DEPARTMENT OF COMPUTER SCIENCE

COURSE CURRICULUM & MARKING SCHEME

B.Com. Part – II & III
COMPUTER APPLICATION

SESSION : 2022-23

ESTD: 1958

GOVT. V.Y.T. PG AUTONOMOUS COLLEGE, DURG, 491001 (C.G.)

(Former Name – Govt. Arts & Science College, Durg)

NAAC Accredited Grade A⁺, College with CPE - Phase III (UGC), STAR COLLEGE (DBT)

Phone : 0788-2212030

Website - www.govtsciencecollegedurg.ac.in, Email – autonomousdurg2013@gmail.com

Govt. V.Y.T. PG Autonomous College Durg (CG)

SCHEME OF EXAMINATION
&
SYLLABUS

of

Choice Based Credit System(CBCS)
for
B.Com.(Computer Application)
II & III YEAR

Department of Computer Science

Session – 2022-23

(Approved by Board of studies)

B.Com.
(Computer
Application)

DEPARTMENT OF COMPUTER SCIENCE
GOVT. V.Y.T. PG. AUTONOMOUS COLLEGE DURG

Approved syllabus for B.Com Computer Application by the members of Board of Studies
Fourth Session 2022-23
The syllabus with the paper combinations is as under

B.Com.-II:

Paper I: INTERNET APPLICATION AND E-COMMERCE	Paper II: RELATIONAL DATABASE MANAGEMENT SYSTEM
Paper III: COMPUTER PRACTICAL	

B.Com.-III:

Paper I: COMPUTER APPLICATION PROGRAMMING IN VISUAL BASIC	Paper II: COMPUTER APPLICATION SYSTEM ANALYSIS DESIGN& MIS
Paper III: COMPUTER PRACTICAL	

The syllabus for B.Com Computer Application is hereby approved for the session 2022-23.

Name and Signatures

	Departmental members
V.C. Nominee ……………………………..	1. Head /Mr. Durgesh Kumar Kotangle………….
Subject Expert ………………(D. P. Rao……)	
Subject Expert………………………………….	2. Mr. Dileep Kumar Sahu…………….
Alumni (member)………………………………….	
Prof. from other Dept. of Sc. Faculty ……………..	3. Mrs. LatikaTamrakar…………. 25/07/22
Specialist from Industry …………………………….	

2

Syllabus and Marking Scheme for BCOM (CA)-PART-II
Session 2022-23

Paper No.	Paper Code	PROGRAM NAME	Title of the Paper	Marks Allotted in Theory	
				Max	Min
I	BCOCA-201	BCOM (COMP. APPLICATION) PART-II	INTERNET APPLICATION AND E- COMMERCE	50	17
II	BCOCA-202	BCOM (COMP. APPLICATION) PART-II	RELATIONAL DATABASE MANAGEMENT SYSTEM	50	17
III	BCOCA-203	BCOM (COMP. APPLICATION) PART-II	Lab course/ Practical	50	17
			Total	150	51

1. Theory papers   -   100
2. Practical   -   50

   Total Marks   -   150

Name and Signatures

V.C. Nominee ……………………………….

Subject Expert ……………… (D. P. Rao)

Subject Expert……………………………………

Alumni (member)…………………………………

Prof. from other Dept. of Sc. Faculty …………………

Specialist from Industry ……………………………

Departmental members

1. Head /Mr. Durgesh Kumar Kotangle …………….

2. Mr. Dileep Kumar Sahu……………

3. Mrs. LatikaTamrakar………………

GOVT. V. Y. T. P. G. AUTO. COLLEGE, DURG
B. COM. - PART II
(COMPUTER APPLICATION)
SYLLABUS FOR: (2022-23)
Subject Code: BCOCA-201, PAPER - I
(INTERNET APPLICATION AND E- COMMERCE)

Max Marks: 50   **Min Marks : 17**

Course Objective: Become familiar with graphic design principles that relate to web design and learn how to implement theories into practice.

Course Outcomes:

1. Understand the basics of Internet and its protocol.
2. Create web pages using HTML and Cascading Styles sheets
3. Analyze a web page and identify its elements and attributes.
4. Demonstrate an understanding of relating in E- commerce by analyzing branding and pricing strategies, determining the effectiveness of market research.
5. Understand the basics of E-Commerce.

UNIT -I INTRODUCTION TO HTML:
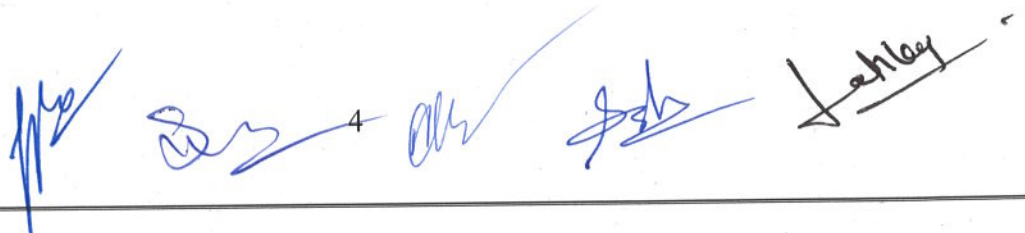
Introduction to internet and world wide web: Internet – Indian and the internet, Profile of Indian surfer, History of the internet, application on internet environment, movement of files/data between two computers, TCP/IP addresses, domain name system, domain name services, allocation of second level domain in India, internet and India, Indian internet history, technological foundation of internet. World Wide Web (WWW) – WWW consortium browsing and information retrieval, exploring the WWW, address: URL.

UNIT –II INTRODUCTION TO HTML & DESIGNING WEB PAGE:

Concept of website, web standard, what is HTML, HTML document / file, HTML editor, Explanation of the structure of the Homepage, element in HTML documents, HTML elements, HTML tags and basic HTML tags viewing the source of web page & downloading the web page source, Extensible HTML, CSS, XML, XSL, Illustration of document structure, Make up element within the Head: BASE, ISINDEX, LINK, META, TITLE, SCRIPT.

UNIT -III HTML DOCUMENT STRUCTURE & HTML FORMS:

Body Section – illustration, Body elements, Background, TEXT BODY element, ADDRESS, BLOCKQUOTE, TABLE, COMMENTS, CHARACTER Emphasis modes, logical styles, Physical Styles, FONT, BASEFONT and CENTER, Image, Internet and external linking between web pages – IMG HEIGHT, WIDTH, ALT, ALLIGN, illustration of IMG elements, Hypertext Anchors, Name attribute in Anchor ,HTML Forms – forms, form tag, form structure, input types, Drop down menu or select menu tags, image buttons.

4

UNIT- IV INTRODUCTION TO E–COMMERCE & BUSINESS STRATEGY IN ELECTRONIC AGE:

E- Commerce – Scope & definition of language, E- Commerce & Trade cycle, e- market, e- data interchange, Internet commerce, e – commerce in perspective.

Business Strategy – The value chain, competitive advantage, business strategy, Case-study: e – commerce in Passenger Air Transport.

UNIT – V B TO B E – COMMERCE & B TO C E – COMMERCE:

Business to Business e – commerce , inter organization, transactions , electronic markets, Electronic Data Interchange (EDI) - the nuts and bolts, EDI and business, Inter organizational e – commerce.

Business to consumer e - commerce: consumer trade The elements of e – commerce – element, e – visibility, e – shop online payments, delivering the good, after sales service, Internet e – commerce Security a web site evaluation model.

E – Business – introduction, internet bookshops, Software supplies & support, e newspapers, internet banking, virtual auctions, online share, gambling on net, e – diversity.

TEXT BOOKS:
1. AN INTRODUCTION TO HTML – DR. KAMESH N. AGRAWAL, DR. O.P. VYAS, DR. PRATEEK A. AGRAWAL.
2. E- COMMERCE STRATEGY, TECHNOLOGIES & APPLICATIONS – DAVIDWHITELEY
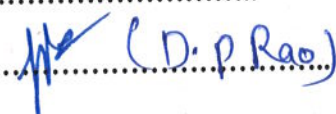
REFERECE BOOKS:
1. AN INTRODUCTION TO HTML - DR. KAMESH N. AGRAWAL, DR. O.P. VYAS, DR. PRATEEK A. AGRAWAL.
2. BUSINESS ON THE NET – DR. KAMESH N. AGRAWALA (MACMILLAN INDIA LTD.)

Name and Signatures

V.C. Nominee ………………………………	**Departmental members**
Subject Expert …………… (D. P. Rao)	1. Head /Mr. Durgesh Kumar Kotangle ……………
Subject Expert…………………………………	2. Mr. Dileep Kumar Sahu………………
Alumni (member)……………………………	3. Mrs. LatikaTamrakar………………
Prof. from other Dept. of Sc. Faculty……………	
Specialist from Industry ………………………	

5

Max Marks: 50   **Min Marks : 17**

Course Objective: The primary goal of a DBMS is to provide an environment that is both convenient and efficient to use in retrieving and storing data base information. The DBMS is the interface between the user of application programs on one hand and the data base on the other.

Course Outcomes:
1. Knowledge & Understanding : Databases and their design & development
2. Intellectual Cognitive/ analytical skills: Normalization of Databases.
3. Transferable skills: Usage of DBMS design and administration.
4. Gather data to analyze and specify the requirements of a system.
5. Practical Skills: Using SQL and PL/SQL.

UNIT – I DATABASE SYSTEM CONCEPT & ENTITY RELATIONSHIP MODEL:

why database, database independence, an architecture for a database system, DDL and DML, data dictionary structures and corresponding operators, data models, the relation approach, the network approach, DBMS storage structure and access method. Entity – Relationship models as a tool for conceptual design entities attributes and relationship ER diagrams: strong and weak entities Generalization, Specialization and aggregation, converting and ER- model into relational.

UNIT – II RELATIONAL DATABASE MANAGEMENT SYSTEM:
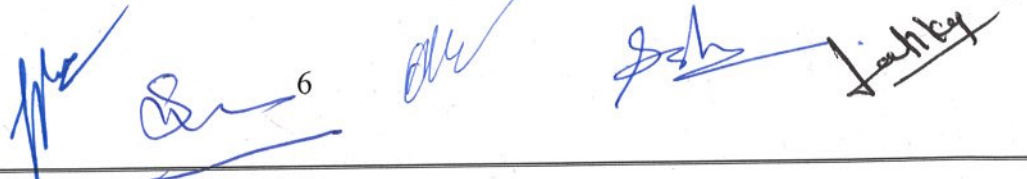
Relational model: structure to relational database, relation algebra, the domain relation, calculus, extended relational – algebra operation, modification of database, Views Relational Database Design: Pitfalls in Relational Database Design. Functional Dependences, Normalization: 1NF, 2NF, BCNF, 3NF, 4NF, 5NF operations not involving cursors, operations involving cursors, dynamic statements, security & integrity security specification in SQL.

UNIT – III RELATIONAL DATABASE DESIGN:

Relational algebra, traditional set operators, attributes name for derived relations, special relation operations, further normalization, functional dependency, first   , second and third normal forms, BCNF forms, relations with more than one candidate key, good and bad decompositions, fourth normal form, fifth normal form De – normalization.

UNIT – IV INTRODUCTION TO RDBMS SOFTWARE – ORACLE:

(a) Introduction: Introduction to personal and Enterprises oracle, data types, commercial query language, SQL, SQL*PLUS.
(b) DDL and DML: Creating table, specify integrity constraint. Modifying Existing Table, dropping table, Inserting, deleting and updating rows in as table, where clause, operators, ORDER BY, GROUP BY Function SQL Function, JOIN, set operation, SQL sub Queries, View: what is views, create Drop and Retrieving data from views.

UNIT – V INTRODUCTION TO PL/SQL:

   (a)   Security management of Roles, changing password, crating roles and privilege, with drawing privileges.

   (b)   PL / SQL: Block structure in PL / SQL, variable and constants, running PL/SQL in SQL*PLUS, database access with PL/SQL, Exception Handling, Record data type in PL/SQL, Triggers in PL/SQL.

SUGGESTED BOOKS:

1. DATABASE SYSTEM: KORTH&SIBERSCHATZ.
2. AN INTRODUCTION TO DATABASE SYSTEM: C.J. DATE.

Name and Signatures

V.C. Nominee	
Subject Expert .... (.D..P..Rao)..	
Subject Expert...	
Alumni (member)..	
Prof. from other Dept. of Sc. Faculty	
Specialist from Industry	

Departmental members

1. Head /Mr. Durgesh Kumar Kotangle
   ....

2. Mr. Dileep Kumar Sahu...............

3. Mrs. LatikaTamrakar...............

7

GOVT. V.Y.T. P.G. AUTONOMMOUS COLLEGE, DURG
SYLLABUS FOR: (2022-23)
B.COM. PART II
Subject Code: BCOCA-203, PAPER - III
(Practical Exercise Based on paper I & II)

Course Objective:
1. The primary goal of a DBMS is to provide an environment that is both convenient and efficient to use in retrieving and storing data base information.
2. The DBMS is the interface between the user of application programs on one hand and the data base on the other. Home page Development static pages (using Only HTML).
3. To familiarize issues of concurrency control and transaction management.

Course Outcomes:
1. Analyze a web page and identify its elements and attributes.
2. Create web pages using HTML and Cascading Styles sheets.
3. Demonstrate an understanding of the relational data model.
4. Transform an information model into a relational database schema and to use a data definition language and/or utilities to implement the schema using a DBMS.

Practical to be done:

1. Creating simple web pages using html.

2. Designing business web site using html features (e.g. html forms).
(Each student should study the existing business web sites and do at least 05 exercises to create business websites using various html features).

3. Should perform various queries using SQL.
(Each student should create ER diagram for various business scenario and convent it into tables, using any RDBMS software (i.e. Oracle/Access).

4. Practical using various aspects of Oracle.
(At least 10 practical exercises covering the contents of paper-II)

Name and Signatures

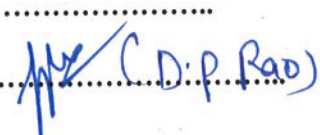|	Departmental members
V.C. Nominee ………………………………..	
Subject Expert …………………… (D.P. Rao)	1. Head /Mr. Durgesh Kumar Kotangle ……………
Subject Expert………………………………	
Alumni (member)………………………………	2. Mr. Dileep Kumar Sahu………………
Prof. from other Dept. of Sc. Faculty ……………	3. Mrs. LatikaTamrakar……………
Specialist from Industry ……………………………	

DIRECTIVES FOR STUDENTS, FACULTY AND EXAMINERS

1. There shall be three sections (Section A, B, and C) in each theory paper.

2. Section A shall contain very short answer type questions (One or two line answer) or objective type questions (fill in the blank). **(not multiple choice questions)**

3. Section B shall contain short answer type questions with the limit of 150 words

4. Section C shall contain long answer/ descriptive type questions. The students are required to answer precisely and the answer should not exceed the limit of 350 words.

5. The students are required to study the content mentioned in the curriculum exhaustively.

EVALUATION PATTERN

➢ **Theory 50 marks**

➢ **Practical 50 marks**

Question Type	MM 50 (Marks X No. of Q.)
A (Very short Ans.)	1X10 = 10
B (Short Ans.)	3X5 = 15
C (Long Ans.)	5X5 = 25

Name and Signatures

V.C. Nominee …………………………………..	**Departmental members**
Subject Expert …………………… (D.P. Rao)	1. Head /Mr. Durgesh Kumar Kotangle …………..
Subject Expert…………………………………	2. Mr. Dileep Kumar Sahu……………
Alumni(member)…………………………………	
Prof. from other Dept. of Sc. Faculty ………………..	3. Mrs. LatikaTamrakar…………..
Specialist from Industry …………………………..	

Corrigendum for UG Classes

1. Section –A (very short answer question)

There shall be 8/9/10 objective type questions (No multiple choice). All questions are compulsory; at least one from each unit.
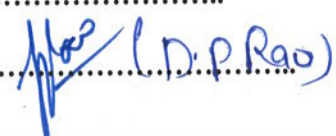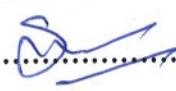
2. Section B, Section C

There shall be 10 questions, two questions from each unit.

The candidate has to attempt one question from each unit.

Name and Signatures

V.C. Nominee ……………………………………	**Departmental members**
Subject Expert ………………… (D.P.Rao)	1. Head /Mr. Durgesh Kumar Kotangle ……………
Subject Expert………………………………	2. Mr. Dileep Kumar Sahu……………
Alumni (member)…………………………	3. Mrs. Latika Tamrakar………………
Prof. from other Dept. of Sc. Faculty ………………	
Specialist from Industry ……………………………	

Syllabus and Marking Scheme for BCOM (CA)-PART-III
Session 2022-23

Paper No.	Paper Code	PROGRAM NAME	Title of the Paper	Marks Allotted in Theory	
				Max	Min
I	BCOCA-301	BCOM (COMP. APPLICATION) PART-III	COMPUTER APPLICATION-PROGRAMMING IN VISUAL BASIC	50	17
II	BCOCA-302	BCOM (COMP. APPLICATION) PART-III	COMPUTER APPLICATION SYSTEM ANALYSIS DESIGN& MIS	50	17
III	BCOCA-303	BCOM (COMP. APPLICATION) PART-III	Lab course/ Practical	50	17
			Total	150	51

1. Theory papers   -   100
2. Practical   -   50

Total Marks   -   150

Name and Signatures

V.C. Nominee ………………………………..
Subject Expert ………………… (C.D.P.Rao)
Subject Expert…………………………………
Alumni (member)………………………………
Prof. from other Dept. of Sc. Faculty ……………
Specialist from Industry ………………………

Departmental members

1. Head /Mr. Durgesh Kumar Kotangle …………..

2. Mr. Dileep Kumar Sahu………..

3. Mrs. LatikaTamrakar……………

11

GOVT.V.Y.T.P.G. AUTO. COLLEGE, DURG(C.G.)
SYLLABUS FOR: (2022-23)
B.COM PART-III
Subject Code: BCOCA-301, PAPER - I
COMPUTER APPLICATION
(PROGRAMMING IN VISUAL BASIC)

Max Marks: 50   **Min Marks: 17**

Course Objective:

1. The course is designed to guide the beginning programmer in developing applications using the Visual Basic programming languages.
2. The ability to program using object-oriented tools is beginning to be treated as fundamental knowledge of the VB.
3. Students will be introduced to object-oriented programming concepts of VB.

Course Outcomes:

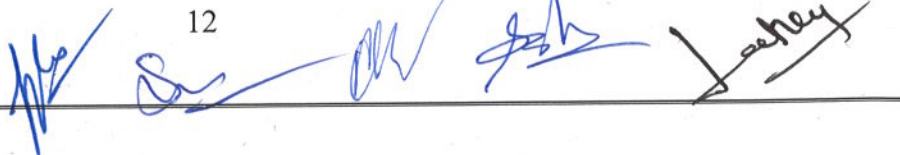Upon completion of the course the participant will be able to:

1. Understand The Visual Basic Integrated Development Environment (IDE) and its wealth of development tools.
2. Build effective user interfaces with Visual Basic controls, forms, and other GUI components.
3. Learn the use of the debugging and testing tools available in Visual Studio.
4. Use the Packaging and Deployment tool to deliver completed applications to end users.
5. Use Database access using Visual Basic's ADO Control and data-aware components like the Data Grid and Data Environment Designer.

UNIT-I INTRODUCTION TO VISUAL BASIC, PROGRAMS, VARIABLES- Editions of Visual Basic. Event Driven Programming, Terminology, Working environment, project and executable files, Understanding modules, Using the code editor window, Other code navigation features, Code documentation and formatting, environment options, code formatting option automatic code completion features. Introduction to objects, Controlling objects, Properties, methods and events, Working with forms, interacting with the : MsgBox function, Code statements, Managing forms, Creating a program in visual Basic, Printing, Overview of variables, user-defined data types, constants working with procedures, Working with dates and times, Using the Format Function, Manipulating text string.

UNIT-II   CONTROLLING PROGRAM EXECUTION,WORKING WITH CONTROL- Comparison & logical operators, If…Them statements, select case statement looping structures, using Do…Loop structures, For Next statement, exiting a loop. Types of control, Overview of standard control , Combo Box and List Box , Option Button and Frame controls Menu, Status bars, Toolbars, Advanced standard controls, ActiveX controls, Insert table objects, Arrays, Dynamic Arrays.

UNIT-III   PROCEDURE, FUNCTION ERROR TRAPPING & DEBUGGING- Procedure, Function, call by value, call by reference, Type definition, with object, Validation, Overview of run-time errors, error handling process, The Err object, Errors and calling chain, Errors in an error-handling routine, inline error handing, Error handling styles, General error-trapping options

Type of errors, Break mode Debug toolbar, Watch window, Immediate window, Local window, Tracing Program flow with the Call Stack.
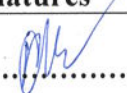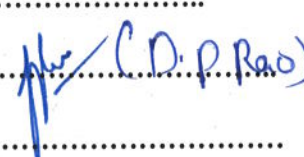
UNIT-IV   **SEQUENTIAL AND RANDOM FILES**– Saving data to file, basic filling, data analysis and file, the extended text editor, File organization Random access file, The design and coding, File Dialog Box, Picture Box, image box, Dialog Box, using clipboard, Copy, Cut, Paste of Text & Picture in Clipboard, Use of Grid control Multiple document interface, Single documents interface.
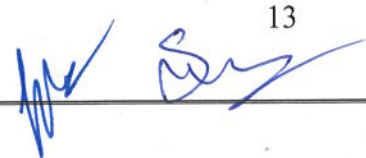
UNIT-V   **DATA ACCESS UNSING THE ADO DATA CONTROL & REPORT GENERATION-** Overview of Active-x data Objects, Visual Basic data access features, Relational database concepts Using the ADO Data control to access data, Overview of DAO RDO, Data Control, structured query language (SQL), Manipulating data Using Data Form Wizard. Overview of Report, Data Report, Add groups, Data Environment, connection to database introduction to Crystal Report Generator.

BOOK REFERENCE:
1.   VISUAL BASIC PROGRAMMING   – REETASAHU, B.P.B.PUBLICATION.
2.   MASTERING IN VISUAL BASIC   – BY BPB PUBLICATIONS.
3.   VISUAL BASIC PROGRAMMING   – MARK BIT.

Name and Signatures

V.C. Nominee …………………………..	**Departmental members**
Subject Expert ………………….(.D.P.Rao)	1. **Head /Mr. Durgesh Kumar Kotangle** ………….
Subject Expert……………………………	2. **Mr. Dileep Kumar Sahu**………….
Alumni (member)……………………………	
Prof. from other Dept. of Sc. Faculty ………………	3. **Mrs. LatikaTamrakar**………….
Specialist from Industry …………………………	

GOVT.V.Y.T.PG. AUTO. COLLEGE, DURG(C.G.)
SYLLABUS FOR: (2022-23)
B.COM PART-III
Subject Code: BCOCA-302, PAPER -II
COMPUTER APPLICATION
(SYSTEM ANALYSIS DESIGN& MIS)

Max Marks: 50   **Min Marks : 17**

Course Objective: MIS's main goals are to help an organization's executives make decisions that improve the organization's agenda and incorporate the company's organizational structure and dynamics to better leverage the organization for a competitive advantage.

Course Outcomes:

After the completion of the course, Students will be able to

1. Know about the various steps of software devolvement life cycle.
2. Analyze the structure of a system using structured analysis tools such as DFD, ER diagram, Data dictionary etc.
3. Learned about the importance of feasibility study in development model.
4. Learned about the system maintenance and its various types.
5. Translate the role of information systems in organizations, the strategic management processes, with the implications for the management.

UNIT-I   **INTRODUCTION** – Systems Concepts and the information systems environment: Definition of system, Characteristics of system, elements of system, types of system, The system Development life cycle: consideration of candidates system. The Role of System Analyst: Introduction, the multiphase role of the analyst, the analyst/user interface, the place of the analyst in the MIS organization.

UNIT-II   **SYSTEM ANALYSIS, TOOLS OF STRUCTURED ANALYSIS, FEASIBILITY STUDY-**

System Planning and initial investigation: Basis for planning in systems analysis, initial investigation, fact finding, fact analysis, determination of feasibility. Information Gathering: Kind of information gathering tools. Structured Analysis, flow chart , DFD, Data Decision Tree, Structured English, Decision Table, System Performance, Feasibility Study, Data analysis.

UNIT-III   **SYSTEM DESIGN & SYSTEM IMPLEMENTATION** –The process of Design Methodologies. Input Design. Form Design, File Structure, File organization, data base design, System Testing, the test plan, quality assurance, data processing auditor, Conversion, post implementation review, Software Maintenance.

14

UNIT-IV   **INTRODUCTION TO MIS & OTHER SUBSYSTEM** – Evolution of MIS, Need of MIS, Definition & Benefits of MIS, Characteristic, Role component of Information system, data base as a future of MIS, Decision making, logic of Management Information system, Structure of MIS.
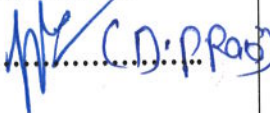
UNIT-V   **INFORMATION SYSTEM CONCEPT** – Deference between Transaction Processing, System (TPS) and Management Information System, How MIS works, MIS and Information Resource Management, Quality information Building Blocks for the information system, information system concept, Other system characteristic (Open & Closed System), difference between MIS -& Strategic System Adaptive system, Business function information system.

BOOK REFERENCE:

1.   SYSTEM ANALYSIS AND DESIGN – ELIAS M.AWAD.
2.   SYSTEM ANALYSIS AND DESIGN – ALAN DENNIS & BARBARA HALEY WIXO.
3.   MANAGEMENT INFORMATION SYSTEMS – C.S.V. MURTHY, HIMALAYA PUBLICATION HOUSE.

Name and Signatures

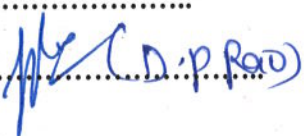|	
V.C. Nominee ……………………………………	**Departmental members**
Subject Expert ……………………… (C.D.P.Rao)	1. Head /Mr. Durgesh Kumar Kotangle …………..
Subject Expert……………………………………	2. Mr. Dileep Kumar Sahu…………….
Alumni (member)…………………………………	
Prof. from other Dept. of Sc. Faculty ……………	3. Mrs. LatikaTamrakar…………….
Specialist from Industry ……………………………	

15

GOVT.V.Y.T.P.G. AUTO. COLLEGE, DURG(C.G.)
SYLLABUS FOR: (2022-23)
B.COM PART-III
Subject Code: BCOCA-303, PAPER - III
COMPUTER APPLICATION
(PRACTICAL EXERCISES BASED ON PAPER I & II)

Practical to be done –

1. At least 20 Practical – exercises covering the contents of paper- I (e.g. Designing calculator, sorting of elements, Generating Fibonacci series)
2. Design the Project on one of the following – Application Software/Website Design/Accounting software/Inventory control System/System Software & other (e.g. library Management System, Medical management, Stock Management, Hotel Management, Website for your institute/Website of any Organization)
3. The Project cover the following topic – Objective, hardware & Software Requirements, Analysis, Design, Coding, input forms testing, Reports, Future enhancement of s/w.
4. Practical exam is based on the Project Demonstration & report.

Name and Signatures

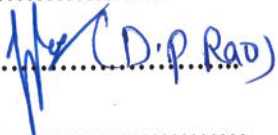|	
V.C. Nominee ……………………………………..	**Departmental members**
Subject Expert …………………… (D.P.Rao)	1. Head /Mr. Durgesh Kumar Kotangle ……………
Subject Expert……………………………………	2. Mr. Dileep Kumar Sahu………….
Alumni (member)…………………………………….	
Prof. from other Dept. of Sc. Faculty ……………..	3. Mrs. LatikaTamrakar……………
Specialist from Industry ……………………………	

DIRECTIVES FOR STUDENTS, FACULTY AND EXAMINERS

1. There shall be three sections (Section A, B, and C) in each theory paper.

2. Section A shall contain very short answer type questions (One or two line answer) or objective type questions (fill in the blank). **(not multiple choice questions)**

3. Section B shall contain short answer type questions with the limit of 150 words

4. Section C shall contain long answer/ descriptive type questions. The students are required to answer precisely and the answer should not exceed the limit of 350 words.

5. The students are required to study the content mentioned in the curriculum exhaustively.

EVALUATION PATTERN

➢ **Theory 50 marks**

➢ **Practical 50 marks**

Question Type	MM 50 (Marks X No .of Q.)
A (Very short Ans.)	1X10 = 10
B (Short Ans.)	3X5 = 15
C (Long Ans.)	5X5 = 25

Name and Signatures

V.C. Nominee ……………………………..

Subject Expert …………………… (D.P. Rao)

Subject Expert……………………………….

Alumni (member)……………………………

Prof. from other Dept. of Sc. Faculty ………………

Specialist from Industry ……………………………

Departmental members

1. Head /Mr. Durgesh Kumar Kotangle …………….

2. Mr. Dileep Kumar Sahu……………

3. Mrs. LatikaTamrakar……………

17

Corrigendum for UG Classes

1. **Section –A (very short answer question)**

    There shall be 8/9/10 objective type questions (No multiple choice). All questions are compulsory; at least one from each unit.
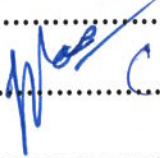
2. **Section B, Section C**

    There shall be 10 questions, two questions from each unit.

    The candidate has to attempt one question from each unit.

Name and Signatures

V.C. Nominee …………………………………..	**Departmental members**
Subject Expert ………………………(C.D.P.Rao)	1. **Head /Mr. Durgesh Kumar Kotangle** ………….
Subject Expert……………………………………	2. **Mr. Dileep Kumar Sahu**…………
Alumni (member)…………………………………	3. **Mrs. LatikaTamrakar**……………
Prof. from other Dept. of Sc. Faculty ……………….	
Specialist from Industry …………………………	

18

MARKS DISTRIBUTION

Practical paper
Total marks - 50

Practical   - 25 (prog1 – 12 marks &prog2 – 13 marks)
Internal   - 15
Viva   - 10

Total   - 50

Practical test will consist of 3hrs.

Name and Signatures

V.C. Nominee ………………………………………	**Departmental members**
Subject Expert ………(D.P. Rao)…………………..	1. Head /Mr. Durgesh Kumar Kotangle ………….
Subject Expert…………………………………………	
Alumni (member)………………………………………	2. Mr. Dileep Kumar Sahu…………..
Prof. from other Dept. of Sc. Faculty………………	3. Mrs. LatikaTamrakar…………….
Specialist from Industry …………………………	