SEMESTER- VI

Business Analytics

BCH: DSC- 6.1

Objective: This course aims to introduce the learners to business intelligence and analytics which includes describing business data, analysing the data using various statistical tools for creating predictive models and making inferences for solving business problems and for providing assistance in business decision making.

Learning Outcomes: After completion of the course, the learners will be able to:

1. describe skills for computation and aggregation of data using spreadsheet.
2. explain data with the help of pivot tables and pivot charts.
3. analyse data using R Packages and interpret the results.
4. compare Linear Regression Models using spreadsheet & R and interpret the results.
5. examine textual data analysis using R.

Course Contents:

Unit	Unit wise Weightage of Marks (in %)	C&K*	A&A**
Unit 1: Introduction	10	√	√
Unit 2: Data Preparation, Summarisation and Visualisation using spreadsheet	20	√	√
Unit 3: Getting started with R	20	√	√
Unit 4: Descriptive Statistics Using R	20	√	√
Unit 5: Predictive and Textual Analytics	30	√	√

*C & K- Comprehension and Knowledge
**A & A – Analysis and Application

Unit 1: Introduction
Data and Data Science; Data analytics and data analysis, Classification of Analytics, Application of analytics in business; Big Data and its characteristics, Applications of Big data. Challenges in data analytics.

Unit 2: Data Preparation, Summarisation and Visualisation using spreadsheet
Data Preparation and Cleaning, Sort and filter, Conditional formatting, Text to Column, Removing Duplicates, Data Validation, identifying outliers in the data, covariance and correlation matrix, Finding the missing value from data; Summarisation; Visualisation:

scatter plots, line charts, histogram, etc., Pivot Tables, pivot charts and interactive dashboards.

Unit 3: Getting started with R
Introduction to R, Advantages of R, Installation of R Packages, Importing data from spreadsheet files, Commands and Syntax, Packages and Libraries, Data Structures in R - Vectors, Matrices, Arrays, Lists, Factors, Data Frames and Exporting Data.

Unit 4: Descriptive Statistics Using R
Data visualisation using charts: histograms, bar charts, box plots, line graphs, scatter plots. etc.; Data description: Measure of Central Tendency, Measure of Dispersion, Relationship between variables: Covariance, Correlation and coefficient of determination.

Unit 5: Predictive and Textual Analytics
Simple Linear Regression models; Confidence & Prediction intervals; Multiple Linear Regression; Interpretation of Regression Coefficients; heteroscedasticity; multi-collinearity.
Basics of textual data analysis, significance, application, and challenges. Introduction to Textual Analysis using R. Methods and Techniques of textual analysis: Text Mining, Categorization and Sentiment Analysis,

Note:

1. The General-Purpose Software referred in this course will be notified by the University Departments every three years. If the specific features, referred to in the detailed course above, is not available in that software, to that extent it will be deemed to have been modified.

2. There shall be a practical examination of 50 Marks (2 hours duration (External)), a theory exam of 25 marks (1-hour duration) and an Internal Assessment of 25 marks (Class Test-10 Marks, Workbook- 10 Marks and attendance- 5 marks).

3. There shall be 1 lecture period per class and 6 Practical Lab periods per batch per week to be taught in the Computer Laboratory.

Practical Exercises:
The learners are required to

1. showcase their understanding of the basics of Spreadsheet: Organizing data with Spreadsheet – Performing simple computations and aggregations using Spreadsheet - Working with Summing and other Reporting functions in Spreadsheet - Working with pivot tables and charts - Using Spreadsheet for Data Analytics: Power Query - Power Pivot - Power view - Power Map - Building tips – Display tips - Keyboard shortcuts – Mouse shortcuts - Standardized layouts - Understanding table-based and spreadsheet-based layouts.

2. showcase their understanding of data cleansing techniques using External Data – Searching and Combining Data with Power Query: Getting started with Power Query - Know the Environment tabs and toolbars - Access new or existing reports -

Importing and combining data from databases, web, files - Splitting and aggregating data - Discovering and Analyzing Data with Power Pivot: Database concepts - Loading Data into Power Pivot - Using Power Query and Power map add-ins - Designing Pivot Table reports - Filtering data – Creating Custom functions and formulas - Formatting Pivot Tables - Managing Power Pivot Data - Setting Connection properties - Managing Data sources - Configuring Pivot Table Options, Preparation of Histograms - Pareto charts – Boxplots - Treemap and Sunburst charts.

3. create Linear Regression Models using Spreadsheet; Interpretation of results. Applying tests for heteroscedasticity and multi-collinearity.

4. read datasets into R - Export data from R - Manipulate and Process Data in R - Use functions and packages in R - Demonstrate with a Case Study to perform basic analytics using R.

5. use R for analysing textual data; Data loading into Python; Pre-processing and Text Clean up; Generating a TF-IDF (Term Frequency Inverse Document Frequency) Matrix; Data Clustering; visualisation & Reporting.

Suggested Readings:

- Alexander, M., Decker, J., & Wehbe, B. (2014). Microsoft Business Intelligence Tools for Spreadsheet Analysis. New Jersey: Wiley.
- Giri ,A. & Paul, P. Applied Marketing Analytics: Using SPSS (Modeler, Statistics and AMOS Graphics) PHI Learning
- Kumar, D. U. (2017). Business Analytics: The Science of Data Driven Decision Making. New Jersey: Wiley.
- McKee, A. (2003). Textual Analysis: A Beginner's Guide. London: Sage Publication.
- Motwani, B. (2019). Data Analytics with R. New Jersey: Wiley.
- North, M. (2012). Data Mining for the masses. Athens, Georgia: Global Text Project.
- Ohri, A (2012). R for Business Analytics, Springer.
- Paul, T. (2011). R Cook book. New York: O Reilly Media.
- Provost, F., & Fawcett, T. (2013). Data Science for Business. New York: O'Reilly Media.

Note: Learners are advised to use the latest edition of readings.

Corporate Governance

BCH: DSC- 6.2

Objective: The course aims to develop critical thinking ability and provide knowledge of corporate governance, its procedures, techniques in accordance with current legal requirements and professional standards.

Learning Outcomes: After completion of the course, learners will be able to:

1. describe the concept and significance of corporate governance in a business setup and
2. analyse the role of board of directors.
3. explain important dimensions in corporate governance.
4. analyse global corporate failures, understand international codes and its implications.
5. comprehend corporate governance regulatory framework in india.
6. assess and analyse the problems of corporate governance in indian inc.

Course Contents:

Unit	Unit wise weightage of marks (in %)	C&K*	A&A**
Unit 1: Conceptual Framework of Corporate Governance	20	√	√
Unit 2: Recent Issues and Challenges of Corporate Governance	20	√	√
Unit 3: Global Corporate Failures and International Codes	20	√	√
Unit 4: Corporate Governance Regulatory Framework in India	20	√	√
Unit 5: Corporate Failures and Scams in India	20	√	√

*C&K- Comprehension & Knowledge
**A&A – Analysis & Application

Unit 1: Conceptual Framework of Corporate Governance

Corporate Governance: Meaning, significance and principles; Management and corporate governance; Theories of Corporate Governance: Agency Theory, Stewardship theory, Stakeholder Theory, Resource Dependency Theory, Managerial Hegemony Theory; Models of Corporate Governance. "KAUTILYA'S 'art of governance' in ARTHASHASTRA"

Unit 2: Recent Issues and Challenges of Corporate Governance

Board structure and Directors; Role of Board; Board Committees and their functions; Insider Trading; Whistle Blowing; Shareholders Activism; Role of institutional investors; Class Action suits. CSR and Corporate Governance. "Gandhian Trusteeship"

Unit 3: Global Corporate Failures and International Codes

BCCI (UK), Maxwell (UK), Enron (USA), World.Com (USA), Vivendi (France), Lehman Brothers; Sir Adrian Cadbury Committee 1992, SOX 2002, OECD Principles of Corporate Governance.

Unit 4: Corporate Governance Regulatory Framework in India

Regulatory framework in India: Kumar Mangalam Birla (1999), NR Narayana Murthy Committee (2005), Relevant provisions of Companies Act, 2013, SEBI: Listing Obligations and Disclosure Requirements Regulations (LODR), 2015 and Uday Kotak Committee (2017).

Unit 5: Corporate Failures and Scams in India

Satyam Computer Services Ltd, Kingfisher Airlines, PNB Heist, IL&FS Group Crisis; ICICI Bank, Yes Bank; Common Governance Problems in various corporate failures in India and abroad.

Practical Exercises:
The learners are required to:

1. Identify and analyse corporate governance models followed by companies incorporated in India and abroad.
2. Analyse Board composition and Board committees of different companies; Analyse cases on the topic of Whistle blowing/ Shareholder activism/ Insider trading.
3. Critically analyse global corporate governance failure and identify corporate governance issues therein.
4. Identify corporate governance issues and concerns raised in context of Indian companies and their implications (from published sources newspapers or websites).
5. Critically analyse major corporate governance failure to suggest common governance problems in Indian context.

Suggested Readings:

- Das,S.C. Corporate Governance in India: An Evaluation, 5th ed. PHI Learning
- Goel, Sandeep, Corporate Governance: Principles and Practice, Mc Graw Hill.
- Sharma, J.P, Corporate Governance, Business Ethics, and CSR, Ane Books Pvt Ltd, New Delhi.
- Tricker, Bob, Corporate Governance-Principles, Policies, and Practice (Indian Edition). Oxford University Press, New Delhi.

Additional Resources

- Mallin, Christine A, Corporate Governance (Indian Edition), Oxford University Press, New Delhi.
- Rani, Geeta D., and Mishra, R.K. Corporate Governance- Theory and Practice, Excel Books, New Delhi.

Note: Learners are advised to use the latest edition of readings.
Latest amendments to the regulations shall be referred.

Goods & Services Tax (GST) and Customs Law
BCH: DSC- 6.3

Objective:
The course aims to impart knowledge of principles and provisions of GST and Customs Law, the important legislation dealing with indirect tax system in India; and to enable the students to apply the same practically.

Learning Outcomes:
After completion of the course, learners will be able to:
1. analyse the rationale of Goods and Services Tax (GST), constitutional amendment carried out to install GST in India and comprehend the composition and working of GST council;
2. interpret the meaning of supply under GST law, differentiate between intra-state and inter-state supply, provisions related to place of supply, time of supply and compute the value of supply;
3. evaluate the utilization of input tax credit and the provisions of reverse charge mechanism;
4. analyse various returns under GST and payment of taxes; and
5. evaluate the concepts of Customs Act, various custom duties and computation of the assessable value for charging customs duty.

Course Contents:

Units	Unit wise weightage of marks (in %)	C&K*	A&A**
Unit 1: Structure, Registration and Exemptions	20	√	√
Unit 2: Levy and Collection of GST	35	√	√
Unit 3: Input Tax Credit and Reverse Charge Mechanism	20	√	√
Unit 4: Tax invoice, Returns and Payment of Tax	15	√	√
Unit 5: Customs Law	10	√	√

*C&K- Comprehension & Knowledge
**A&A – Analysis & Application

Unit 1: Structure, Registration and Exemptions
Constitutional framework of indirect taxes before GST; Rationale for GST; Structure of GST (SGST, CGST, UTGST & IGST); GST Council; GST Network; State compensation mechanism.
Registration; Exemptions from GST.

Unit 2: Levy and Collection of GST

Scope of 'Supply'; Nature of supply: Inter-State, Intra-State; Classification of goods and services.
Composite and Mixed supplies; Composition levy scheme; Place of supply; Time of supply; Value of supply.

Unit 3: Input Tax Credit and Reverse Charge Mechanism

Eligible and ineligible input tax credit; Apportionments of credit and blocked credits; Tax credit in respect of capital goods; Availability of tax credit in special circumstances; Reverse Charge Mechanism.

Unit 4: Tax Invoice, Returns and Payment of Tax

Tax Invoice, Credit and debit notes, and e-Way bills; Returns; Payment of taxes; Taxability of e-Commerce.

Unit 5: Customs Law

Basic concepts, Territorial waters and High seas; Types of custom duties; Valuation.

Note: In case of any subsequent notifications/amendments regarding GST or customs law by the government, the syllabus would be updated accordingly.

Practical Exercises:
The learners are required to:

1. discuss relevant provisions of the CGST Act, IGST Act, GST (Compensation to States) Act and Constitution (One Hundred and First Amendment) Act from the official website of Government of India;
2. refer relevant notifications and circulars from the official website of Government of India;
3. refer various offline utilities available on the official website of the Government of India;
4. read the minutes of the GST council on the official website of the Government of India; and
5. gather information available under the heading 'Popular help topics' on the official website of the Government of India.

Suggested Readings:

- Ahuja, Girish and Gupta, Ravi, GST & Customs Law. Flair Publications Pvt. Ltd., Delhi.
- Babbar, Sonal, Kaur, Rasleen and Khurana, Kritika. Goods and Service Tax (GST) and Customs Law. Scholar Tech Press, New Delhi.
- Bansal, K. M., GST & Customs Law. Taxmann Publication, Delhi.
- Gupta, S.S., GST- How to meet your obligations, Taxmann Publications.
- Mittal, Naveen, Goods & Services Tax and Customs Law. Cengage Learning India Pvt. Ltd., Delhi.
- Sahi, Shilpi, Concept Building Approach to Goods and Services Tax (GST), & Customs Law. Cengage Learning India Pvt. Ltd., Delhi.
- Singhania, V. K, GST & Customs Law. Taxmann Publication, Delhi.

Additional Readings:

- Gupta, S.S., Vastu and Sevakar, Taxmann Publications, 2017
- Sisodia, Pushpendra. GST Law, Bharat Law House.
- The Constitution (One hundred and First Amendment) Act, 2016
- The Central Goods and Services Tax Act, 2017
- The Integrated Goods and Services Tax Act, 2017
- The Union Territory Goods and Services Tax Act, 2017
- The Goods and Services Tax (Compensation to States) Act, 2017
- Vastu and Sevakar Vidhan, by Government of India.

Note: Learners are advised to use the latest edition of readings.