

## CBCS COURSE DETAILS FOR WEB PORTAL

Department of Computer Science  
Faculty of Natural Sciences  
Session: Even semester (January-June 2023)

### UG CBCS II Semester

Course/Paper Title:	PC Packages
Course/Paper Code:	UG CBCS 201
Semester in which offered:	Second Semester of UG
Course/Paper Type (Theory/Practical):	Both
CBCS Type: (Skill Enhancement/Ability Enhancement etc.):	Skill Enhancement
Max Marks:	<b>Theory: Internal Assessment (40), Semester Exam (60)</b> <b>Practical: Internal Assessment (25), Semester Lab Exam (25)</b>
No of Credits: 4 (Lecture -Tutorial – Practical)	3-0-2
No. Of Seats:	40
Seat allocation policy:	First-cum-First-Serve
Class Timings: As per Central time-table slot	<b>Theory: Monday to Friday, 2 PM to 2:50 PM</b> <b>Practical: Friday, 4:30 Pm to 6 PM / 2:50 PM to 4:30 PM</b>

Advisor Name & E. Mail: Prof. Suraiya Jabin, sjabin@jmi.ac.in

### Prerequisites

Nil

### Expected Learning Outcomes:

- Write a project report using all essential word features such as automated ToC, List of Tables/Figures, Reference manager, Sections, header & footer, image, Table, end note, footnote, etc.
- Proof-read/Edit a word document using Review and track changes option.
- Design power point presentation for presenting a project proposal/report or a quiz master using features such as animation, slide master, handout master, etc.
- Create excel sheets to create marksheet, balance sheet, attendance sheet summary, etc using features such as Data Validation, Auditing, Pivot Tables, Macros, etc.
- Create a database with various keys and constraints, pose queries, to create forms and reports etc.

### Course Contents

1. **Microsoft Word:** Introduction to Microsoft Word, Document Views, Entering and Editing Text, Saving and Opening Documents, Navigating and Selecting Text, Editing, Copying and Moving Text, Formatting Documents, Using Bulleted and Numbered Lists, Using Tabs, Introduction to Tables, Inserting Pictures, Page Layout and Printing, Introduction to Styles, Themes and Templates, Managing Bulleted and Numbered Lists, Customising Tables and using Formulas, Inserting Text Objects, Inserting Graphic Objects, Using Quick Parts, Multi-Section Documents, Headers and Footers in large documents, Proofing Tools, Review with Track changes, Integrating with other Programs, Managing Styles and Templates, Managing Changes, Structured Documents, Hyperlinked Tables of Contents and Indexes, Managing Large Documents, Mail Merge, Document Protection, Forms, Word Options
2. **Microsoft PowerPoint:** Get started with PowerPoint, create a presentation, format text on slides, add graphical objects to a presentation, modify objects on slides, add tables to a presentation, add charts to a presentation,

prepare to deliver a presentation, Add Transitions using hyperlinks, Apply an Animation Effect, Create Speaker Notes, Slide Master, Handout Master, Notes Master, Print a Presentation; OneNote: Introduction to OneNote notebook, Tagging, organizing, and finding information.

3. **Microsoft Excel:** Introduction to Microsoft Excel, Entering and Amending Data, Saving and Opening Workbooks, Navigating and Selecting Ranges, Entering Formulas, Inserting/Deleting Rows and Columns, Formatting Worksheets, Using Simple Functions, Copying, Moving and AutoFill, Relative vs. Absolute References, Previewing and Printing, Find and Replace, Managing Range Names, Using Multiple Worksheets, Cell Styles and Conditional Formatting, Paste Special, Text and Date Formulas, IF Function, Using Charts, Sorting and Filtering Lists, Using Tables, SmartArt and Drawings, Comments and Hyperlinks, Importing and Exporting Data, Date and Time Formulas, Custom Formats, IF and Related Functions, VLOOKUP and Related Functions, Advanced Filter / Subtotals, Database Functions, Multiple Workbooks / Consolidation, Data Validation, Auditing, Pivot Tables, Macros, Shared Workbooks / Tracking, Protecting Worksheets, Using Templates
4. **Microsoft Access:** Examine the basic database concepts and explore the Microsoft Office Access 2007 environment, Design a simple database, Build a new database with related tables, Manage data in a table, Query a database using different methods, Design forms, Generate reports, Modify the design and field properties of a table to streamline data entry and maintain data integrity, Retrieve data from tables using joins, Create flexible queries to display specified records, Allow for user-determined query criteria, and modify data using queries, Enhance the capabilities of a form, Customize reports to organize the displayed information and produce specific print layouts, Share data across different applications.

### **Reference Books:**

Microsoft Office Inside Out 2013 Edition, by Ed Bott and Carl Siechert, ISBN: 978-0-7356-6906-2, Published by Microsoft, (downloadable book)

First Look 2007 Microsoft Office System, by Catherine Murray, Publisher: Microsoft

Microsoft Office 2010 Bible by John Walkenbach Herb Tyson Michael R. Groh Faithe Wempen Lisa A. Bucki, Publisher: Wiley, 2014

Microsoft Office 2007 Training Manual, Copyright ©2007 by EZ-REF Courseware, Ladera Ranch, CA

## UG CBCS IV Semester

Course/Paper Title:	<b>Website Design &amp; Management</b>
Course/Paper Code:	<b>UG CBCS 401</b>
Semester in which offered:	<b>Fourth Semester of UG</b>
Course/Paper Type (Theory/Practical):	<b>Both</b>
CBCS Type: (Skill Enhancement/Ability Enhancement etc.):	<b>Skill Enhancement</b>
Max Marks:	
	<b>Theory: Internal Assessment (40), Semester Exam (60)</b>
	<b>Practical: Internal Assessment (25), Semester Lab Exam (25)</b>
No of Credits: 4 (Lecture -Tutorial – Practical)	<b>3-0-2</b>
No. Of Seats:	<b>40</b>
Seat allocation policy:	<b>First-cum-First-Serve</b>
Class Timings:	As per Central time-table slot
	<b>Theory: Monday to Wednesday, 3:10 PM to 3:50 PM</b>
	<b>Practical: Friday, 2 PM to 3:40 PM</b>

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### Prerequisites

Nil

### Expected Learning Outcomes:

- To become familiar with graphic design principles that relate to web design and learn how to implement theories into practice.
- Develop skills in analyzing the usability of a web site.
- Understand how to plan and conduct user research related to web usability.
- Learn to use best-practice idioms and patterns.
- Understand concepts commonly used in dynamic language programming, such as introspection, higher-order functions, and closures.
- Become adept at implementing client-side interfaces/servers.

### Course Contents

1. **Web basics and overview:** Introduction to networking, the Internet, domain name system, the Web, content type, Web hosting, domain registration, what are name servers, web development process, dynamic generation of web pages, protocols – HTTP, HTTPS.
2. **HTML/ CSS:** HTML basics, elements and entities, history of HTML, XHTML syntax, core attributes, heading, paragraphs, controlling presentation styles, colors, text fonts, lists, hyperlinks, images, image maps, tables, head elements, frames, forms and introduction to CSS.
3. **Web design basics:** What is design, design and perception, brief history of design on the Web, elements of design, unity and variety, emphasis, focal point and hierarchy, contrast, visual balance, layout overview, Website architecture, information architecture, Types of web editors, WYSIWYG editors.
4. **JavaScript and Web servers:** Embedding JavaScript in a webpage, rollovers, preloading images, making comparisons, built-in functions, matching patterns, JavaScript objects, Windows, creating user interactions, a conversion calculator, form checking, testing and debugging; Web servers, client-side versus server-side scripting.

**Reference Books:**

Joel Sklar, Web design principles, 5th edition, Cengage Learning, 2012

Wang and Katila, An introduction to Web design + programming, Cengage Learning, 2008

Deitel – Internet & World Wide Web: How to Program, PHI

Steven Holzner - HTML Black Book, DreamTech Press

Michael K. Glass, et. al.- Beginning PHP, Apache, MySQL Web Development, Wrox

Web Resources: <http://www.w3schools.com/>

## UG CBCS VI Semester

Course/Paper Title:	<b>Business Information Systems</b>
Course/Paper Code:	<b>UG CBCS 601</b>
Semester in which offered:	<b>Sixth Semester of UG</b>
Course/Paper Type (Theory/Practical):	<b>Theory</b>
CBCS Type: (Skill Enhancement/Ability Enhancement etc.):	<b>Ability Enhancement</b>
Max Marks:	<b>Theory: Internal Assessment (40), Semester Exam (60)</b>
No of Credits: 4 (Lecture -Tutorial – Practical)	<b>3-1-0</b>
No. Of Seats:	<b>40</b>
Seat allocation policy:	<b>First-cum-First-Serve</b>
Class Timings: As per Central time-table slot	<b>Theory: Monday to Thursday, 9:20 AM to 10:10 AM</b>

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### **Prerequisites**

Nil

### **Expected Learning Outcomes:**

- To understand, analyze and model the flow of information through business processes.
- Formulate plans and architectures for the capture, storage and retrieval of data.
- Develop computer programs to support or automate business processes.

### **Course Contents**

1. **e-Business Systems:** System and Models; Need for Framework and Models; Work System Framework; Work System Principles; Relationship between Work Systems and Information Systems; Need for Balanced View of a System; Business Operation Through Systems; Phases of Building and Maintaining Systems; Information Technology as Driving Force for Innovations: Greater Miniaturization, Speed and Portability, Greater Connectivity and Continuing Convergence of Computing and Communication Technologies, Greater Use of Digitization and Multimedia, Better Software Techniques and Interface with People; and Obstacles in Applying IT in Real World.
2. **Business Processes:** Business Processes; Process Modeling: DFD, Flowcharts and Structured English; Process Characteristics: Degree of Structure, Range of Involvement, Level of Integration, Rhythm, Complexity, Degree of Reliance on Machines etc; Communication and Decision Making; Evaluating Business Process Performance: Activity Rate and Output, Consistency, Productivity, Cycle Time, Downtime and Security; Basic Communication and Decision Making Concepts.
3. **Typical Information Systems:** Information System Categories related to Specific Functional Areas of Business, IS Categories applicable Functional Areas; Office Automation Systems; Communication Systems: Teleconferencing, E-Mail, Fax, SMS, Groupware, Internet, Intranets, Extranets, Knowledge Management, and Group Support Systems; Transaction Processing Systems; MIS and Executive Information Systems; Decision Support Systems: Simulation and Optimization, OLAP and Data Mining, Expert Systems.
4. **Customer, Product and IT:** Customer's View of Product and services; The Customers' Experience; Evaluating Products and Services – Cost, quality, responsiveness, Reliability and Conformance to standards; Performance Variables of IT – Functional Capabilities and Limitations, Ease of use, Compatibility and Maintainability; Units of Measurement – Amount of Data, Time etc; Overview of Computer systems- Basic Model and types; Approaches of Organizational Computing-Centralized, Personal, Distributed, Networked and Client-Server.

**Reference Books:**

Alter Steven: Information Systems – The Foundations of E-Business, 4th Ed, Pearson Education

Haag & Cummings: Information Systems Essentials, 3ed; Tata McGraw Hill

Simha & Magal: Business Information Systems – Analysis and Design and Practice, 6ed, AW

Nickeson: Business Information Systems, 2nd ed, Prentice Hall of India

## PG CBCS MCA II Semester

Course/Paper Title:	<b>Modelling &amp; Simulation</b>
Course/Paper Code:	<b>PG CBCS CBCSE28.1</b>
Semester in which offered:	<b>Second Semester of PG</b>
Course/Paper Type (Theory/Practical):	<b>Both</b>
CBCS Type: (Skill Enhancement/Ability Enhancement etc.):	<b>Skill Enhancement</b>
Max Marks:	<b>Theory: Internal Assessment (40), Semester Exam (60) Practical: Internal Assessment (25), Semester Lab Exam (25)</b>
No of Credits: 4 (Lecture -Tutorial – Practical)	<b>3-0-2</b>
No. Of Seats:	<b>50</b>
Seat allocation policy:	<b>First-cum-First-Serve</b>
Class Timings: As per Central time-table slot	<b>Theory: Monday, 2:50 PM to 4:30 PM, Tuesday, 2:50 PM to 3:40 PM Practical: Wednesday, 2:50 PM to 4:30 PM</b>

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### **Prerequisites**

Nil

### **Expected Learning Outcomes:**

- Define the basics of simulation modelling and replicating the practical situations in organizations
- Generate random numbers and random variates using different techniques.
- Develop simulation model using heuristic methods.
- Analysis of Simulation models using input analyser, and output analyser.
- Explain Verification and Validation of simulation model.

### **Course Contents**

1. **Basics:** Concepts of Systems, Models, and Simulation. Distributed Lag Model, Cobweb Models; The process of a simulation Study, Exponential Growth Models, Exponential Decay Models, Type of simulation, Discrete-Event Simulation: Time-Advance Mechanisms, Components and Organization of a Discrete Event Simulation Model.
2. **Simulation Problems:** Monte Carlo Method, **Discrete** Simulation and Continuous Simulation and their Examples; **Discrete Simulation:** Simulation of Inventory problem, Simulation of Single-Server Queuing System, **Continuous Simulation:** Pure-pursuit Problem.
3. **Random Number Generators:** Linear Congruential Generators, Other kinds of Generators, Testing Random-Number Generators; Generating Random Variates: Various Approach Approaches.
4. **Output Data Analysis for a Single System & Simulation Languages:** Transient and Steady-State Behaviour of a Stochastic Process, Type of Simulations with regard to output Analysis and Statistical Analysis for Testing Simulation; Comparisons of Simulation Packages with programming languages Introduction to different types of Simulation Languages. Factors in Selection of discrete system simulation; Object-Oriented Simulation.

5. **Verification and Validation:** Model Building, Verification of Simulation Models: Validating first-time model, Subsystem validity, internal validity, sensitive analysis, face validity; Calibration and Validation of Models, Validation of Model Assumptions, Validating Input, Output Transformations.

**Reference Books:**

Geoffrey Gordon: System Simulation. PHI

M. Law & W. D. Kelton: Simulation Modeling and Analysis. Mc Graw Hill

Fred Maryanski: Digital Computer Simulation. Hayden Book Co

Jerry Banks: Handbook of Simulation: Principles, Methodology, Advances, Applications and Practice, Wiley

P. B. Zeigler: Theory of Modelling and Simulation. Krieger

J. Banks et al: Discrete Event System Simulation. Pearson