



**DEPARTMENT OF MANAGEMENT SCIENCES**  
**R.V.R. & J.C. COLLEGE OF ENGINEERING**  
**(AUTONOMOUS)**  
**GUNTUR-522 019, ANDHRA PRADESH**

**COURSE STRUCTURE FOR BACHELOR OF BUSINESS ADMINISTRATION**  
**(BBA)**

**R24 REGULATIONS**

(w.e.f. the batch of students admitted from the academic year 2024-2025)

**Semester IV [Second Year]**

**COURSE STRUCTURE**

S.NO	COURSE CODE	SUBJECT CODE	COURSE TITLE	L	P	C	I	E	T	WH
1	CC	BB221	Business Analytics and Information Systems	4	-	4	30	70	100	4
2	CC	BB222	Production Management	4	-	4	30	70	100	4
3	CC	BB223	Project Management	4	-	4	30	70	100	4
4	VAC	BB224	International Business	4	-	4	30	70	100	4
5	SEC	BB261	Data Base Management Systems - Lab		4	2	30	70	100	4
6	SEC	BB262	R Programming – Lab	-	4	2	30	70	100	4
<b>TOTAL</b>				<b>16</b>	<b>8</b>	<b>20</b>	<b>180</b>	<b>420</b>	<b>600</b>	<b>24</b>

**CC** – Core Courses | **MDE** – Multi-Disciplinary Elective | **AEC** – Ability Enhancement |  
**SEC** – Skill Enhancement | **VAC** – Value Added Course  
**L** – Lecture | **P** – Practical | **C** – Credits | **WH** – Weekly Hours  
**I** – Internal Assessment | **E** – End Examination | **T** – Total Marks

**BBA SEMESTER – IV (SECOND YEAR) SYLLABUS**  
**BB221 – BUSINESS ANALYTICS & INFORMATION SYSTEM (R24)**

L	P	C	INT	EXT
4	-	4	30	70

**Course Objectives**

The course aims to:

1. Introduce basic concepts of business analytics and information systems
2. Develop data-driven thinking for managerial decision-making
3. Familiarize students with simple analytics and IT tools
4. Integrate business concepts with information system knowledge

**Course Outcomes**

After completing the course, students will be able to:

- CO1: Understand fundamentals of business analytics and information systems
- CO2: Analyze simple business problems using data
- CO3: Use basic analytics and information system tools for reporting
- CO4: Interpret analytical outputs for managerial decisions

**UNIT–I: Introduction to Business Analytics** **[CO1] (12)**

Meaning and scope of Business Analytics, Role of analytics in business decision-making, Types of analytics: descriptive, diagnostic, predictive, prescriptive, Business Analytics vs Business Intelligence, Applications of analytics in business functions, Business Analytics Tools,

**UNIT–II: Data and Analytical Foundations using Python:** **[CO1] (12)**

Business data and its importance, Types and sources of data, Basics of data collection and quality, Introduction to Data Visualization, Introduction to Python for business analytics, Basic Python concepts: data types and simple operations, Conceptual handling of data using CSV files, Simple data analysis and basic charts.

**UNIT–III: Information Systems in Business:** **[CO3] (12)**

Meaning and components of Information Systems, Types of Information Systems: TPS, MIS, DSS, EIS, Role of information systems in business functions, Overview of ERP systems, Information systems for organizational efficiency

**UNIT–IV: Business Analytics Applications and Trends:** **[CO4] (12)**

Business analytics life cycle, Dashboards and managerial reports, Analytics applications in sales and finance, Basics of databases and SQL (conceptual), Ethical issues, data privacy, and security, Emerging trends in business analytics

**Text Books**

- Camm et al., Business Analytics, Cengage
- Laudon & Laudon, Management Information Systems, Pearson

**Reference Books**

- Ramesh Sharda et al., Business Intelligence and Analytics, Pearson

## BB222- PRODUCTION MANAGEMENT (R24)

L	P	C	INT	EXT
4	-	4	30	70

### Course Objectives

- 1: To provide a comprehensive understanding of the meaning, nature, and scope of Production and Operations Management in organizations.
- 2: To equip learners with knowledge of plant location and layout planning, and to develop the ability to apply Production Planning and Control (PPC) techniques.
- 3: To provide in-depth knowledge of materials management, including purchasing procedures, vendor selection, and inventory functions to ensure smooth production flow.
- 4: To impart knowledge of quality management concepts, including dimensions of quality, quality assurance vs. quality control, statistical quality control techniques, and acceptance sampling.

### Course Outcomes

CO1: Explain the concepts, scope, and role of Production and Operations Management in organizational effectiveness.

CO2: Analyze factors influencing plant location, compare different plant layouts, and apply Production Planning and Control (PPC) techniques—along with AI and machine learning tools.

CO3: Demonstrate understanding of materials management, purchasing procedures, and inventory control techniques like EOQ and ABC analysis.

CO4: Apply Statistical Quality Control and describe TQM principles and ISO standards for improving product and service quality.

### UNIT I: Introduction to Production Management

[CO1] (12)

Meaning, objectives and scope of production management-Product vs. Service Production Systems- Role and importance of Production Manager. **Types of production systems:** Job, Batch, Mass and Continuous production-Productivity: Concept, measurement and factors affecting productivity-Industry 4.0: Overview and smart manufacturing concepts.

### Unit II: Plant Location

[CO2] (12)

Factors affecting plant location; location analysis and site selection methods-Types of plant layout: Process layout, product layout and Fixed position layout; sustainable plant design.

**Production Planning and Control (PPC):** Meaning and importance -Functions of PPC: Forecasting, routing, scheduling, loading, dispatching, follow-up and application of Artificial Intelligence (AI) and Machine learning (ML) in production planning.

### Unit 3: Materials Management

[CO3] (12)

Objectives of materials management-Purchasing management: procedures, methods, vendor selection-Stores management.

**Inventory:** types and functions- EOQ, EPQ & ABC analysis-Material requirement planning (MRP).

### Unit 4: Quality Control

[CO4] (12)

Importance of quality control-Quality assurance vs quality control- Quality control charts for variables and attributes-Statistical quality control (SQC)-Acceptance sampling- Total Quality Management (TQM)-ISO.

Textbooks / References

1. Production and Operations Management by Chary, S.N. , Tata McGraw Hill, New Delhi
2. Production and Operations Management, S.P. Singh Vikas Publishing Housing vikaspublishing.com
3. Modern Production and Operations Management, Elwood S. Buffa, Rakesh K. Sarin, John Wiley, New York.
4. Production and Operations Management, G.Sudarsana Reddy & K.Aswhathappa Himalaya Publishing House.

## BB223 – PROJECT MANAGEMENT (R24)

### Course Objectives:

- 1: To introduce basic project management concepts.
- 2: To familiarize planning and scheduling tools.
- 3: To understand execution and control practices.
- 4: To expose closure, ethics, tools, and trends.

L	P	C	INT	EXT
4	-	4	30	70

### Course Outcomes:

**After successful completion of the course, Students will be able to:**

**CO1:** Understand fundamental project management concepts and project types.

**CO2:** Apply project planning and scheduling tools and techniques.

**CO3:** Analyze and control project execution and management processes.

**CO4:** Evaluate project closure, ethics, software tools, and Agile–Hybrid trends.

### **UNIT 1- Introduction to Project Management** [CO1] (12)

Meaning and Definition of Project – Characteristics of a Project-Difference between Project and Operations – Project Life Cycle Phases – Role of Project Manager – Project Stakeholders – Project Environment and Constraints – Types of Projects.

### **UNIT 2 – Project Planning and Scheduling** [CO2] (12)

Project Scope and Scope Statement – Work Breakdown Structure (WBS) – Project Time Management – Gantt Charts and Milestones – Management and Control of Projects Network Analysis - PERT and CPM.

### **UNIT 3 – Project Execution and Control** [CO3] (12)

Project Execution Process – Monitoring and Controlling Techniques – Performance Measurement – Risk Identification and Risk Analysis – Quality Management in Projects – Communication Management – Team Building and Motivation.

### **UNIT 4 – Project Closure and Emerging Trends** [CO4] (12)

Project Documentation – Project Handover and Closure Process – Post-Implementation Review – Project Audit – Ethical Issues in Project Management – Use of Project Management Software – Agile and Hybrid Project Management Basics – Recent Trends in Project Management.

### **Text Books:**

1. Project Management: The Managerial Process, Clifford F. Gray & Erik W.Larson, Tata McGraw-Hill Publishing Co.Ltd., (widely used in India).
2. Project Management: A Managerial Approach, Jack Meredith & Smuel J.Mantel Jr., John Wiley & Sons.
3. Project Management, R.K.Singal, M.Singal & R.Singal, S.K.Kataria & Sons – Useful As a text book with Indian context.
4. Projects, Planning, Analysis, Selection, Financing, Implementation and Review, Prasanna Chandra, Tata McGraw Hill.

### **Web references:**

1. [https://www.pmi.org/about/what-is-project-management?utm\\_source=chatgpt.com](https://www.pmi.org/about/what-is-project-management?utm_source=chatgpt.com)
2. <https://www.projectmanager.com/guides/gantt-chart>
3. <https://www.asq.org/quality-resources/project-management>
4. <https://www.projectmanager.com/guides/project-closure>

## BB224 – INTERNATIONAL BUSINESS (R24)

### Course Objectives:

- |  | L | P | C | INT | EXT |
|--|---|---|---|-----|-----|
| 1. To introduce students to the basic concepts and importance of International Business. | 4 | - | 4 | 30  | 70  |
2. To explain major theories of international trade and trade barriers.
  3. To familiarize students with the international financial and foreign exchange environment.
  4. To provide knowledge about regional integration and international economic organizations.

### Course Outcomes:

#### After successful completion of the course, Students will be able to:

- CO1: Understand the fundamentals and environment of International Business.  
CO2: Explain international trade theories and balance of payments.  
CO3: Learn Foreign exchange markets and exchange rate systems.  
CO4: Describe regional trade blocs and global economic institutions.

### UNIT 1 – OVERVIEW OF INTERNATIONAL BUSINESS [CO1] (12)

Meaning and Need of International Business, Advantages and Disadvantages of International Business, Modes of entry into international business, International Business vs. Domestic Business, International Business Environment.

### UNIT 2 – THEORIES OF INTERNATIONAL TRADE [CO2] (12)

Absolute Advantage Theory, Comparative Advantage Theory, Factor Proportion Theory, Product Life Cycle Theory, National Competitive Advantage Theory, Tariff and Non-Tariff barriers, Balance of payment account and its components.

### UNIT 3 – INTERNATIONAL FINANCIAL ENVIRONMENT [CO3] (12)

Foreign Exchange Market, Types of Foreign Exchange Markets, Exchange Rate and Exchange Rate Quotations, Forward Exchange Rate, Foreign Exchange Operations, Exchange Rate Systems, Factors Affecting Exchange Rates

### UNIT 4 – REGIONAL ECONOMIC INTEGRATION [CO4] (12)

Forms of regional integration: Integration efforts amongst countries in Europe, North America and Asia, EU, NAFTA, SAARC and ASEAN. International Economic Organizations: WTO, UNCTAD, World Bank and IMF.

#### Text Books:

1. Aswathappa, "International Business", 5<sup>th</sup> edition, Tata McGraw –Hill Publishing, 2012
2. Rakesh Mohan Joshi, "International Business" Oxford Higher Education, 2011.
3. John D. Daniels and Lee H. Radebaugh, International Business, Pearson Education Asia, New Delhi, 2000.

#### Web references:

1. <http://globaledge.msu.edu>
2. <http://www.international-business-center.com>

## BB261-DATABASE MANAGEMENT SYSTEM LAB (R24)

L	P	C	INT	EXT
-	4	2	30	70

### Course Objectives:

- To provide a strong formal foundation in database concepts and technology.
- To understand the practical applicability of database management system concepts.
- To describe the basics of SQL and construct queries using SQL.
- To understand data manipulation language to query, update, and manage a database
- To provide practical knowledge to understand advanced database concepts.

### Course Outcomes:

At the end of the course, students will be able to

- Gain practical knowledge on designing and creating relational database systems.
- Build queries using SQL DML or DDL commands.
- Formulate the queries required to solve the issues in database.
- Apply various advanced queries execution such as relational constraints, joins, set operations, aggregate functions, and views on database.
- Analyze and design a real database application.

### List of Experiments:

1. Create Tables (With and Without Constraints),
2. Perform the following on tables created in Expt.1:
  - i) Inserting ii) Updating iii) Deleting Records in a Table
3. Perform the following on tables created in Expt.1:
  - i) Saving (Commit) ii) Undoing (rollback)
4. Perform the following on tables created in Expt. 1:
  - i) Altering a Table
5. Perform the following on tables created in Expt. 1:
  - i) Dropping/Truncating/Renaming Tables
6. For a given set of relation schemes, create tables and perform simple queries.
7. Perform Simple Queries with Aggregate functions.
8. Perform queries with Aggregate functions (group by and having clause).
9. Perform Queries involving-
  - i) Date Functions ii) String Functions iii) Math Functions.
10. Implement Joins on tables (Inner Join, Outer Join).

### Reference Books

1. Kevin Loney, Oracle Database 10g The Complete Reference. Tata McGraw-Hill Publishing Company Limited.
2. Scott Urman, Oracle 9i PL/SQL Programming. Tata McGraw-Hill Publishing Company Limited.
3. Parteek Bhatia, SanjivDatta and Ranjit Singh, Simplified Approach to Oracle. Kalyani Publishers.

## Web References

1. <https://www.tutorialspoint.com/dbms/>
2. <http://www.studytonight.com/dbms/introduction-to-sql>
3. <http://nptel.ac.in/courses/105102015/37>

## **BB262 – R PROGRAMMING LAB (R24)**

	<b>L</b>	<b>P</b>	<b>C</b>	<b>INT</b>	<b>EXT</b>
<b>COURSE OBJECTIVES</b>	-	4	2	30	70

**1:** To familiarize students with the installation, configuration, and basic usage of the R programming environment.

**2:** To develop logical thinking by applying conditional statements and looping constructs to solve computational problems.

**3:** To enable students to perform data manipulation using vectors, matrices, arrays, data frames, and lists.

**4:** To enhance analytical skills through statistical analysis and data visualization using R.

### **COURSE OUTCOMES**

After completion of this course, students will be able to:

**CO1:** Install and configure R programming environment and understand basic syntax, data types, and operators.

**CO2:** Apply control structures (conditional statements and loops) to solve real-world computational problems.

**CO3:** Perform data manipulation using vectors, matrices, arrays, data frames, and lists.

**CO4:** Analyze datasets and visualize results using statistical functions and graphical representations.

### **LIST OF EXPERIMENTS:**

1. Download and install the R programming environment

2. Apply all the basics of R-Programming (Data types, Variables, Operators, etc...)

3. Conditional Statements

**Aim:** To develop an R program using conditional statements (if, if-else, else-if) to solve simple business decision-making problems, such as profit or loss calculation or grading based on marks.

4. Looping Statements

**Aim:** To implement looping constructs in R (for, while, and repeat) to perform repetitive tasks such as calculating total sales or displaying values for a given range.

5. Write an R command to

i) Illustrate summation, subtraction, multiplication, and division operations on vectors using vectors.

ii) Enumerate multiplication and division operations between matrices and vectors in the R console

6. Write an R command to

i) Illustrates the usage of Vector sub-setting and Matrix sub-setting

- ii) Write a program to create an array of  $3 \times 3$  matrices with 3 rows and 3 columns.
7. Implement R Script to perform mean, median, mode, range, summary, variance, and standard deviation operations.
8. Data Frames and Lists
- Aim:** To create and manipulate data frames and lists in R for storing and managing structured data such as employee or customer information.
9. Write an R program to draw
- i) Pie chart
  - ii) 3D Pie Chart
  - iii) Bar Chart
- legend by considering a suitable CSV file.
10. Create a CSV file having Speed and Distance attributes with 1000 records. Write R program to draw
- i) Box plots
  - ii) Histogram
  - iii) Line Graph
  - iv) Multiple line graphs
  - v) Scatter plot to demonstrate the relation between the car's speed and the distance.

### **TEXT BOOKS**

1. Venkatesh Kumar, J., & Arun Kumar, S. Business Analytics Using R, Pearson Education, India.
2. Wickham, H., & Golemund, G.R for Data Science, O'Reilly Media.
3. Peter Dalgaard, Introductory Statistics with R, Springer.

### **REFERENCE BOOKS**

1. Michael J. Crawley, The R Book, John Wiley & Sons.
2. Norman Matloff, The Art of R Programming, No Starch Press.
3. The R Core Team, An Introduction to R (Official R Documentation).