

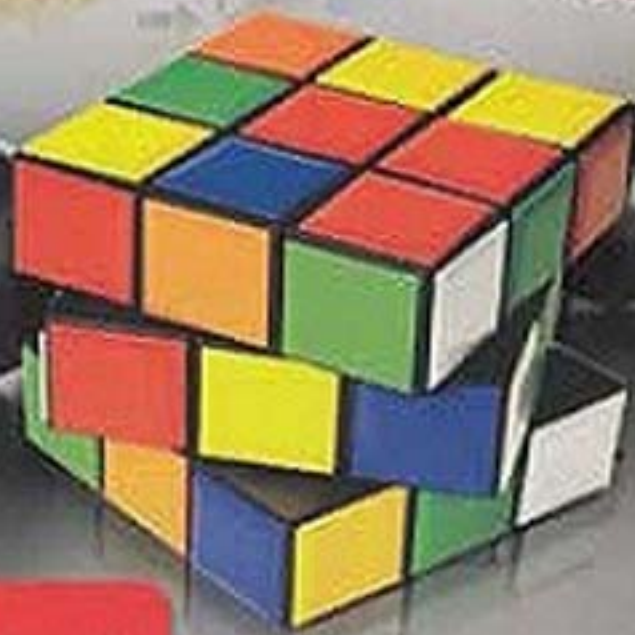
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# BUSINESS ANALYTIC AND INTELLIGENCE

( ELECTIVE - IV )

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# BUSINESS ANALYTIC AND INTELLIGENCE

Elective IV  
FOR  
SEMESTER – II

FINAL YEAR (B.E.) DEGREE COURSE IN  
COMPUTER ENGINEERING

As Per the New Revised Syllabus of  
Savitribai Phule Pune University, Pune.

(2012 Pattern)

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# PREFACE

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It gives us great pleasure to bring out the book on “**Business Analytic and Intelligence**”. This book is strictly written as per the New Revised Syllabus of Savitribai Phule Pune University, Pune (2012 Pattern) for the Students of Final Year Course in Computer Engineering.

The book is as per New Revised Examination Scheme which has been implemented from this academic year. According to this, In-Semester Examination carries 30 Marks over first three units and End-Semester Examination carries 70 Marks over entire syllabus of which the first three units will carry 20 Marks and units 4, 5 and 6 will carry 50 Marks.

We have given **Sample Question Papers of In-Semester University Examination (30 Marks) and End-Semester University Examination (70 Marks) in this book for practice.**

The subject matter is presented in simple form so as to enable the students to understand the subject easily. Sufficient care is taken to present the subject matter in the point wise form in most of the Units. The book consists of six units, which cover the entire syllabus.

This book has been written to satisfy the needs of undergraduate syllabus of the Computer Engineering Course in most of the Universities. We are quite sure that this book will serve its purpose very well for Computer and IT Engineering Students.

We gratefully acknowledge co-operation from **Shri. Dineshbhai Furia, Shri. Jignesh Furia, Mrs. Nirali Verma, Shri. M.P. Munde** and **Mrs. Deepali Lachake** (Co-ordinator) of **Nirali Prakashan.**

Also, it is important to mention invaluable moral support of our beloved family members, who consistently encouraged us for better work.

Despite the best efforts taken by authors, it is possible that some unintentional errors might have taken place. Authors would gratefully acknowledge if any of these is pointed out.

Suggestions and comments for further improvement of this book will be gratefully received and acknowledged from the students, teachers and others. Feel free to write.

**Pune**  
**January 2016**

**Authors**



# SYLLABUS

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## **Unit I : Concepts with Mathematical Treatment**

**(8 Hrs)**

Introduction to data, Information and knowledge, Decision Support System, Theory of Operational data and informational data, Introduction to Business Intelligence, Defining BI Cycle, BI Environment and Architecture, Identify BI opportunities, Benefits of BI. Role of Mathematical model in BI, Factors Responsible for successful BI Project, Obstacle to Business Intelligence in an Organization.

## **Unit II : Decision Making Concepts**

**(6 Hrs)**

Concepts of Decision Making, Techniques of Decision Support System (DSS), Development of Decision Support System (DSS), Applications of DSS, Role of Business Intelligence in DSS.

## **Unit III : Data-Warehouse**

**(6 Hrs)**

Introduction : Data warehouse Modeling, data warehouse design, data-ware-house technology, Distributed data warehouse, and materialized view.

## **Unit IV : Data Pre-Processing and Outliers**

**(8 Hrs)**

Data Analytics life cycle, Discovery, Data preparation, Preprocessing requirements, data cleaning, data integration, data reduction, data transformation, Data discretization and concept hierarchy generation, Model Planning, Model building, Communicating Results and Findings, Operationalizing, Introduction to OLAP. Real-world Applications, types of outliers, outlier challenges, Outlier detection Methods, Proximity-Based Outlier analysis, Clustering Based Outlier analysis.

## **Unit V : Designing and Managing BI Systems**

**(6 Hrs)**

Determining infrastructure requirements, planning for scalability and availability, managing and maintenance of BI systems, managing BI operations for business continuity.

## **Unit VI : BI and Data Mining Applications**

**(6 Hrs)**

Data analytics, business analytics, ERP and Business Intelligence, BI Applications in CRM, BI Applications in Marketing, BI Applications in Logistics and Production, Role of BI in Finance, BI Applications in Banking, BI Applications in Telecommunications, BI Applications in Fraud Detection, BI Applications in Retail Industry.

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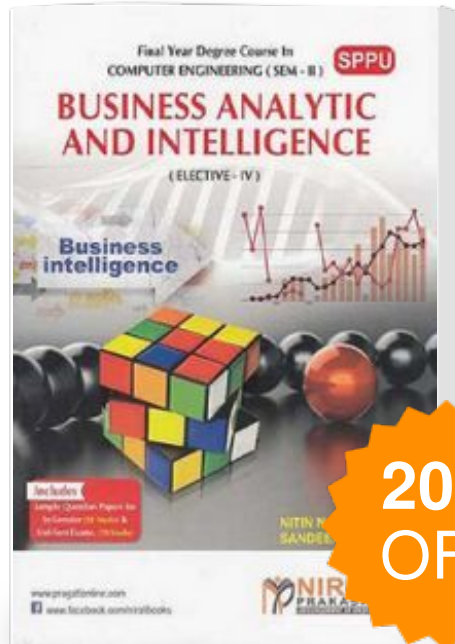
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• **Sample Question Papers for In-Semester Examination (30 Marks)** **P.1 – P.2**

• **Sample Question Papers End-Semester Examination (70 Marks)** **P.3 – P.6**



# Business Analytic And Intelligence Elective - IV



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