: Product, Process, and Service Finance (Venture Capital, Angel Investors), Offerings, Delivery. Evaluation of Effectiveness of Innovation.		15	1
Module IV Setting the Right Ecosystem for Innovation The Essence of Right Ecosystem; Dimensions of the Ecosystem for Innovation; Intrinsic Motivation & Extrinsic Motivation; Leadership Styles fostering Innovation; Organisational Alignment; Creating Self-Sustaining Culture of Innovation; Organisational Enrichment		15	1

Suggested Readings:

1. Harvard Business Essentials. (2003). Managing Creativity and Innovation. Boston: Harvard Business School Publishing.
2. Prather, C. (2010). The Manager's Guide to Fostering Innovation and Creativity in Teams. New York: McGraw-Hill Education.

Course Title: Production and Operations Management**Course Code: GE44512****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Different types of Production. ❖ Plant decisions and inventory management. ❖ Appropriate tools and techniques of quality management and control. ❖ Essentials of logistics management.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Explain the strategic role of Production and Operations Management and its competitive advantage for the growth and survival of organizations. 2. Demonstrate the understanding of the facility layouts and location decisions in production system. 3. Identify and forecast the problems involved in inventory management. 4. Implement and use the principles of Material Requirement Planning. 5. Understand the various types of production systems. 6. Apply quantitative techniques to control the quality in organizations. 7. Apply the knowledge of Just-In-Time in production systems. 8. Apply the concepts of operations research in scarce resource allocations.		
Module I: Operations Management, Layout and Location decisions Definition and criteria of performance for the production and operations management system. Jobs or decisions of production and operations management. Classification of decision areas. Brief history of the production and operation management function. Layout: Features, basic principles, types, merit and demerits. Optimization in a product/line layout, optimization in a process layout. Application in service industries. Location decision, Behavioral aspects in location planning.		15	1
Module II: Material Management Inventory Control: EOQ, Simple Deterministic Models, ABC analysis, Value analysis/ value engineering. Purchasing research, vendor relations and selection of vendors. Material Requirement Planning (MRP): An overview.		15	1

Module III: Production Planning and Control, Quality Management Production planning and control: Concept. Assembly line balancing, types of production and production system, maintenance management. Work-study and work design. Productivity and methods of improvement. Quality management as a corporate strategy. Statistical methods and process controls. Control charts, acceptance sampling. Total quality management (TQM): motivation in quality management. ISO 9000 and 14000 series. Just in Time production.	15	1
Module IV: Introduction to Operation Research Linear programming, Simplex method, Big-M Method, Two Phase Method. Definitions and distinctions between CPM and PERT, Network Diagram and Time Calculations.	15	1
Suggested Readings: 1. N.J. Aquilano, R.B. Chase and F.R. Jacob, Operation Management for Competitive Advantage, Tata McGraw Hill, 9th Edition. 2. Chary S.N., Production and Operation Management, Tata McGraw Hill, 4th Edition. 3. Manocha R.C., Production and Operation Management, Latest Edition. 4. Gupta S.P., Statistical Method, Sultan Chand, Latest Edition.		

Course Title: Cost & Management Accounting**Course Code: SEC44505****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Management accounting concepts related to the management functions of planning, control, and decision making. ❖ Management accounting tools and quantitative techniques that can be used to analyze how business processes consume resources and create value for a firm. ❖ Management accounting data and analytical skills necessary to diagnose complex business problems in accounting context.		
LEARNING OUTCOMES:	The students should be able to: 1. Appreciate the usefulness of management accounting in management decision making. 2. Describe the role of management accounting within an organization. 3. Identify the relevant inflows and outflows of funds in different situations and use this information to analyze and make a variety of short-term, operational decisions and long-term decisions. 4. Identify how costs behave and use this information in a range of decisions. 5. State the meaning, objectives and structure of responsibility accounting as divisional performance measurement. 6. Discuss the features of different budgeting systems and undertake budget variance analysis.	No. of Contact Hours	No. of Credits
Module I: Management Accounting Meaning, Nature, Scope and Function of Management Accounting, Role of Management Accounting in decision making, Management Accounting Vs Financial Accounting, Tools and Techniques of Management Accounting.		15	1
Module II: Financial Statements Analysis Meaning and components of financial statements. Objectives of financial statement Analysis, Methods of financial Statement Analysis: Ratio Analysis, classification of Ratios: Profitability Ratios, Turnover Ratios, Liquidity Ratios, Advantages and Limitation of Accounting Ratios. Fund flow statement, Cash Flow Statement as per Accounting Standard 3.		15	1
Module III: Marginal and Standard Costing Meaning, Advantages and Limitation, Marginal Costing as a tool for decision making: Make or Buy, Change in product Mix, Pricing Decision, Exploring a		15	1

New Market, Shut Down Decision. Cost Volume Profit Analysis, Break Even Point. Meaning of Standard cost and Standard Costing, Advantages and Application. Variance Analysis: Material and Labour Variance, Responsibility Accounting.		
Module IV: Budgeting for Profit Planning and Control Meaning of Budget and Budgetary control, Objectives, Merits and Limitations, Types of Budgets: Fixed and Flexible Budget, Cash Budget, Zero Base Budgeting and Performance Budgeting.	15	1
Suggested Readings: 1. Khan, M. Y. and Jain, P.K., Management Accounting, Tata McGraw Hill Education. 2. Maheshwari, S. N., Management Accounting, Sultan Chand and Sons. 3. Sharma, R. K., Management Accounting, Kalyani Publishers. 4. Arora, M.N. , Cost and Management Accounting, Vikas Publishing.		

Course Title: Financial Analysis and Decision**Course Code: SEC44506****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Knowledge of Financial Decisions and Statement Analysis. ❖ Aspects of Project Financing. ❖ Dividend Decision and its Theories. ❖ Merchant Banking and Venture Capital.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Develop pragmatic approach to concept of capital and financial markets and its operation. 2. Conceptualize a project and conduct feasibility study. 3. Analyze risk and uncertainty aspects of a project. 4. Comprehend the essential aspects of dividend decisions and policies. 5. Analyze recent issues in finance and financial services like merchant banking and venture capital. 6. Understand the concepts of factoring and commercial papers.		
Module I: Financial Statement Analysis and Financial Markets Meaning, objectives, scope, calculation of Ratio analysis, fund flow analysis, cash flow analysis. Meaning, Types, importance of financial markets. Types of securities, marketing of Securities. Underwriting of Capital issues.		15	1
Module II: Project Appraisal Project finance, project feasibility study, capital investment decision, risk and uncertainty analysis through sensitivity analysis. Non-financial aspects of projects.		15	1
Module III: Dividend Decisions Dividend policies and decisions: introduction, issues in dividend policy, Walters and Gordon's model, Modigliani and Miller approaches, determinants and types of dividend policy, practical consideration in dividend policy and forms of dividends.		15	1
Module IV: Financial Service and Recent Issues in Finance Merchant Banking: Introduction, functions of merchant bankers. Venture Capital. Factoring. Commercial Papers.		15	1

Suggested Readings:

1. Pandey I. M., Financial Management, Vikas, 2004, 10th Ed.
2. Van Horne, Financial Management and Policy, Prentice Hall, 2003, 12th Ed.
3. Shapiro, Multinational Financial Management, Wiley Dreamtech.
4. Sheeba Kapil, Fundamental of Financial Management, Pearson.
5. Khan and Jain, Financial Management, Tata McGraw Hill, 3rd Ed.

Course Title: Business Policy and Strategy**Course Code: SEC44507****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ The core concepts, frameworks, and techniques of strategic management. ❖ The major initiatives taken by a company's top management involving resources and performance in internal and external environments.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Understand the basic concept of policy and strategy and its implementation in various business situations. 2. Understand the relevance of business policy and corporate governance. 3. Develop ways to improve a firm's competitive advantage and integrate key functional areas into a unified strategic plan. 4. Enhance understanding of the impact of changes in the external environments on executive decisions. 5. Learn the importance of changes in economic, technological, government, political and social forces on the formulation of a firm's strategy. 6. Understand the intricacies involved in developing different strategies and their impact on various organizations. 7. Develop skills in analyzing corporate portfolio through different techniques.		
Module I: Introduction Nature & importance of Business Policy, Development Classification of Business Policy; Mechanism of policy making Business Policy and strategy. Business policy and corporate governance.		15	1
Module II: Strategic Planning and Management concept of corporate strategies Strategic Planning: Process, importance and 7S framework. Strategic planning for: Multinationals, small businesses, non-profit organizations and public sector.		15	1
Module III: Strategy Formulation, Strategic Analysis and Choice Objectives and goals of the organization. ETOP. Competitive analysis. Internal environment, scanning, mission and vision statement, SAP and KSF. Choice of strategy. Business level strategies: generic, cost leadership, differentiation and focus. Multi business strategies: coordination, diversification, venturing and restructuring for national and international companies. Evaluation of alternatives and selection of strategies.		15	1

Module IV: Corporate Portfolio Analysis and Implementation BCG, Ansoff model, Gap Analysis, GE model. Implementing strategy through business function, implementing strategy through structure. Leadership and Culture.	15	1
Suggested Readings: 1. Lawrence R.Jauch. andGlueck William F., Business Policy and Strategic Management ,Frank Brothers. 2. Kazmi, Azhar, Business Policy, Tata McGraw-Hill, New Delhi, 2000. 3. Pearce II John A. and Robinson J.R. and Richard B., Strategic Management, AITBS. 4. Wheelen Thomas L., Hunger J. David. andRangaragjanKrish. , Concepts in Strategic Management and Business Policy ,Pearson Education, 1st Ed.		

Course Title: Social Media Marketing**Course Code: SEC44508****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Social media marketing concept and practices. ❖ Various social media platforms ❖ Digital marketing practices and consumers online engagement.		
LEARNING OUTCOMES:	The students should be able to: 1. Understand the concept, scope and functions of Digital Marketing 2. Understand the concept of social media marketing platforms. 3. Identify the different forms of various digital channels to acquire and engage consumers online. 4. Understand search engine optimization. 5. Understand the latest social media practices for marketing and promotion	No. of Contact Hours	No. of Credits
Module I: Introduction Social media- meaning and definition, social networking, Social Media Marketing –Introduction, need and objectives, Implement effective social media marketing campaigns, issues in social media marketing.		15	1
Module II: Engaging Users through Social Media Platforms Introduction to Face book, Twitter, Google +, LinkedIn, YouTube, Instagram and Pinterest; their channel advertising and campaigns, Introduction to Blogging, Create a blog post for your project. Include headline, imagery, links and post, Content Planning and writing.		15	1
Module III: Digital Marketing Introduction to Digital Marketing: The new digital world - trends that are driving shifts from traditional marketing practices to digital marketing practices, the modern digital consumer and new consumer's digital journey. Marketing strategies for the digital world - latest practices.		15	1
Module IV: SEO and Current Scenario in Social Media Overview of search engine optimization (SEO), search engine marketing, mobile marketing, video marketing, Understanding the relationship between content and branding and its impact on sales, Online campaign management, Understanding trends in social media marketing – Indian and global context.		15	1
Suggested Readings: 1. Vandana, Ahuja; Digital Marketing, Oxford University Press India (November, 2015).			

2. Eric Greenberg, and Kates, Alexander; Strategic Digital Marketing: Top Digital Experts Share the Formula for Tangible Returns on Your Marketing Investment; McGraw-Hill Professional (October, 2013).
3. Ryan, Damian; Understanding Digital Marketing: marketing strategies for engaging the digital generation; Kogan Page (3rd Edition, 2014).

Course Title: Sectoral Functional Analytics**Course Code: BBAB4501****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ an overview of Analytics. ❖ the tools required for the functional Analytics. ❖ skills that will help them to solve complex real-world problems in for decision support. ❖ Investors use sector analysis to assess the economic and financial prospects of a sector of the economy.		
LEARNING OUTCOMES:	The students should be able to: 1. Understand and critically apply the concepts and methods of functional analytics. 2. provide an overview of statistical analysis of the size, demographic, pricing, competitive, and other economic dimensions of a sector of the economy. 3. get the basic idea is that the system is viewed as computing a function 4. evaluate the Model on the basis of different Predictive Methods.	No. of Contact Hours	No. of Credits
Module I: ANALYTICS OVERVIEW Definition of business Analytics with real time examples, How Predictive analytics: Transforming data into future insights, Analytics trends: Past, Present & Future, Towards a Predictive enterprise.		15	1
Module II: BUSINESS ANALYSIS USING FINANCIAL STATEMENTS Types of Financial Analytics, Difference between primary and secondary markets, Domains of Financial Analytics, Uses of Analytics across Retail banking, Investment banking, Credit ratings/targeted marketing, Fraud detection, Customer relationship management , Application of Financial Analytics across Financial Domains, Retail banking, Investment banking, Quantitative Methods in Finance, Managerial Economics and Corporate Strategy, Financial Management, Financial Modeling Basic concepts and techniques used to construct financial portfolios, Business Analysis Using Financial Statements, Strategic Investment Questions, Strategic acquisitions Questions, Strategic merger Questions.		15	1
Module III: PREDICTIVE & PRESCRIPTIVE ANALYTICS Introduction to Data Mining: Data Mining applications, Strategy for data mining: CRISP-DM, Stages in CRISP-DM, The life cycle of a data-mining project, Data-mining successes, Data-mining failures, Skills needed for data mining.		15	1

Understand Chi-Square Statistic & Create a data-mining project What is a Chi Square Test?, What is a Chi-Square Statistic?, Chi Square P-Values, The Chi-Square Distribution & Chi Distribution, The framework of a data-mining project, A business case: Historical data, A data-mining project in IBM SPSS Modeler, Build the model: Set roles in a Type node, Two handy operations: Filter fields and sort records.		
Module IV: PREDICTIVE ANALYTICS WITH IBM WATSON STUDIO IBM Watson Studio, Watson studio Components, Data preparation, Watson Machine learning, Data Refinery, Watson Studio Neural Network Modeler, IBM Watson Studio jobs, Use case with AutoAI.	15	1
Suggested Readings: 1. The HR Scorecard Brian Becker, Mark Huselid, Dave Ulrich. 2. Predictive HR Analytics: Mastering the HR Metric Kirsten & Martin Edwards. 3. Investing in people. Financial Impact of Human Resource Initiatives KirsWayne Cascio, John Boudreau.		

Course Title: Business Ethics and Human Values**Course Code: BBAB4502****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ The ethical issues and dilemmas faced by the managers in most business organizations. ❖ The concepts of CSR, Consumer Protection, Success, Dharma, Karma, etc.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Understand the relevance of ethics and values in business. 2. Identify the ethical dimensions of common business practices. 3. Develop Ethical and Value Based thought process for future managerial performance. 4. Gain knowledge of corporate social responsibility and consumer protection. 5. Understand the concept of corporate governance and its relevance in present scenario. 6. Understand progress and interpret result in managing transformation. 7. Illustrate the concept of Dharma and Yoga not only from personal but also from professional viewpoint.		
Module I: Introduction Values: Concept, types and formation of values. Relationship between ethics, values and behaviour, Values of Indian Managers. Ethics: development of ethics, ethical decision making and decision-making process, relevance of ethics and values in business. Management of Ethics: Management process and ethics, managerial performance, ethical issues, ethos of Vedanta in management, Hierarchism as an organizational value. Ethical Dilemma in business, whistle blowing.		15	1
Module II: Corporate Social Responsibility and Consumer Protection Corporate responsibility of business towards employees, consumers and community. Corporate Governance & Code of Corporate Governance. Different approaches of corporate governance, Consumerism. Unethical issues in sales, marketing and technology.		15	1
Module III: Understanding Progress & Results, Managing Transformation and Success Progress & Results: Definition and functions of progress. Transformation: Need for transformation, process and challenges of transformation. Understanding Success: Definitions of success, Principles for competitive success, prerequisites to create blue print for success. Successful stories of business Gurus.		15	1

Module IV Ethical Philosophies Relationship between Ethics & Corporate Excellence, Corporate Mission Statement, Code of Ethics, Organizational Culture, TQM. Gandhian Philosophy of Wealth Management, Philosophy of Trusteeship, Gandhiji's Seven Greatest Social Sins, Concept of knowledge management and wisdom management.	15	1
Suggested Readings: 1. Chakraborty, S.K., Human values for Managers. 2. Chakraborty, S.K., Ethics in Management: A Vedantic Perspective, Oxford University Press. 3. Gaur, R.R., Sangal, R. and Bagaria, G.P., A Foundation Course in Human Values and Professional Ethics, Excel Books Private Limited, New Delhi.		

Course Title: System Analysis & Designing**Course Code: BBAB4503****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ To presents a comprehensive introduction to the system analysis and design skill in information management. ❖ To provide the students with the skills to identify business problems which may be solved by technology-based solutions and develop design which form the basis for implementing systems as well as a strong foundation in systems analysis and design concepts, methodologies, techniques and tools. ❖ This also include waterfall model (system development life cycle), system analysis and Design Technique (Process Modeling (DFDs), Logical Modeling (decision tree, decision table, structured English).	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Describe the different phases of systems development life cycle. 2. Describe the different fact-finding techniques in system analysis and design. 3. Explain different methodologies of analysis and design of information systems. 4. Describe the concepts and theories of systems approach. 5. Design appropriate information systems. 6. Manage the development of systems based on system specifications. 7. Manage implementation and maintenance of information systems.		
Module I Overview of Systems Concepts: Introduction to System Concept: Characteristics of the system, Elements of a System, Types of Systems, Physical and Abstract System, Open and Closed System, Formal and Informal System; Types of Information System, Needs of Information Systems, Qualities of Information System; Software Development Life Cycle (SDLC); Role and Attributes of System Analyst.		15	1
Module II System Analysis: Fact Finding Technique (Information gathering tools): Review of Literature, On-Site observation, Interviews and Questionnaires; The Tools of Structured Analysis: Data Flow Diagram, Components of a DFD, Zero Level DFD, DFD Transformation and Decomposition, Context Diagram, Leveling a DFD; Data		15	1

Dictionary, Structured English, Decision Tree, Decision Table, Feasibility Study: Economic Feasibility (Cost & Benefit Analysis), Organizational Feasibility, Technical Feasibility, Behavioral Feasibility study, Steps in Feasibility study.		
Module III System Design: Process of Design: Logical and Physical Design, Structured Design, Functional Decomposition. Form Design, Classification of Forms, Requirement of Form Design, Input Design, Output Design.	15	1
Module IV System Testing And Quality Assurance: System Testing, Types of System Tests, Quality Assurance, Quality factors specifications, Levels of Quality Assurance. Audit Trail; Software Maintenance. Hardware and Software Selection Procedure	15	1
Suggested Readings: 1. System Analysis and Design Methods, Whitten, Bentley and Barlow, Galgotia Publication. 2. System Analysis and Design Elias M. Award, Galgotia Publication 3. Modern System Analysis and Design, Jeffrey A. Hofer Joey F. George Joseph S. Valacich Addison Weseley.		

Course Title: Operation Research**Course Code: BBAB4504****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Deeper understanding of the quantitative techniques for improving the quality of managerial decisions. ❖ Generalist approach towards Operations Research.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Understand the need of using operational research for effective decision making. 2. Formulate mathematical models that may be useful in explaining interactive decision-making concepts, where two or more competitors are involved under conditions of conflict and competition. 3. Explain how linear programming helps in business decision making & formulate linear programming problems and interpret such solutions. 4. Explain how transportation problem helps in business decision making and formulate transportation problems and interpret such solutions. 5. Explain how assignment problem helps in business decision making formulate assignment problems and interpret such solutions. 6. Understand how optimal strategies are formulated in conflict and competitive environment. 7. Distinguish between several queuing models and derive performance measures for each of them. 8. Apply replacement policy for items whose efficiency deteriorates with time and for items that fails completely.		
Module I: Introduction to Operations Research & Decision Making Environment Uses, Scope and Applications of Operation Research in managerial decision-making. Decision-making under certainty, Uncertainty and risk situations, Decision tree approach and its applications.		15	1
Module II: Linear Programming, Transportation Problem & Assignment Problem Linear programming: Mathematical formulations of LP Models for product-mix problems, Graphical method of solving LP problems, Simplex method of solving LP problems, Sensitivity analysis, Duality of LP problem. Transportation problem: Various methods of finding Initial basic feasible solution and optimal solution.		15	1

Assignment model: Hungarian Algorithm and its applications in terms of maximisation and minimisation.		
Module III: Game Theory & Sequencing Problem Game Theory: Concept of game, Two-person zero-sum game, Pure and Mixed Strategy Games, Saddle Point, Odds Method, Dominance Method and Graphical Method for solving Mixed Strategy Game. Sequencing Problem: Johnsons Algorithm for n Jobs and Two machines, n Jobs and Three Machines, Two jobs and m - Machines Problems.	15	1
Module IV: Queuing Theory, Replacement Problem & Project Management Queuing Theory: Characteristics of M/M/I Queue model, Application of Poisson and Exponential distribution in estimating arrival rate and service rate, Applications of Queue model for better service to the customers. Replacement Problem: Replacement of assets that deteriorate with time, replacement of assets which fail suddenly. Project Management: Rules for drawing the network diagram, Applications of CPM and PERT techniques in Project planning and control, Crashing of operations.	15	1
Suggested Readings: 1. Vohra, Quantitative Techniques in Management , 2nd edition ,Tata McGraw-Hill, 2003. 2. TahaHamdy, Operations Research - An Introduction, 7th edition, Prentice-Hall. 3. Kothari, Quantitative Techniques, , 3rd Edition , Vikas Publication, 1996. 4. Sharma J K , Operations Research , 3rd Edition . Pearson. 5. KapoorV.K. ,Operations Research, 4th Edition, S. Chand.		

Course Title: Sectoral Functional Analytics-Lab**Course Code: BBAB4505****Course Credit: 2**

COURSE OBJECTIVE:	To familiarize students with: ❖ an overview of Analytics. ❖ the tools required for the functional Analytics. ❖ the skills that will help them to solve complex real-world problems in for decision support. ❖ Investors use sector analysis to assess the economic and financial prospects of a sector of the economy		
LEARNING OUTCOMES:	The students should be able to: 1. Understand and critically apply the concepts and methods of functional analytics. 2. provide an overview of statistical analysis of the size, demographic, pricing, competitive, and other economic dimensions of a sector of the economy. 3. Get the basic idea is that the system is viewed as computing a function 4. To evaluate the Model on the basis of different Predictive Methods.	No. of Contact Hours	No. of Credits
Module I: Implementation of Sales & Revenue analysis Using IBM Tools, Explore powerful visualizations of your data in IBM Cognos Analytics and discover patterns and relationships that impact your business Creating a dashboard: You can explore your data and easily communicate the analysis and insights that you discover Integrates reporting, modeling, analysis, dashboards, stories, and event management so you can understand your organization's data, and make effective business decisions. Create a data-mining project to predict churn in telecommunications		30	1
Module II: Identify relationships in the telecommunications data Derive and reclassify fields for the ACME data . Accessing IBM Cloud and Watson Studio Forecast and determine the attrition of the employees using Watson Studio. Getting started with Data Refinery and AutoAI.		30	1

Suggested Reading:

1. Financial market innovation – Sectoral Analysis -Dr.Triptti Tripathi
2. Business UnIntelligence: Insight and Innovation beyond Analytics and Big Data, by B. Devlin
3. Data-Driven HR: How to Use Analytics and Metrics to Drive Performance by Bernard Marr

Course Title: Business Data Management**Course Code: DSE44501****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Identify the techniques used to represent and structure this data ❖ Understand the business context: consumption patterns, micro-economic concepts underlying demand and supply ❖ Get a handle on the data that originates from business processes	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Discover how businesses operate, and how they are actively managed using data dashboards 2. Working with large data sets 3. Analyse firm-level and industry-level data 4. Gain skills on the use of worksheets to organise, interpret and present data		
Module I Consumption and demand: Micro & Macro economics: the role of data, production, consumption and exchange, consumption baskets, sources of consumer survey data Micro-economic concepts: Utility: cardinal vs ordinal, indifference curves. Demand and supply curves, changes in demand and elasticity. production cost, cost curves. Make vs buy decisions, production quantity decisions Firm level strategies and performance data: Objectives and types of pricing strategies, analysis of firm performance - key ratios. Analysis examples: Ultratech, Page Industries, Nestle, TCS		15	1
Module II Analysing industry level data: Industry definition and classification codes, IIP and PMI, industry market structure and concentration indices, competitive positioning in an industry - Porter's five forces. Analysis examples: Cement industry, Textile industry, FMCG industry, IT industry Case study 1 - Fabmart (E-Commerce): Introduction to E-Commerce, Fabmart case introduction, explanation of data set & questions to be answered, revenue pareto, volume pareto, scatter plot of sales and revenue, revenue trend Fabmart case continued: Sales analysis, organisation of distribution centre, analysis of sales trends, average days of inventory, ledger, avoiding stockouts		15	1
Module III Case study 2 - Ace Gears (Manufacturing): Introduction to the manufacturing sector, context of the automotive industry during the years 2019-2021, explanation of data set containing monthly information on sales, production, inventory and costing. Revenue trend analysis, portfolio management Ace Gears case study continued: Regional sales analysis, sales agent planning, production scheduling, scrap analysis, unit level profitability analysis, raw material re-ordering and safety stock		15	1

Case study 3 - Tech Enterprises (IT): Introduction to HR as a function, Introduction to the Tech Enterprises, internal sourcing, ranking of internal candidates, job description, sourcing channels and their analysis, recruitment process and onboarding		
Module IV Case study 4 - PayBuddy (Fin Tech): Introduction to Finance Industry and Fintech, payment processing and money flow, new credit product introduction, nudge economics, payment transaction and customer data set, identifying rules to target the appropriate customers Paybuddy case continued: Introduction to A/B testing, analysis of the A/B testing data, credit risk evaluation, risk-return tradeoffs	15	1
Suggested Readings: 1. Business Analytics for Managers- Taking business intelligence beyond reporting, Gert H N Laursen, Jesper Thorlund 2nd Edition Wiley 2. Managerial Economics in a Global Economy- Dominick Salvatore Oxford University Press		

Course Title: Entrepreneurship and Small Business Management**Course Code: DSE44502****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Knowledge needed to work in, manage or own a business. ❖ Varied aspects of small-scale industries and entrepreneurship.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Explain the various entrepreneurial skills, functions as well as entrepreneurial development programs. 2. Effectively generate and communicate business ideas in a structured environment. 3. Identify the opportunities available for the small scale enterprise and selection of suitable site and technology. 4. Describe the role of Financial Institutions in the development of small scale business. 5. Prepare project report for the financial feasibility of small business. 6. Correlate the importance of management fields namely marketing, finance and operations in the context of small business development.		
Module I: Introduction Entrepreneurs – Evolution of concept, Types of entrepreneurs, traits of entrepreneur, managers, Entrepreneurs, Theories of Entrepreneurship, problems faced by entrepreneurs, Women Entrepreneurs, Rural Entrepreneurs, Role & Importance in Indian Economy.		15	1
Module II: Small Scale Enterprise Establishing small scale enterprise: opportunities scanning, market, and assessment for small scale enterprise, selection of site and choice of technology.		15	1
Module III: Project Planning and Institutional Arrangements Analysis for financial feasibility, Project report preparation. Institutions for entrepreneurial development, state incentives, role of financial institutions.		15	1
Module IV: Management of Small Business Small Business: Definitions, MSMED Act 2006, Strategic Planning and its steps for small business, Incentives and subsidies available to small business, forms of ownership, Registration as SSI Operating the small-scale enterprises. Issues in financial management, operations management, marketing management, organizational relations, and performance assessment.		15	1

Suggested Readings:

1. Lall and Sahai, Entrepreneurship, Excel Books, 2nd Edition.
2. Couger C, Creativity and Innovation, IPP, 1999.
3. Kakkar D. N., Entrepreneurship Development, Wiley Dreamtech.
4. Rai A.K., Entrepreneurship Development, Vikas Publishing.
5. Sehgal and Chaturvedi, Entrepreneurship Development, UDH Publishing, 2013.

Course Title: Marketing of Services**Course Code: DSE44503****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ The understanding of foundation of marketing of services, bank marketing and its marketing mix. ❖ A comprehensive description of hotel and tourism industry, its marketing and marketing of some selected services.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Understand the basic concept of service marketing. 2. Illustrate the difference between marketing of goods and services. 3. Explain the marketing mix for services. 4. Determine the significance of service quality and its measurement. 5. Understand the impact of technology in service marketing. 6. Identify the marketing mix of banking services. 7. Identify and formulate the marketing strategies for Hotel and Tourism industry. 8. Discuss the marketing tools and strategies of various other services.		
Module I: Introduction Basics of Service Marketing, Nature and Types of Services, Difference between Service and Goods, Unique Characteristics of Services, Importance of Service Quality and Service Components, Framework for Marketing of Service, Improving Services, Relationship Marketing. Environment for Service Marketing: Macro and Micro Environment, Understanding Service Customer, model of Service, Consumer Behaviour. Market Segmentation and Selection: Service Marketing Segmentation, targeting and Positioning.		15	1
Module II: Service Marketing Mix and International MOS Service Marketing Mix: Need for Expanded Marketing Mix, Planning for Service Offer, Pricing, Promotion and Distribution of Services, Management of People, Process and Physical Evidence, Matching Demand and Supply of Services, Service Marketing Triangle. International Marketing of Services and GATT. The Service Based Business Plan. The Future of Marketing of Services. Technological Changes and The Services.		15	1
Module III: Banking and Tourism Marketing Bank Marketing: The Concept, Users of Banking Services, Structure of Bank Product, The Marketing Mix of Banking Services. Tourism Marketing: Introduction, Tourism Product, Salient Features of Tourism Product, Market Segmentation of Tourism, Formulation of Marketing Mix for Tourism Industry.		15	1

Module IV: Marketing of Selected Services Marketing of Selected Services: Personal Care Service, Hospital Marketing, International Services, Education, Consultancy Services, Transportation Services and Communication Services. Hotel Marketing: The Concept, Hotel and Its Topology, Hotel Product, Market Segmentation of Hotel Industry, Formulation of Marketing Mix of Hotel Industry.	15	1
Suggested Readings: 1. Donald, Cowell., Marketing of Service, Heinemann, London. 2. Lovelock, C.H., Services Marketing, Prentice Hall, London. 3. Jha, S.M., Services Marketing, Himalaya Publishing House, New Delhi. 4. Akhtar, J., Management of Tourism in India, Ashish Publishing House, New Delhi		

Course Title: Auditing**Course Code: DSE44505****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ The process of auditing. ❖ The role of an auditor and auditor's report.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Conceptualize the process and importance of auditing. 2. Detect the fraud associated with the documents of a company. 3. Control the level of fraud through auditing. 4. Learn about special audits such as Social Audits etc. 5. Understand the importance of auditor. 6. Prepare an auditor's report.		
Module I: Introduction Basic Concepts of Auditing, Distinction between Investigation and Auditing, Classification of Audits, Difference between Government Audit and Commercial Audit, Advantages of Audit, Limitations of Audit		15	1
Module II: Detection and Prevention of Fraud Types of Errors, Location of Errors, Detection and prevention of Fraud, Auditors position as regards to Frauds and errors.		15	1
Module III: Audit of Limited Companies Audit of Limited Companies: Company Auditor, Appointment, Powers, Duties and Liabilities. Auditor's Report and Audit Certificate.		15	1
Module IV: Special Audit Special Audit: Audit of Banking Companies, Audit of Insurance Companies, Audits of Educational Institutions, Audit of Cooperative Societies, Efficiency Audit, Social Audit etc. Recent trends in Auditing: Nature and Significance of Cost Audit, Tax Audit, Management Audit.		15	1
Suggested Readings: 1. Basu B.K., An insight with Auditing 2. Gupta Kamal, Contemporary Auditing			

Course Title: Sustainable Development**Course Code: DSE44506****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ understanding of the key challenges and pathways to sustainable development i.e. also socially inclusive and environmentally sustainable.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Explain key initiatives required to enhance the contribution of an organisation towards Sustainable Development; 2. Analyze the significance of various steps taken by UNDP to ensure Sustainable Development; 3. Assess the results of Smart Cities Mission Initiative of Government of India; 4. Explain the key achievements of National Programmes/Initiatives aligned with SDGs.		
Module I: Introduction Sustainable Development: Meaning, Principles, History of Sustainable Development. Components of sustainability, Goal Based Development, Feasibility of Sustainable Development; Sustainable Development and International Contribution: International Summits, Conventions, Agreements. Triple Bottom Line approach. Environmental, social and governance (ESG) factors. Role of ICT in Sustainable Development. Community Engagement. Policy framework on Sustainable Development in India.		15	1
Module II: Sustainable Development Goals (SDGs) Sustainable Development Goals (SDGs): Meaning, Background, Transition from Millennium Development Goals (MDGs) to SDGs. Role of UNDP; SDG Integration. SDGs (1-6): No Poverty, Zero Hunger, Good Health and Well-Being, Quality Education, Gender Equality, Clean Water and Sanitation. SDGs (1-6) in India: Key indicators of performance SDGs (7-17): Affordable and Clean Energy, Decent Work and Economic Growth, Industry, Innovation and Infrastructure, Reduced Inequalities, Sustainable Cities and Communities, Climate Action, Life Below Water, Life on Land. Peace, Justice and Strong Institutions, Partnerships for the Goals. SDGs (7-17) in India: Key indicators of performance.		15	1
Module III Responsible Production and Mindful Consumption Responsible Responsible Production and mindful consumption: concept, rationale, implications, challenges and opportunities. Global initiatives on Sustainable Development by Industry: World Business Council for Business Development.		15	1
Module IV Responsible Investment Responsible Investment: concept, rationale, implications, challenges, and opportunities. Socially Responsible Investment: Green Bonds, Carbon Credits. Socially Responsible Mutual Funds. Global Reporting Initiatives.		15	1

Suggested Readings:

1. Edwards, A. R., & Orr, D. W. (2005). The Sustainability Revolution: Portrait of a Paradigm Shift. British Columbia: New Society Publishers.
2. Reid, D. (1995). Sustainable Development: An Introductory Guide. London: Earthscan Publications Ltd. Rogers,
3. P. P., Jalal, K. F., & Boyd, J. A. (2012). An Introduction to Sustainable Development. Abingdon: Routledge.
4. Stokke, O. (2018). Sustainable Development. Abingdon: Routledge.

Course Title: Data Privacy and Security**Course Code: BBAB4601****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ different Data Security technologies. ❖ Risk Management and the different types of controls ❖ Different software available for protecting and securing data ❖ different data security laws. ❖ Hands on Practical Tools for implementation of Data Security, Recovery and Storage Hacking.		
LEARNING OUTCOMES:	The students should be able to: 1. Analyse top targeted industries and trends in data security. 2. Uncover why cyber criminals are changing their techniques to access data and illegal profits. 3. Determine what steps you can take to protect your organization against these threats. 4. aware of the different companies and organizations that track secure and protected data and information. 5. Know how does "TRIM" effect SSD performance and recovery possibility 6. Learn the different ways of backing up data and information. 7. Recover a lost/deleted partition, and main the integrity of your data	No. of Contact Hours	No. of Credits
Module I: Overview of Cyber Security Cyber Security, Need of Cyber Security, Domains in cyber security, Job Opportunities, Types of Attacks, Hacking vs Ethical Hacking, Types of Hackers, Phases of Hacking, Art of Information Gathering: Reconnaissance and Scanning. Familiarize with the taxonomy of cyber-attacks, Explore the enterprise cyber security domains Explore the most frequently targeted industry sectors including: Government, Energy and Utilities, Retail and Telecom Explore the cyber resilience framework understand the cyber resilience lifecycle		15	1
Module II: Data Security Laws and Methods Introduction and Objectives, Data Security, International Laws and Standards, Data Breach, Data Remanence, Data Theft, Wireless Identity Theft, Data loss, Cause and Effects of Data Loss, HDD vs SSD, Disk Failure, HDD and SSD Health Data Back Up: Introduction, Back up Types, Windows cloning, folder syncing, clone partition, files history, restoration of data and windows image.		15	1
		15	1

Module III: Managing Risks Risk Management, Types of Controls, Potential Risk Treatments, Single Loss Expectancy Data Security : Data Security in Organization, Data Recovery Fundamentals, Data Recovery Techniques, Storage Hacking, Tools and Methodology, Anomaly Detection, Air Gap, Firewall, ATM Security, Data shredding, Disk Utility, DHDerase, MyDLP, BCWipe, Nuke Drive, Shredding Test, Wipe with Cipher		
Module IV: Data Breaches Data Breaches – Industry Overview, Global Scale Attacks, Insider Threats and Different Data Breaches across the globe, Ransomware and Fraud Attacks. Industry Case Study	15	1
Suggested Readings: 1. Cyber Security Practitioner by IBM Corporation 2. Data Security Module by IBM Corporation		

Course Title: Data Privacy and Security-Lab**Course Code: BBAB4604****Course Credit: 2**

COURSE OBJECTIVE:	To familiarize students with: ❖ Data Security Methodologies. ❖ Encrypt or Decrypt the data. ❖ The tools so that they can cope up with industry standard and requirements. ❖ The skills that will help them to recover and protect their Data. ❖ Social Engineering Methodologies and identity thefts	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Learn about the different Methodologies about Steganography and Cryptography. 2. To protect from being trapped into Social Engineering Data Theft Attacks. 3. To recover and protect their data from being compromised. 4. To create backup and restoration points as a prevention to data loss. 5. To learn about the spywares and keyloggers.		
Module I: Demonstrating use of Steganography - the art of sending secret message Using Data Encryption and Decryption techniques. Protect your data from being Social Engineered. Practical to demonstrate the concept of Data Shredding. Practical to recover Data from USB, HDD, SSD.		30	1
Module II: Practical to Create Backups using Cloning Partition Demonstration of Creating Backups using File History Demonstration of methodology to Protect against Identity Theft. Practical to illustrate the concept of System Restoration – Restoration of data after virus impact Demonstration of Spywares and Keyloggers		30	1
Suggested Readings: 1. IBM Content/Books			

Course Title: Enterprise Design Thinking**Course Code: DSE44507****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Exciting field of design thinking and business processes. ❖ World of innovation and systematic process of tackling relevant business and/or social problems ❖ Skills that will help them to solve complex real-world problems in for decision support. ❖ Social and thinking space for the recognition of innovation challenges and the design of creative solutions. ❖ The Tools required for design thinking like IBM Mural		
LEARNING OUTCOMES:	The students should be able to: 1. Understand approaches before design thinking and evolution of design thinking with some case studies. 2. Make and apply key habits for effective design thinking. 3. Evaluate and analyze design thinking concepts like loop and key. 4. Apply design thinking concepts for creating models with team member's collaboration to evaluate real life scenarios. 5. Understand various technology domains and apply design thinking concepts for creating problem solving models with respect to cloud, AI, cyber etc.	No. of Contact Hours	No. of Credits
Module I: ENTERPRISE DESIGN THINKING – HISTORY, CASE STUDY Understand what came before Design Thinking, Identify who did what to bring it about, Learn how it built upon previous approaches, See how design thinking is introduced in an organization, Understand the transformation required, What outcomes are possible.		15	1
Module II: OVERVIEW, 7 KEY HABITS, THE LOOP Get an overview of the whole approach to design thinking, understand the principles, loop and keys, determine what is most important, Learn 7 key habits of effective design thinkers, Avoid common anti-patterns, Optimize for success with these habits, Understand the importance of iteration, Learn how to observe, reflect, & make, Get ready to drill down & do tomorrow.		15	1

Module III: ENTERPRISE DESIGN THINKING – USER RESEARCH, MAKE, USER FEEDBACK Understand the importance of user research, Appreciate empathy through listening, Learn key methods of user research. Understand how Make fits into the Loop, Learn how to leverage Observe information, Learn Ideation, Storyboarding, & Prototyping, Understand user feedback and the Loop, Learn the different types of user feedback, Learn how to carry out getting feedback.	15	1
Module IV: ENTERPRISE DESIGN THINKING – TEACHING, LOGISTICS, APPLICATION Understand the challenges of teaching EDT, Learn valuable hints and tips, Getting ready to teach the course, Understand what type of room you need, Learn what materials and supplies you need, Learn how to set up the room, Understand the domains that are applicable, Learn about digital versus physical, Explore some technology specializations.	15	1
Suggested Readings: 1. IBM SKILLS ACADEMY. 2. The Art of Innovation by Tom Kelley. 3. The Design Thinking Toolbox: A Guide to Mastering the Most Popular and Valuable. 4. Design Thinking in Play: An Action Guide for Educators		

Course Title: Income Tax: Law & Practices**Course Code: DSE44508****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ The fundamental concepts in income tax. ❖ The practical aspect of computing taxable income.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to : 1. Understand the important terms of income tax. 2. Gain an insight to the direct and indirect tax laws in India. 3. Understand about the concept of residential status and the types of residents like individual, HUF, firms and companies. 4. Calculate the income under different heads-Salary, House property, Business & Profession, Capital Gains, Other sources. 5. Identify the deductions available under different sections. 6. Determine the amount of income on which tax has to be calculated.		
Module I: Introduction to Income Tax and Residential Status Definition of important terms used in Income Tax, Agricultural Income, Gross Total Income, Total Income, Assessee, Assessment year, Previous year. Residential status & Tax liability. Types of Residents: Individual, HUF, Firm & Other Association of Persons & Companies.		15	1
Module II: Income from Salary Income from salary, meaning of salary, allowances, perquisites, valuation of perquisites, profit in lieu of salary, deductions u/s 16 (i& ii), provident fund and classification of provident fund, taxable income from salary.		15	1
Module III: Income from House Property, Business & Profession Income from house property: rules regarding computing taxable income from house property, annual value, deduction u/s 24 and calculation of income from house property. Income from business and profession: expenses expressly allowed, expenses expressly disallowed, expenses under certain circumstances, determination of income from business and profession.		15	1

Module IV: Income from Capital gains and other sources Income from capital gains: meaning, kinds of capital assessed, meaning of transfer, exempted capital gains, calculation of capital gains. Income from Other Sources: Provisions regarding dividend and interest and interest on securities, determination of income from other sources. Assessment of individual, clubbing of income, set off and carry forward of losses, deduction from gross total income (u/s 80c- 80u), determination of taxable income.	15	1
Suggested Readings: 1. Ahuja& Gupta., Systematic Approach to Income Tax. 2. Agarwal, B. K., Ayakar Vidhan Avam Lekhe. 3. Agarwal, B. K., Income Tax Law and Practice. 4. Chandra, Girish., Income Tax.		

Course Title: Supply Chain Management**Course Code: DSE44509****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ Develop understanding of basic concepts in Supply Chain Management and allied functions.	No. of Contact Hours	No. of Credits
LEARNING OUTCOMES:	The students should be able to: 1. Understanding the basics of different aspects of Supply Chain Management with a focus on creating a successful venture with decision- and system-oriented perspective. 2. Understanding the concept of Supply Chain Management terms. 3. Understanding the applications of Supply Chain Management to the business		
Module I Supply Chain Concepts: Concept & Definitions in Supply Chain, Brief History of Evolution of Supply Chain Management, Objectives of a Supply Chain, Stages of Supply chain, Cycle view of Supply Chain Process, Decision Phases in Supply Chain Management, Key issues in SCM, Supply Chain Management Framework, Supply Chain Components, Flows in Supply Chain Management, Obstacles of streamlined SCM.		15	1
Module II: Supply Chain Management Structure: Basic Terms from Supply Chain Management such as –Upstream, Downstream, Information/Material Flow, Push/Pull System, Value added services, Structure of a SC, Push based SC, Pull based SC, Trade-off between Push & Pull, Identifying appropriate Push & Pull Strategy for SC. Understanding the Benchmarking Concept, Benchmarking Process SCM.		15	1
Module III Supply Chain Management Building Blocks: Supply Chain Drivers and Obstacles, Resources & capacity Management, Procurement & supplier focus, Inventory Management, Operations Management, Distribution Management in SCM, Bullwhip effect. Concept of ERP in SCM, Quick Response and Accurate Response System in SCM.		15	1
Module IV: Recent Issues in SCM: Overview of Customer Focus and Demand, Role of Computer / IT in Supply Chain Management, CRM Vs SCM, Green Supply Chain Management, Outsourcing-basic concept, Future of SCM, New Developments in Supply Chain Management		15	1

Suggested Readings:

1. Raghuram G. (I.I.M.A.) - Logistics and Supply Chain Management (Macmillan, 1st Ed.)
2. Krishnan Dr. Gopal - Material Management, (Pearson, New Delhi, 5th Ed.)
3. Agarwal D.K. - A Text Book of Logistics and Supply chain Management (Macmillan, 1st Ed.).
4. Sahay B.S. - Supply Chain Management (Macmillan, 1st Ed.)
5. Chopra Sunil and Peter Meindl - Supply chain Management (Pearson, 3rd Ed.)
6. Sarika Kulkarni : Supply Chain Management, Tata Mc- Ashok Sharma Graw Hill Publishing Co Ltd., New Delhi, 2004

Course Title: Industrial Relations & Labour Laws**Course Code: DSE44510****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ The legal relationship between an employed person, employers and the government, most commonly through a contract of employment. ❖ The major Acts and regulations pertaining to employment practices in India. ❖ The analysis and interpretation of the role of various labor laws.		
LEARNING OUTCOMES:	The students should be able to: 1. Interpret the labor laws in the right perspective with a special reference to the provisions of the constitution of India. 2. Understand various parties involved and affected by the labour laws in India. 3. Have a broad understanding of the legal principles governing the employment relationship at the individual and collective level. 4. Understand the practical problems inherent in the implementation of labour laws. 5. Examine and interpret decisions of labor boards, grievance arbitrators and the courts. 6. Understand the factual contexts in which legal issues arise and their resolution.	No. of Contact Hours	No. of Credits
Module I: Industrial Relations Background of Industrial Relations – Definition, scope, objectives, factors affecting IR, participants of IR, importance of IR. Approaches to Industrial relations, system of IR in India., code of wages		15	1
Module II: Participative Management . Participative Management: Structure - Scope - Collective Bargaining, Works Committee - Joint Management Councils - Pre-Requisite for successful participation - Role of Government in Collective Bargaining		15	1
Module III Labour welfare Legislations The Factories Act 1948: Definition, Scope, approval of licensing and registration of factories, the inspection staff, health safety, welfare, working-hours of adults, employment of women and young persons, leave with wages, penalties and procedure.		15	1

The Payment of Wages Act, 1936: Object, definition, application of the Payment of wage act 1936, deductions, maintenance of registers and authorities, claims. The Workmen Compensation Act 1923: Object, definition, employer's liabilities for compensation, amount of compensation, appeals. The Trade Union Act, 1926: Object, definitions, registration, right and liabilities of office bearers, change of name, amalgamation, discussion and returns.		
Module IV: Industrial Unrest The Industrial Disputes Act, 1947: Scope and object of the act, definition, authority, notice of change, reference settlement of industrial disputes, strikes and lockouts, lay-off and retrenchment. Miscellaneous. Industrial conflicts: types and causes of industrial conflicts. Industrial disputes: Preventive measures-bipartite and tripartite bodies, ethical codes, standing orders, grievance procedure, settlement machinery.	15	1
Suggested Readings: 1. Mamoria C.B, Industrial Relation, Himalaya Publication. 2. Sinha ., Industrial Relations, Trade Unions and Labour Legislation ,Pearson Ed. 3. Srivastava, S.C., (2000), Industrial Relations and Labour Laws ,Vikas, 4th Ed. 4. Singh B.D. ,Industrial Relations &Labour Laws, Excel, 1st Ed. 5. Kogent ., Industrial Relations &Labour Laws ,Wiley Dreamtech.		

Course Title: Brand Management**Course Code: DSE44511****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with: ❖ To develop an understanding of the brand concept. ❖ Framework for managing brand equity and distinguishing different ways to leverage and measure brand equity. ❖ Variables that drive the success of brands		
LEARNING OUTCOMES:	The students should be able to: 1. Analyze the elements of a managing a brand. 2. Establish criteria to develop and maintain sustainable brands. 3. Identify the framework and understand variables that drive the success of brands and product lines and the interrelationships among these variables. 4. Identify the various elements of brand image building 5. Provide comprehensive framework for measuring Brand Performance	No. of Contact Hours	No. of Credits
Module I: Brand Concept Brand concept: Nature and Importance of Brand, Types of brands , Strategic Brand Management Process, Brand Identity perspectives, Brand identity prism and Identity levels. Concepts and Measures of Brand Equity, Brand Loyalty and Measures of Loyalty. Branding strategies: product, line, range and umbrella branding. Brand Image Dimensions.		15	1
Module II: BRAND STRATEGIES Strategic Brand Management process, building a strong brand, Brand positioning, Establishing Brand values, Brand vision, Brand Elements Branding for Global Markets, Competing with foreign brands.		15	1
Module III: Brand Communications Brand image Building, Brand Loyalty programmes, Brand Promotion Methods, Role of Brand ambassadors, On line Brand Promotions.		15	1
Module IV: Brand Performance Measuring Brand Performance, Brand Equity Management, Global Branding strategies, Brand Audit, Brand Equity Measurement, Brand Leverage, Role of Brand Managers, Branding challenges & opportunities.		15	1
Suggested Readings: 1. Brand Management, Harish V Verma, 2/e, Excel Book 2. Best Practice Cases in Branding: Lessons from the World's Strongest Brands, by Kevin Keller, Prentice Hall			

Course Title: Goods & Services Tax (GST) and Customs Law**Course Code: DSE44512****Course Credit: 4**

COURSE OBJECTIVE:	To familiarize students with:- ❖ To provide understanding about salient features of GST law and implications of its various provisions for different classes of suppliers. ❖ It also aims to provide an understanding of compliances and procedures laid down in GST law and to provide the understanding about significant provisions of the customs law		
LEARNING OUTCOMES:	After the completion of the course, the learners will be able to: 1. Explain concept, need, and utility of indirect taxes and understand and analyse the taxable event, i.e., supply under GST; 2. Describe the provisions relating to levy of GST; 3. Identify exemptions for different types of goods and services and examine the various provisions of input tax credit; 4. Analyze provisions regarding penalties and interest and to prepare and file GST return on-line; 5. Understand the significant provisions of the customs law.	No. of Contact Hours	No. of Credits
Module I: Basic Concepts Concept and features of Indirect Taxes, Difference between Direct and Indirect Taxes, Concept of GST, Relevant Definitions under GST law, Constitutional aspects of GST. GST Council: Constitution, Structure and functioning.		15	1
Module II: Concept of supply and Levy of GST Concept of supply including composite and mixed supply, Place, Time and Value of taxable supply, Significance of consideration. Basis of Charge of GST, Inter-State Supply, Intra-state supply, GST rates notified for supply of various goods and services, Reverse charge mechanism, Composition levy, Exemptions from GST, Power to grant exemptions, Exempted goods under exemption notifications, Exempted services under exemption notifications, Input tax credit.		15	1
Module III: Procedures under GST Registration under GST law, Tax invoice credit and debit notes, Different GST returns, Electronic liability Ledger, Electronic credit Ledger, Electronic cash ledger, Different assessment under GST, Interest applicable under GST (Period), Penalty under GST, Various provisions regarding e-way bill in GST, Mechanism of Tax Deducted at Source (TDS) and tax collected at source (TCS), Audit under GST.		15	1
Module IV: Customs Law Custom Law: Concepts; Territorial waters; High seas; Levy of customs duty, Types of custom duties; Valuation; Baggage rules & exemptions.		15	1

Suggested Readings

1. Singhanian, V. K., &Singhanian, M. (2020). Student's Guide to Income Tax Including GST. New Delhi: Taxmann Publication.
2. Singhanian, V. K., &Singhanian, K. (2020). Direct Taxes: Law & Practice. New Delhi: Taxmann Publication.
3. Ahuja, G., & Gupta, R. (2020). Direct Taxes Ready Reckoner. New Delhi: Wolters Kluwer India Private Limited.
4. The ICAI Study Material for Final Course Group-II, Paper-8: Indirect Tax Laws [Module 1, 2, 3 and 4]