# **B.Com & B.A. (Computer Applications)**



(Affiliated to Adikavi Nannaya University, Rajamahendravaram) (Re-accredited with NAAC "B" Grade with 2.61 CGPA points)

# **Course Structure B.Com. (Computers)**

CBCS/Semester System

# I Semesters-I,II,III,IV

Year	Semest er	Course	Title	Hours	Credits	Mid sem Exam	SemEnd Exam	Total
1	Semester-I	Course-I	Information Technology	5	4	40	60	100
1. S	Semester- II	Course-II	E-Commerce and Web Design	5	4	40	60	100

Year	Semest er	Course	Title	Hours	Credits	Mid sem Exam	Sem End Exam	Total
	Semester-I	Course-I	Programming in C and C++	5	4	25	75	100
II	Semester- II	Course-II	Data Base Management Systems	5	4	25	75	100
Year	Semest er	Course	Title	Hours	Credits	Mid sem Exam	SemEnd Exam	Total
ш	Semester- V	Course-6A	Big data Analytics using R	5	4	25	75	100
111	Semester- V	Course-7B	Data Science using Python	5	4	25	75	100

Or

Year	Semest er	Course	Title	Hours	Credits	Mid sem Exam	SemEnd Exam	Total
III Sem	Semester- V	Course-6B	Mobile application development	5	4	25	75	100
	Semester- V	Course-7B	Cyber security and malware analysis	5	4	25	75	100

Year	Semest er	Course	Title	Hours	Credits	Mid sem Exam	SemEnd Exam	Total
	Semester- V	Course-6C	Ecommerce application development	5	4	25	75	100
III	Semester- V	Course-7C	Real time governanc e system (RTGS)	5 m	4	25	75	100
Or								

Year	Semest er	Course	Title	Hours	Credits	Mid sem Exam	SemEnd Exam	Total
III	Semester- V	Course-6D	Multimedia Tools and Applications	5	4	25	75	100
	Semester- V	Course-7D	Digital imaging	5	4	25	75	100

# SRI A.S.N.M. GOVERNMENT COLLEGE (A), PALAKOL (Affiliated to Adikavi Nannava University. Rajamahendravaram) (Re-accredited with NAAC "B" Grade with 2.61 CGPA points) DEPARTMENT OF COMPUTERS

# **Program Outcomes of B.Com(Computer Applications)**

- **PO1. Critical Thinking**: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
- **PO2. Effective Communication**: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.
- **PO3. Social Interaction**: Elicit views of others, mediate disagreements and help reach conclusions in group settings.
- **PO4. Effective Citizenship**: Demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
- **PO5. Ethics**: Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.
- **PO6. Environment and Sustainability**: Understand the issues of environmental contexts and sustainable development.
- **PO7. Self-directed and Life-long Learning**: Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes.

# **Program Specific Outcomes of B.Com(Computer Applications)**

- **PSO1.** This Programme curriculum will make the students become efficient in the concepts of computer software and its applications in business operations.
- **PSO2.** Programme includes various accounting courses, enables the students to gain theoretical knowledge and improves problem solving ability of the students.
- **PSO3.** Business oriented applications like Ms-Office, DBMS, Web Technology and Tally will enable the students to start their own Small Scale software business.
- **PSO4.** Courses of this programme provide an opportunity to undergo Professional Courses like MBA, CA, ICWA, ICS etc., and also ensures bright future in the IT fields, Software, Banks, Companies, BPOs and KPOs.
- **PSO5.** This Programme will make the students get placed in software application jobs in the areas of Trade, Commerce, Business, Banking and Insurance etc.

Course Outcomes of B.Com(Computer Applications)					
S. No.	Course Code	Course Title	Course Outcomes		
1.	COV1C	Information Technology	<ul> <li>After successful completion of this course the students will be</li> <li>CO1. Able to explore the basic knowledge of computer hardware and software.</li> <li>CO2. Understand the computer, its characteristic, limitations and its usage.</li> <li>CO3. Analyze the number system.</li> <li>CO4. Able to edit photos with Adobe Photoshop application.</li> </ul>		
2.	COV2C	E-Commerce and Web Designing	<ul> <li>After successful completion of this course the students will be</li> <li>CO1. Identify the important business functions provided by such as enterprise resource planning.</li> <li>CO2. Describe basic concepts of ERP systems for manufacturing or service companies.</li> <li>CO3. Analyze the technical aspect of telecommunication systems, internet and their roles in business environment.</li> <li>CO4. Describe various market types of ERP.</li> </ul>		
3.	COV3C	Programmi ng in C and C++	<ul> <li>After successful completion of this course the students will be</li> <li>CO1. Analyze the given problem and develop algorithms for the given problems.</li> <li>CO2. Able to write C program and C++ codes for the given tasks.</li> </ul>		
4.	COV4F	DataBase Management Systems (DBMS) Database	<ul> <li>After successful completion of this course the students will be</li> <li>CO1. Analyze the given problem and develop algorithms for the given problems.</li> <li>CO2. Able to write C program codes for the given tasks.</li> <li>After successful completion of this course the</li> </ul>		
5.	COCSEIVD	Management System	students will be CO1. Understand the fundamental concepts of a database system.		

			<ul> <li>CO2. Analyze database requirements and determine the entities involved in the system and their relationship to one another.</li> <li>CO3. Develop the logical design of the database using data modelling concepts such as entity-relationship diagrams.</li> <li>CO4. Able to create relational tables from entity-relationship diagrams.</li> <li>CO5. Able to manipulate a database using SOL</li> </ul>
			and develop programming skills in SQL and PL/SQL.
6.	COC5E10C	Web Technology	<ul> <li>After successful completion of this course the students will be</li> <li>CO1. Understand the web architecture and web services.</li> <li>CO2. Develop web pages using HTML and Style sheets.</li> <li>CO3. Develop static and dynamic web pages with the help of JavaScript.</li> </ul>
7.	COC6E10A	Tally with GST Applications	After successful completion of this course the students will be CO1. Understand the basic concepts of GST. CO2. Able to perform various GST operations using Tally.
8.	COC6E10B	E-Commerce	<ul> <li>After successful completion of this course the students will be</li> <li>CO1. Evaluate e-commerce markets and transactions, including supply chains.</li> <li>CO2. Understand the various technologies and public policies of E-Commerce.</li> <li>CO3. Able to design Infrastructure of E-Commerce.</li> </ul>
9.	COC6E10C	Project	<ul> <li>After successful completion of this course the students will be</li> <li>CO1. Apply theoretical and practical knowledge to solve real world problems.</li> <li>CO2. Able to do planning, analysing, designing, coding and deployment of project.</li> </ul>

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B.Com (Computer Applications)-CBCS/Semester System					
Year	Semester	Course Code	Course Title		
Ι	Ι	COV1C	Information Technology		

#### Objectives of the Course:

To introduce Microsoft tools such as MS-Word, Excel, Power point and Access concepts.

After successful completion of this course the students will be

CO1. Able to explore the basic knowledge of computer hardware and software.

CO2. Understand the computer, its characteristic, limitations and its usage.

### CO3. Analyze the number system.

Syllabus:

# UNIT-I:

**Introduction:** Computer Definition - Characteristics and Limitations of Computer Hardware— Generations of Computer, Classification of Computers, Applications of Computer, Basic Components of PC, Computer Architecture - Primary and Secondary Memories- Input and Output Devices Operating System- Function of Operating System Types of Operating System- Languages and its Types.

# UNIT- II:

**MS word:** Word Processing – Features-Advantages and Applications- Parts of Word Window- ToolbarCreating, Saving, Closing, Opening and Editing of a Document-Moving and Coping a Text-Formatting of Text and Paragraph- Bullets and Numbering-Find and Replace - Insertion of objects-Headers and Footers- Page Formatting- Auto Correct- Spelling and Grammar- Mail Merge- Macros.

# UNIT- III:

**MS Excel:** Features – Spread Sheet-Workbook – Cell-Parts of a window-Saving, Closing, Opening of a Work Book – Editing – Advantages – Formulas- Types of Function- Templates – Macros – Sorting- Charts – Filtering Consolidation – Grouping- Pivot Table.

# UNIT- IV:

**MS Power point:** Introduction – Starting – Parts-Creating of Tables- Create Presentation – Templates Auto Content Wizard-Slide Show-Editing of Presentation-Inserting Objects and charts.

# UNIT- V:

**MS** Access: Orientation to Microsoft Access - Create a Simple Access Database - Working with Table Data – Modify Table Data - Sort and Filter Records - Querying a Database - Create Basic Queries - Sort and Filter Data in a Query - Perform Calculations in a Query - Create Basic Access Forms - Work with Data on Access Forms – Create a Report – Add Controls to a Report - Format Reports.

# **ONLINE RESOURCES:**

https://support.office.com/en-us/office-training-center https://www.skillshare.com/browse/microsoft-office https://www.tutorialspoint.com/computer\_fundamentals/index.htm https://www.javatpoint.com/computer-fundamentalstutorial https://edu.gcfglobal.org/en/subjects/office https://www.microsoft.com/en-us/learning/training.aspx

# PRACTICAL COMPONENT: @ 2 HOURS/WEEK/BATCH.

MS word creation of documents letters invitations etc, tables, mail merge, animations in word,

• formatting text.

MS Excel performing different formulas, creating charts, macros.• MS power point slide creation, creation of animation.• MS Access creation of database, forms and reports•

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Grade with 2.61 CGPA points)

# Model Paper

# B.Com (Computer Applications) I YEAR I SEMESTER Information Technology

# **Model Paper**

Time: 3 Hours.

Max Marks: 75

5X5=25M

# Section-A

Answer any FIVE of the following questions.

1. What are the Applications of Computer?

2. Write about the parts of Word-Window.

3. What are the features of MS-Excel?

4. What are the features of MS-Power Point?

5. What are the basic queries in MS-Access?

6. What are the Basic Components of PC?

7. Write Types of Functions in MS-Excel.

8. What are the types of effects in Custom Animation?

# Section-B

Answer FIVE questions.

5X10=50M

9. a) Explain about Computer Architecture.

(OR)

b) Explain about functions of Operating System and types of Operating

Systems.

10. a) What are the Features, Advantages and Applications MS-Word

(OR)

b) Write the process how to prepare Progress Report of Students

using Mail Merge.

11. a) How to Prepare Students Results Table with Total, Percentage

and Pass/Fail using Formulas.

(OR)

b) Write the process for Sorting, Filtering, Consolidation and

Grouping in MS-Excell.

12. a) Write the process of how to prepare a power point presentation and slideshow.

(OR)

b) Write about different types of animations in MS-Power Point.

13. a) Write the process how to Create a Report, Add Control to a Report and

Format Reports in MS Access.

### (OR)

b) Write the process how to create a Simple Access Database, Working with Table

Data and Modify Table Data.

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	B.Com (Computer Applications)-CBCS/Semester System					
Year	Semester	Course Code	Course Title			
Ι	II	COV2C	E-COMMERCE AND WEB DESIGNING			

Objectives of the Course: To introduce E-Commerce and HTML tags concepts.

After successful completion of this course the students will be

CO1. Identify the important business functions provided by such as enterprise resource planning.CO2. Describe basic concepts of ERP systems for manufacturing or service companies.CO3. Analyze the technical aspect of telecommunication systems, internet and their roles in business environment.

CO4. Describe various market types of ERP.

# **Syllabus**

# UNIT -I:

Introduction: Meaning, Nature, Concepts, Advantages, Disadvantages and reasons for Transacting Online, Types of E-Commerce, e-commerce Business Models (Introduction, Key Elements of a Business Model And Categorizing Major E-Commerce Business Models), Forces Behind e-commerce. Technology used in E-commerce: The dynamics of World Wide Web and Internet (Meaning, EvolutionAnd Features); Designing, Building and Launching e-commerce website (A systematic approach involving decisions regarding selection of hardware, software, outsourcing Vs. in-house development of a website).

E-payment System: Models and methods of e-payments (Debit Card, Credit Card, Smart Cards, emoney), Digital Signatures (Procedure, Working And Legal Position), Payment Gateways, Online Banking (Meaning, Concepts, Importance, Electronic Fund Transfer, Automated Clearing House, Automated Ledger Posting), Risks Involved in e-payments. UNIT- III:

On-line Business Transactions: Meaning, Purpose, Advantages and disadvantages of Transacting Online, E- Commerce Applications in Various Industries Like {Banking, Insurance, Payment of Utility Bills, Online Marketing, E-Tailing (Popularity, Benefits, Problems and Features), Online Services(Financial, Travel and Career), Auctions, Online Portal, Online Learning, Publishing and Entertainment) Online Shopping (Amazon, Snap Deal, Alibaba, Flipkart, etc.).

#### UNIT -IV:

Website designing: Designing a home page, HTML document, Anchor tag Hyperlinks, Head and Body section, Header Section, Title, Prologue, Links, Colorful Pages, Comment, Body Section, Heading Horizontal Ruler, Paragraph, Tabs, Images And Pictures, Lists and Their Types, Nested Lists, Table Handling. Frames: Frameset Definition, Frame Definition, Nested Framesets, Forms and Form Elements. DHTML and Style Sheets: Defining Styles, elements of

Styles, linking a style sheet to a HTML Document, Inline Styles, External Style Sheets,

Internal Style Sheets & Multiple Style Sheets. UNIT- V: Security and Encryption: Need and Concepts, E-Commerce Security Environment: (Dimension, Definition and Scope Of E-Security), Security Threats in The E-Commerce Environment (Security Intrusions And Breaches, Attacking Methods Like Hacking, Sniffing, Cyber- Vandalism Etc.), Technology Solutions (Encryption, Security Channels Of Communication, Protecting Networks And Protecting Servers And Clients).

Learning Resources (Course 2C: E-commerce & Web Designing)

References:

1. E-commerce and E-business Himalaya publishers.

2. E-Commerce by Kenneth C Laudon, PEARSON INDIA.

3. Web Design: Introductory with Mind Tap Jennifer T Campbell, Cengage India.

4. HTML & WEB DESIGN:TIPS& TECHNIQUES JAMSA, KRIS, McGraw Hill.

5. Fundamentals Of Web Development by Randy Connolly, Ricardo Hoar, Pearson.

6. HTML & CSS: COMPLETE REFERENCE POWELL, THOMAS, McGrawHill Online Resources:

http://www.kartrocket.com http://www.e-commerceceo.com

http://www.fastspring.com

https://teamtreehouse.com/tracks/web-design

PRACTICAL COMPONENT:@ 2 HOURS/WEEK/BATCH

1. Creation of simple web page using formatting tags

- 2. Creation of lists and tables with attributes
- 3. Creation of hyperlinks and including images
- 4. Creation of forms
- 5. Creation of framesets
- 6. Cascading style sheets inline, internal and external

RECOMMENDED CO-CURRICULAR ACTIVITIES: (Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning) Measurable .

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the

syllabus content. Shall be individual and challenging).

2. Student seminars (on topics of the syllabus and related aspects (individual activity).

3. Quiz (on topics where the content can be compiled by smaller aspects and data

(Individuals or

groups as teams).

4. Field studies (individual observations and recordings as per syllabus content and related areas

(Individual or team activity).

5. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity) General. 1. Group Discussion. 2. Visit to Software Technology parks / industries .

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# MODEL QUESTION PAPER - B.Com. DEGREE EXAMINATIONS

# Semester: II(Computer Applications)

# E-Commerce And Web Designing

Time: 3 Hours.

Max Marks: 75

# Section-A

Answer any FIVE of the following questions. 5X5=25M

1. Write about Types of E-Commerce.

- 2. What are the Risks Involved in e-payments?
- 3. What are the Advantages and Disadvantages of Transacting Online?
- 4. Write examples for Lists and their types.
- 5. Write the Definition and Scope of E-Security.
- 6. What are the features of WWW and Internet?
- 7. Write how to link a style sheet to a HTML Document.

8. What are the methods of e-Payments?

#### Section-B

Answer FIVE questions.

5X10=50M

9. a) Write about e-commerce Business Models.

#### (OR)

b) Explain about Designing, Building and Launching e-commerce website.

10. a) Explain about Digital Signatures.

#### (OR)

b) Explain about Online Banking.

11. a) Write about E-Tailing (Popularity, Benefits, Problems and Features).

b) Write about Online Learning, Publishing and Entertainment.

12. a) Write the code to design a web page with Form and form elements

# (OR)

b) Write about Inline, External, Internal and Multiple Style Sheets.

13. a) Write about Security Threats in the E-Commerce Environment.

(OR)

b) Write about Technology Solutions for Security.

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	B.Com (Computer Applications)-CBCS/Semester System					
Year	Semester	Course Code	Course Title			
II	III	COV3C	Programming in C and C++			

Objectives of the Course: To introduce C-programming and C++ concepts

After successful completion of this course the students will be

CO1. Analyze the given problem and develop algorithms for the given problems.CO2. Able to write C program and C++ codes for the given tasks.Syllabus

# UNIT-I:

Introduction and Control Structures: History of 'C' - Structure of C program – C character set, Tokens, Constants, Variables, Keywords, Identifiers – C data types - C operators - Standard I/O in C - Applying if and Switch Statements.

UNIT-II:

Loops And Arrays: Use of While, Do While and For Loops - Use of Break and Continue Statements - Array Notation and Representation - Manipulating Array Elements - Using Multi Dimensional Arrays.

UNIT -III:

Strings and Functions: Declaration and Initialization of String Variables - String Handling Functions - Defining Functions - Function Call - Call By Value, Call By Reference – Recursion.

UNIT -IV:

**Principles of Object Oriented Programming:** Procedure Oriented Programming, Object Oriented Programming, Basic concepts of Object Oriented Programming, Applications of C++, A simple C++ Program, An example with Class, Structure of C++ Program, Creating source file, Compiling and Linking.

UNIT- V:

**Classes and Objects**: Tokens, Keywords, Declaration of Variables, Dynamic initialization of variables, Specifying a Class, Defining member functions, Function overloading, Operator overloading, Constructors and Destructors, Inheritance and types of Inheritance. REFERENCES:

1. Mastering C by K R Venugopal and Sudeep R Prasad, McGraw Hill.

2. Expert C Programming: Deep Secrets Kindle Edition Peter van der Linden.

3. Let Us C YashavantKanetkar.

4. The C++ Programming Language Bjarne Stroustrup.

5. C++ Primer Stanley B. Lippman, Josée Lajoie, Barbara E. Moo

Online Resources:

https://www.tutorialspoint.com/cprogramming/index.html

https://www.learn-c.org/ https://www.programiz.com/c-programming

https://www.w3schools.in/c-tutorial/

https://www.cprogramming.com/tutorial/c-tutorial.html

https://www.tutorialspoint.com/cplusplus/index.html

https://www.programiz.com/cpp-programming

http://www.cplusplus.com/doc/tutorial/

https://www.learn-cpp.org/

https://www.javatpoint.com/cpp-tutorial

#### PRACTICAL COMPONENT: @ 2 HOURS/WEEK/BATCH.

1. Write C programs for a. Fibonacci Series

b. Prime number

- c. Palindrome number
- d. Armstrong number.
- 2. 'C' program for multiplication of two matrices
- 3. 'C' program to implement string functions
- 4. 'C' program to swap numbers
- 5. 'C' program to calculate factorial using recursion.

6. 'C++' program to perform addition of two complex numbers using constructor

7. Write a program to find the largest of two given numbers in two different classes using friend function.

8. Program to add two matrices using dynamic constructor.

9. Implement a class string containing the following functions a. Overload + operator to carry out the concatenation of strings. b. Overload == operator to carry out the comparison

of strings.

10. Program to implement inheritance.

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#### MODEL QUESTION PAPER - THEORY B.Com. DEGREE EXAMINATIONS

Semester: III(Computer Applications) Programming With C&C++

Time: 3 Hours.

Max Marks: 75

# Section-A

Answer any FIVE of the following questions. 5X5=25M

1. Write the Structure of C program

2. Write about Break and Continue Statement.

3. What is recursion? Write an example program for recursion.

4. Write the Structure of C++ Program.

5. What is Inheritance? What are the types of Inheritance?

6. Write the Tokens and Constants in C Language.

7. Write Declaration and Initialization of String.

8. Write about operator overloading.

Answer FIVE questions.

### Section-B

#### 5X10=50M

9. a) Write about Data Types and Operators in C Language.

(OR)

b) Write about If and Switch Statement with examples.

10. a) Write about types of Loops in C Language with Flow Charts and example syntax.

#### (OR)

b) Write about Array Declaration and Initialization and write a C program for Addition of two arrays.

11. a) Write about different types of String handling functions

#### (OR)

b) Explain Call by Value and Call by Reference with examples.

12. a) Explain about basic concepts of OOP.

#### (OR)

b) Write about Creating source file, Compiling and Linking.

13. a) Explain about types of Constructors.

#### (OR)

b) Explain about different types of Inheritances.

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	B.Com (Computer Applications)-CBCS/Semester System					
Year	Semester	Course Code	Course Title			
II	IV	COC4F	Database Management System			

Objectives of the Course: To introduce Database and SQL concepts

After successful completion of this course the students will be

CO1. Understand the fundamental concepts of a database system.

**CO2.** Analyze database requirements and determine the entities involved in the system and their relationship to one another.

**CO3.** Develop the logical design of the database using data modelling concepts such as entity-relationship diagrams.

CO4. Able to create relational tables from entity-relationship diagrams.

**CO5.** Able to manipulate a database using SQL and develop programming skills in SQL and PL/SQL.

# Svllabus

UNIT-I:

Overview of Database Management System: Introduction, Data and Information, Database, Database

Management System, Objectives of DBMS, Evolution of Database Management System, Classification of Database Management System.

UNIT-II:

File-Based System: File Based System. Drawbacks of File-Based System, DBMS Approach, Advantage of

DBMS, Data Models, Components of Database System, Database Architecture ,DBMS Vendors and their products.

UNIT-III:

Entity-Relationship Model: Introduction, The Building Blocks of an Entity-Relationship, Classification of Entity Set, Attribute Classification, Relationship Degree, Relationship Classification, Generalization and Specialization, Aggregation and Composition, CODD's Rules, Relational Data Model, Concept of Relational Integrity.

UNIT -IV:

Structured Query Language: Introduction, History of SQL Standards, Commands in SQL, Data types in

SQL, Data Definition Language (DDL), Selection Operation Projection Operation, Aggregate Functions,

Data Manipulation Language, Table Modification, Table Truncation, Imposition of Constraints, Set

Operations.

UN IT- V:

PL/SQL:Introduction, Structure of PL/SQL,PL/SQL Language Elements, Data Types, Control Structure, Steps to Create a PL/SQL Program, Iterative Control Cursors, Steps to Create a Cursor, Procedure, Functions, Packages, Exceptions Handling, Database Triggers, Types of triggers.

**REFERENCES:** 

- 1. Paneerselvam: Database Management system, PHI.
- 2. David Kuklinski, Osborne, Data management system McGraw Hill Publication.
- 3. Shgirley Neal And Kenneth LC Trunik Database management system in Business-PHI.
- 4. Godeon C. EVEREST, Database Management-McGraw Hill Book Company.
- 5. MARTIN, Database Management-Prentice Hall of India, New Delhi.
- 6. Bipin C.Desai , `An Introduction to Database System`, Galgotia Publications.
- 7. Korth, Database Management System.
- 8. Navathe, Database Management System.
- 9. S. Sumathi, S. Esakkirajan, Fundamentals of Relational Database Management System .

Online resources:

http:// www.onlinegdb.com/

http://www.tutorialspoint.com/

http://learnsql.com

https://www.codecademy.com/learn/learn-sql/

https://www.w3schools.com/sql/default.asp

#### PRACTICAL COMPONENT: @ 2 HOURS/WEEK/BATCH.

1. Create tables department and employee with required constraints.

2. Initially only the few columns (essential) are to be added. Add the remaining columns separately by using appropriate

SQL command.

3. Basic column should not be null.

4. Add constraint that basic should not be less than 5000.

5. Calculate HRA, DA, Gross and net by using PL/SQL program.

6. The percentage of HRA and DA are to be stored separately.

7. When the DA becomes more than 100%, a message has to be generated and with user permission has to be merged with basic.

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# MODEL QUESTION PAPER – THEORY B.Com. DEGREE EXAMINATIONS II YEAR Semester: IV(Computer Applications)

# Data Base Management Systems

Time: 3 Hours.

#### Section-A

Max Marks: 75

# Answer any FIVE of the following questions. 5X5=25M

- 1. What is the difference between Data and Information?
- 2. Write the advantages of DBMS.
- 3. Write about classification of Entity Set?
- 4. What are the Data Types in SQL?
- 5. Write the steps to create PL/SQL program.
- 6. What are the components of DBMS?
- 7. What is the Concept of Relational Integrity?
- 8. Write about Cursors.

#### Section-B

# Answer FIVE questions.

#### 5X10=50M

- 9. a) Explain about Classification of Database Management System. (OR)
- b) Explain about Objectives of Database Management System.
- 10. a) Explain about Data Models.

#### (OR)

- b) Explain about Database architecture.
- 11. a) Explain about Aggregation and Composition.
  - (OR)
  - b) Explain about concepts of ER Model with an example.
- 12. a) Explain about Data Definition Language commands with syntax.

#### (OR)

- b) Explain the aggregate functions in SQL with syntax.
- 13. a) Explain about Exception Handling with example program.

#### (OR)

b) Explain about different types of Triggers.

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#### Course-6A: BIGDATA ANALYTICS USING R

(Skill Enhancement Course (Elective), 4 credits)

After successful completion of the course, a student will be able to: Co1:Understand data and classification of digital data. CO2:Understand Big Data Analytics. CO3:Load data in to R. CO4:Organize data in the form of R objects and manipulate them as needed. CO5:Perform analytics using R programming.

I. Syllabus: (Total hours: 75 including Theory, Practical, Training, Unit tests etc.) Unit – 1:Introduction to Big data

Data, classification Of Digital Data--structured, unstructured, semi-structured data, characteristics of data, evaluation of big data, definition and challenges of big data what is big data and why to use big data ?, business intelligence Vs big data.

#### **Unit–2:BigdataAnalytics**(10 h)

What is and isn't big data analytics? Why hype around big data analytics? Classification of analytics, top challenges facing big data, importance of big data analytics, technologies needed to meet challenges of big data.

#### Unit – 3: Introduction to R and getting started with R

What is R? Why R?, advantages of R over other programming languages, Data types inR-logical, numeric, integer, character, double, complex, raw, coercion, ls() command, expressions, variables and functions, control structures, Array, Matrix, Vectors, Rpackages.

#### **Unit – 4: Exploring data in R**

Data frames-data frame access, ordering data frames, R functions for data frames dim(), nrow(), ncol(), str(), summary(), names(), head(), tail(), edit() .Load data frames—readingfrom .CSV files, sub setting data frames, reading from tab separated value files, reading from tables.

# Unit – 5: Data Visualization using R (12h)

**Reading and getting data into R (External Data):** XML files, Web Data, JSON files, Databases, Excel files.

Working with R Charts and Graphs: Histograms, Bar Charts, Line Graphs, Scatterplots, Pie Charts

# (13h)

(12 h)

(13h)

# BOOKS

- 1. Seema Acharya, Subhashini Chellappan --- Big Data And Analytics second edition, Wiley
- 2. Seema Acharya--Data Analytics using R, McGraw Hill education (India) Private Limited.
- 3. Big Data Analytics, Introduction to Hadoop, Spark, and Machine-Learning, Raj kamal,

Preeti Saxena, McGraw Hill, 2018.

 Big Data, Big Analytics: Emerging Business intelligence and Analytic trends for Today's

Business, Michael Minelli, Michelle Chambers, and Ambiga Dhiraj, John Wiley & Sons,

2013

# **Reference Books:**

1. An Introduction to R, Notes on R: A Programming Environment for Data Analysis and Graphics. W. N. Venables, D.M. Smith and the R Development Core Team

# **RECOMMENDED CO-CURRICULAR ACTIVITIES:**

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

# A. Measurable

- 1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
- 2. Student seminars (on topics of the syllabus and related aspects (individual activity))
- 3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups a steams))
- 4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity

# B. General

- 1. Group Discussion
- 2. Try to solve MCQ's available online.
- 3. Others

# **RECOMMENDED CONTINUOUS ASSESSMENT METHODS:**

Some of the following suggested assessment methodologies could be adopted;

- 1. The oral and written examinations (Scheduled and surprise tests),
- 2. Closed-book and open-book tests,
- 3. Problem-solving exercises,

4. Practical assignments and laboratory reports.

- 5. Observation of practical skills,
- 6. Individual and group project reports like "Creating Text Editor in C".
- 7. Efficient delivery using seminar presentations,
- 8. Viva voce interviews.
- 9. Computerized adaptive testing, literature surveys and evaluations,
- **10.** Peers and self-assessment, outputs form individual and collaborative work

# Course-6A: Big Data Analytics Using R---- Lab (Practical) Syllabus (15 Hrs.)

(Since, the proposed SECs are connected to Computer Programming/Software Tools and Skill enhancement, the students need to get exposure on the syllabus content by practicing on the computer even though there is no formal assignment of credits and laboratory hours for practical sessions. So, as part of the Co-curricular activities and continuous assessment, students should be engaged in practicing on computer for at least 15 hours per semester.)

- 1. Create a vector in R and perform operations on it.
- 2. Create integer, complex, logical, character data type objects in R and print their values and their class using print and class functions.
- 3. Write code in R to to demonstrate sum(), min(), max() and seq() functions.
- 4. Write code in R to manipulate text in R using grep(), toupper(), tolower() and substr() functions.
- 5. Create data frame in R and perform operations on it.
- 6. Import data into R from text and excel files using read.table () and read.csv () functions.
- 7. Write code in R to find out whether number is prime or not.
- 8. Print numbers from 1 to 100 using while loop and for loop in R.
- 9. Write a program to import data from csv file and print the data on the console.

10. Write a program to demonstrate histogram in R.

**Note:** The list of experiments need not be restricted to the above list. *Detailed list of Programming/software tool based exercises can be prepared by the concerned Faculty members.* 

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#### (Affiliated to Adikavi Nannaya University, Rajamahendravaram) (Re-accredited with NAAC "B" Grade with 2.61 CGPA points)

### MODEL QUESTION PAPER – THEORY B.Com. DEGREE EXAMINATIONS

Subject:

# **Computer Applications for Arts/Commerce**

Four year B.A. /B.Com. (Hons)Semester –V (from 2022-23)

Max Marks: 100

Course-7A: DATA SCIENCE USING PYTHON (Skill Enhancement Course (Elective), 4 credits)

After successful completion of the course, a student will be able to: CO1:Understand basic concepts of data science CO2:Understand why python is a useful scripting language for developers. CO3:Use standard programming constructs like selection and repetition. CO4:Use aggregated data (list, tuple, and dictionary). CO5:Implement functions and modules.

II. Syllabus : (Total hours: 75 including Theory, Practical, Training, Unit tests etc.)

# **Unit – 1: Introduction to data science**

Data science and its importance, advantages of data science, the process of data science, Responsibilities of a data scientist, qualifications of data scientists, would you be a good data scientist, why to use python for data science.

# **Unit – 2: Introduction to python**

What is python, features of python, history of python, writing and executing the python program, basic syntax, variables, keywords, data types ,operators ,indentation, Conditional statements-if, if-else, nested if-else, looping statements-for, while, break, continue, pass

Unit – 3: Control structures and strings

Strings - definition, accessing, slicing and basic operations

Lists - introduction, accessing list, operations, functions and methods,

Tuples - introduction, accessing tuple

**Dictionaries** - introduction, accessing values in dictionaries

# **Unit – 4: Functions and modules**

**Functions -** defining a function, calling a function, types of functions, function arguments, local and global variables, lambda and recursive functions, Modules- math and random

# Unit-5: Classes & Objects (11h)

Classes and Objects, Class method and self-argument, class variables and object variables, public and private data members, private methods, built-in class attributes, static methods.

# (14h)

(12h)

#### (13h)

(10h)

# **Reference Books:**

1. Steven cooper--- Data Science from Scratch, Kindle edition

2. Reemathareja—Python Programming using problem solving approach, Oxford Publication

# **RECOMMENDED CO-CURRICULAR ACTIVITIES:**

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

# C. Measurable

- 1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
- 2. Student seminars (on topics of the syllabus and related aspects (individual activity))
- 3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups a steams))
- 4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity

# D. General

- 1. Group Discussion
- 2. Try to solve MCQ's available online.
- 3. Others

# **RECOMMENDED CONTINUOUS ASSESSMENT METHODS:**

Some of the following suggested assessment methodologies could be adopted;

- 11. The oral and written examinations (Scheduled and surprise tests),
- 12. Closed-book and open-book tests,
- 13. Problem-solving exercises,
- 14. Practical assignments and laboratory reports.
- 15. Observation of practical skills,
- 16. Individual and group project reports like "Creating Text Editor in C".
- 17. Efficient delivery using seminar presentations,
- 18. Viva voce interviews.
- 19. Computerized adaptive testing, literature surveys and evaluations,
- 20. Peers and self-assessment, outputs form individual and collaborative work

# Course-7A: Data Science Using Python; Lab (Practical) Syllabus (15 Hrs.)

(Since, the proposed SECs are connected to Computer Programming/Software Tools and Skill enhancement, the students need to get exposure on the syllabus content by practicing on the computer even though there is no formal assignment of credits and laboratory hours for practical sessions. So, as part of the Co-curricular activities and continuous assessment, students should be engaged in practicing on computer for at least 15 hours per semester.)

- 1. Python Program to Find the Square Root
- 2. Python Program to Swap Two Variables
- 3. Python Program to Generate a Random Number
- 4. Python Program to Check if a Number is Odd or Even
- 5. Python Program to Find the Largest Among Three Numbers
- 6. Python Program to Check Prime Number
- 7. Python Program to Display the multiplication Table
- 8. Python Program to Print the Fibonacci sequence
- 9. Python Program to Find the Sum of Natural Numbers
- 10. Python Program to Find Factorial of Number Using Recursion
- 11. Python Program to work with string methods.
- 12. Python Program to create a dictionary and print its content.
- 13. Python Program to create class and objects.

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**Note:** The list of experiments need not be restricted to the above list. *Detailed list of Programming/software tool based exercises can be prepared by the concerned Faculty members.* 

#### (Affiliated to Adikavi Nannaya University, Rajamahendravaram) (Re-accredited with NAAC "B" Grade with 2.61 CGPA points) Subject: Computer Applications for Arts/Commerce

Four year B.A./B.Com.(Hons) Semester –V (from 2022-23) Max Marks: 100 Course-**6B: MOBILE APPLICATION DEVELOPMENT** (Skill Enhancement Course (Elective), 4 credits)

After successful completion of the course, a student will be able to: CO1:Identify basic terms ,tools and software related to android systems CO2:Describe components of IDE, understand features of android development tools CO3:Describe the layouts and controls CO4:Explain the significance of displays using the given view CO5:Explain the features of services and able to publish android Application CO6:Developing interesting Android applications using MIT App Inventor

Unit-1:( Total hours: 75 including Theory, Practical, Training, Unit tests etc.)

#### 10 Hrs

Introduction to Android ,open headset alliance, Android Ecosystem Need of Android Features of Android Tools and software required for developing an Application

#### Unit-2:

13Hrs

14Hrs

operating system, java JDK, Android SDK Android development tools Android virtual devices steps to install and configure Android studio and sdk Android activities

### Unit-3:

control flow, directory structure components of a screen fundamental UI design linear layout, absolute layout , table layout text view edit text button, image button, radio button radio group, check box, and progress bar list view, grid view, image view, scroll view time and date picker toast

#### Unit-4:

android platform services Android system Architecture 10Hrs

Android Security model

# Unit-5 13Hrs.

Introduction of MIT App Inventor Application Coding 5.3Programming Basics & Dialog Audio& Video File

# **Text Books:**

- 1. Erik Hellman, "Android Programming Pushing the Limits", 1st Edition, Wiley India Pvt Ltd, 2014.
- 2. App Inventor: create your own Android apps by Wolber, David (David Wayne)

# **Reference Books:**

- 1. Dawn Griffiths and David Griffiths, "Head First Android Development", 1st Edition, O'Reilly SPD Publishers, 2015.
- J F DiMarzio, "Beginning Android Programming with Android Studio", 4th Edition, Wiley India Pvt Ltd, 2016. ISBN-13: 978-8126565580
- 3. Anubhav Pradhan, Anil V Deshpande, "Composing Mobile Apps" using Android, Wiley 2014, ISBN: 978-81-265-4660-2
- 4. Android Online Developers Guide
- 5. http://developer.android.com/reference/ Udacity: Developing Android
- 6. Apps- Fundamentals
- 7. https://www.udacity.com/course/developing-android-appsfundamentals--ud853-nd
- 8. http://www.appinventor.mit.edu/

# **RECOMMENDED CO-CURRICULAR ACTIVITIES:**

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

# E. Measurable

- 1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
- 2. Student seminars (on topics of the syllabus and related aspects (individual activity))
- 3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
- 4. Study projects (by very small groups of students on selected local real-time
problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity

#### General

- a. Group Discussion
- b. Try to solve MCQ's available online.
- c. Others

#### **RECOMMENDED CONTINUOUS ASSESSMENT METHODS:**

Some of the following suggested assessment methodologies could be adopted;

- 1. The oral and written examinations (Scheduled and surprise tests),
- 2. Closed-book and open-book tests,
- 3. Problem-solving exercises,
- 4. Practical assignments and laboratory reports.
- 5. Observation of practical skills,
- 6. Efficient delivery using seminar presentations,
- 7. Viva voce interviews.
- 8. Computerized adaptive testing, literature surveys and evaluations,
- 9. Peers and self-assessment, outputs form individual and collaborative work

#### Course-6B: Mobile Application Development: Lab (Practical) Syllabus (15 Hrs.)

(Since, the proposed SECs are connected to Computer Programming/Software Tools and Skill enhancement, the students need to get exposure on the syllabus content by practicing on the computer even though there is no formal assignment of credits and laboratory hours for practical sessions. So, as part of the Co-curricular activities and continuous assessment, students should be engaged in practicing on computer for at least 15 hours per semester.)

#### **Outcomes**:

- 1. Understand the android platform
- 2. Design and implementation of various mobile applications

#### **Experiments:**

- 1. Demonstrate mobile technologies and devices
- 2. Demonstrate Android platform and applications overview
- 3. Working with texts , shapes, buttons and lists
- 4. Develop a calculator application
- 5. Implement an application that creates a alarm clock

**Note:** The list of experiments need not be restricted to the above list. *Detailed list of Programming/software tool based exercises can be prepared by the concerned faculty members.* 

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#### (Affiliated to Adikavi Nannaya University, Rajamahendravaram) (Re-accredited with NAAC "B" Grade with 2.61 CGPA points)

Course Code:

Max Marks: 100

#### Domain Subject: Computer Applications for Arts/Commerce IV Year B. Sc./B.Com (Hons) – Semester – V Course-7B: CYBER SECURITY AND MALWARE ANALYSIS (Skill Enhancement Course (Elective), 4 credits)

#### **COURSE OUTCOMES:**

Upon successful completion of this course, students should have the knowledge and skills to

- 1. Understand the computer networks, networking tools and cyber security
- 2. Learn about NIST Cyber Security Framework
- 3. Understand the OWASP Vulnerabilities
- 4. Implement various Malware analysis tools
- 5. Understand about Information Technology act 2000

Syllabus: (Total hours: 75 including Theory, Practical, Training, Unit tests etc.)

#### UNIT 1: Introduction to Networks & cyber security 14hrs

- Computer Network Basics
- Computer network types
- OSI Reference model
- TCP/IP Protocol suite
- Difference between OSI and TCP/IP
- What is cyber, cyber-crime and cyber-security
- All Layer wise attacks
- Networking devices: router, bridge, switch, server, firewall
- How to configure: router
- How to create LAN

#### **UNIT 2: NIST Cyber security framework**

- Introduction to the components of the framework
- Cyber security Framework Tiers
- What is NIST Cyber security framework
- Features of NIST Cyber security framework
- Functions of NIST Cyber security framework
- Turn the NIST Cyber security Framework into Reality/ implementing the framework

#### 12hrs

#### UNIT 3: OWASP 12hrs

- What is OWASP?
- OWASP Top 10 Vulnerabilities
  - ✤ Injection
  - Broken Authentication
  - Sensitive Data Exposure
  - XML External Entities (XXE)
  - Broken Access Control
  - Security Misconfiguration
  - Cross-Site Scripting (XSS)
  - ✤ Insecure Deserialization
  - Using Components with Known Vulnerabilities
  - Insufficient Logging and Monitoring
- Web application firewall

#### UNIT 4: MALWARE ANALYSIS 12hrs

- What is malware
- Types of malware
  - ✤ Key loggers
  - ✤ Trojans
  - ✤ Ran some ware
  - ✤ Rootkits
- Antivirus
- Firewalls
- Malware analysis
  - ✤ VM ware
  - ✤ How to use sandbox
  - Process explorer
  - Process monitor

#### **UNIT 5: CYBER SECURITY: Legal Perspectives**

#### 10hrs

- Cybercrime and the legal landscape around the world
- Indian IT ACT 2000 -- Cybercrime and Punishments
- Challenges to Indian law and cybercrime scenario in India

#### **Textbooks:**

- 1. Computer Networks | Fifth Edition | By Pearson (6th Edition)|Tanenbaum, Feamster & Wetherill
- 2. Computer Networking | A Top-Down Approach | Sixth Edition | By Pearson | Kurose James F. Ross Keith W.
- 3. Cyber Security by Sunit Belapure, Nina Godbole/Wiley Publications
- 4. TCP/IP Protocol Suite |Mcgraw-hill| Forouzan|Fourth Edition

#### Website References:

- <u>https://csrc.nist.gov/Projects/cybersecurity-framework/nist-cybersecurity-framework-a-quick-start-guide</u>
- <u>https://owasp.org/www-project-top-ten/</u>
- https://owasp.org/www-project-juice-shop/

#### **Co-Curricular Activities:**

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

#### A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)

2. Student seminars (on topics of the syllabus and related aspects (individual activity))

3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))

4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity)

#### **B.** General

1. Group Discussion

2. Try to solve MCQ's available online.

#### **RECOMMENDED CONTINUOUS ASSESSMENT METHODS:**

Some of the following suggested assessment methodologies could be adopted;

- 1. The oral and written examinations (Scheduled and surprise tests),
- 2. Closed-book and open-book tests,
- 3. Practical assignments and laboratory reports,
- 4. Observation of practical skills,
- 5. Individual and group project reports.
- 6. Efficient delivery using seminar presentations,
- 7. Viva-Voce interviews.
- 8. Computerized adaptive testing, literature surveys and evaluations,
- 9. Peers and self-assessment, outputs form individual and collaborative work

#### Course-7B: Cyber Security and Malware Analysis; Lab (Practical) Syllabus (15 Hrs.)

(Since, the proposed SECs are connected to Computer Programming/Software Tools and Skill enhancement, the students need to get exposure on the syllabus content by practicing on the computer even though there is no formal assignment of credits and laboratory hours for practical sessions. So, as part of the Co-curricular activities and continuous assessment, students should be engaged in practicing on computer for at least 15 hours per semester.)

#### **Experiments:**

1. Configure a LAN by using a switch

2. Configure a LAN by using Router

3. Perform the packet sniffing mechanism by download the "wire shark" tool and extract the packets

4. Perform an SQL Injection attack and its preventive measure to avoid Injection attack

**Note:** The list of experiments need not be restricted to the above list. *Detailed list of Programming/software tool based exercises can be prepared by the concerned faculty members.* 

#### (Affiliated to Adikavi Nannaya University, Rajamahendravaram) (Re-accredited with NAAC "B" Grade with 2.61 CGPA points)

#### Domain Subject: Computer Applications for Arts/Commerce

Course Code:

Max Marks: 100

### Course-6C: E- COMMERCE APPLICATION DEVELOPMENT

(Skill Enhancement Course (Elective), 4 credits)

After successful completion of the course, a student will be able to: CO1: To apply in an integrative and summative fashion the students' knowledge in allfields of business studies by drafting a website presence plan. CO2: To understand the factors needed in order to be a successful in ecommerce CO3: To gain the skills to bring together knowledge gathered about the different components of building a web presence CO4: To critically think about problems and issues that might pop up during theestablishment of the web presence CO5:To apply Word Press as a content management system (CMS), Plan their website bychoosing colour schemes, fonts, layouts, and more Syllabus: (Total hours: 75 including Theory, Practical, Training, Unit tests etc.) Unit-1: (10h)Introduction to E- commerce: Meaning and concept – E– commerce E- commerce v/s Traditional Commerce E- Business & E- Commerce - History of E- Commerce EDI – Importance, features & benefits of E– Commerce Impacts, Challenges & Limitations of E-Commerce Unit-2: (12h)Business models of E – Commerce: Business to Business 2.1.2 Business to customers 2.1.3Customers to Customers **Business to Government** Business to Employee Influencing factors of successful E– Commerce Architectural framework of Electronic Commerce Web based E Commerce Architecture. Internet Commerce Unit-3: (12h)Electronic data Interchange

EDI Technology	
EDI- Communications	
EDI Agreements	
E- Commerce payment system.	
Digital Economy	
Unit -4:	(1 <b>3</b> h)
A Page on the web - HTML Basics	
Client Side scripting -JAVA SCRIPT basics	
Server side Scripting- PHP basics.	
Unit-5:	(13)
Logging in to Your Word press Site	
word press dash board	

word press dash board creating your first post adding photos and images creating hyper link adding categories and tags

#### **Textbooks:**

- 1. Turban, Rainer, and Potter, Introduction to E-Commerce, second edition, 2003
- 2. H. M. Deitel, P. J. Deitel and T. R. Nieto, E-Business and E-Commerce: How to Programe, Prentice hall, 2001
- 3. WordPress All-in-One For Dummies -written by Lisa Sabin Wilson with contributions by Michael Torbert, Andrea Rennick, Cory Miller, and Kevin Palmer

#### **Reference Books:**

- 1. Elias. M. Awad, "Electronic Commerce", Prentice-Hall of India Pvt Ltd.
- 2. Ravi Kalakota, Andrew B. Whinston, "Electronic Commerce-A Manager's guide", Addison-Wesley
- 3. https://w3cschools.com
- 4. David Whiteley, E-Commerce: Strategy, Technologies and Applications, Tata McGraw Hill.

**RECOMMENDED CO-CURRICULAR ACTIVITIES:** (Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

#### A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)

2. Student seminars (on topics of the syllabus and related aspects (individual activity))

3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))

#### **B.** General

1. Group Discussion

2. Others

#### **RECOMMENDED CONTINUOUS ASSESSMENT METHODS:**

Some of the following suggested assessment methodologies could be adopted;

- 1. The oral and written examinations (Scheduled and surprise tests),
- 2. Closed-book and open-book tests,
- 3. Efficient delivery using seminar presentations,
- 4. Computerized adaptive testing, literature surveys and evaluations,
- 5. Peers and self-assessment, outputs form individual and collaborative work

#### **Course-6C: E– Commerce Application Development; Lab (Practical)** Syllabus (15 Hrs)

(Since, the proposed SECs are connected to Computer Programming/Software Tools and Skill enhancement, the students need to get exposure on the syllabus content by practicing on the computer even though there is no formal assignment of credits and laboratory hours for practical sessions. So, as part of the Co-curricular activities and continuous assessment, students should be engaged in practicing on computer for at least 15 hours per semester.)

#### Case study of e -commerce

- 1. Home page design of web site
- 2. Validation using PHP
- 3. Implement Catalogue design
- 4. Implement Access control mechanism( eg: username and password)
- 5. Case study on business model of online E-Commerce store

#### (Affiliated to Adikavi Nannaya University, Rajamahendravaram) (Re-accredited with NAAC "B" Grade with 2.61 CGPA points)

B.Com (Computer Applications)

#### III YEAR V SEMESTER E– Commerce Application Development Model Paper

#### MODEL QUESTION PAPER – THEORY B.Com. DEGREE EXAMINATIONS

Time: 3 Hours	Maximum Marks: 75
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#### Section – A

(5x5=25)

- 1. What is e-commerce? Discuss B2B2C and C2B2C model giving proper examples.
- 2. Define Electronic Data Interchange. What are the components of Electronic Data Interchange?
- **3.** Explain how SSL protocol is used for secure transaction. Explain the advantages of ecommerce.
- 4. What role does SCM play in Business to Business model i.e B2B e-Commerce.
- 5. Discuss e-governance .Explain the Business to Administration model.
- 6. Discuss in brief virtual auction.Explain the differences between virtual auction and Reverseauction.
- 7. What is Firewall? State the function of Firewall in e-commerce.
- 8. What are the basics of HTML?

I. Answer any FIVE questions

#### Section – B

#### **II. Answer any FIVE questions**

(5x10=50)

9. (a) What are the benefits of E-Commerce? and Limitations of E-Commerce (OR)

(b) Explain about E-Commerce v/s Traditional Commerce?

10. (a) Explain Bussiness Models of E-Commerce?.

#### (OR)

- (b) Explain Web based E-Commerce Architecture.
- 11. (a) Explain about EDI?

#### (OR)

- (b) What are the E-Commerce Payment Systems?
- 12. (a) Explain about JAVA script Basics.

#### (OR)

- (b) Explain about PHP basics?
- 13. (a) How to Logging into your Word press site and explain? (OR)
  - (b) How to create your first post and adding photos and images?

#### (Affiliated to Adikavi Nannava University, Rajamahendravaram) (Re-accredited with NAAC "B" Grade with 2.61 CGPA points)

Domain Subject: Computer Applications for Arts/Commerce

Course Code:

Max Marks: 100

Course-7C: REAL TIME GOVERNANCE SYSTEM (RTGS)

(Skill Enhancement Course (Elective), 4 credits)

#### **COURSE OUTCOMES:**

Upon successful completion of this course, students will have the knowledge and skills to

- 1. Understand the terms regarding Governance, E-Governance and RTGS
- 2. Learn about E-Governance Infrastructure
- 3. Understand the E-Governance implementation in several countries
- 4. Understand the E-Governance implementation in several Indian states
- 5. Understand the applications of RTG

# Syllabus: (Total hours: 75 including Theory, Practical, Training, Unit tests etc.)UNIT 1: Introduction to E-Governance12hrs

- Government, Governance and Good Governance
- What is E-Governance or Electronic Governance?
- E-Government and E-Governance: A conceptual Analysis
  - Objectives
  - ✤ Components
  - ✤ application domains
  - ✤ four phase model
  - ✤ implementing E-Governance
  - ✤ issues while implementing E-Governance
  - Opportunities and challenges
- Types of E-Governance
- What is Real-Time Governance (RTG)
- Real Time Governance Society (RTGS)

#### **UNIT 2: E-Governance Infrastructure**

- Data Systems infrastructure
  - Executive Information Systems
  - Management Information Systems
  - Knowledge Management Systems

#### 14hrs

- Transaction Processing Systems
- Legal Infrastructural preparedness
  - ✤ IT Act 2000
  - ✤ Challenges to Indian law and cybercrime scenario in India
  - ✤ Amendments of the Indian IT Act
- Institutional Infrastructural preparedness
  - ✤ Internet
  - ✤ intranet
  - $\clubsuit$  extranet
- Human Infrastructural preparedness
  - ✤ Top-level management
  - Middle-level management
  - ✤ Low-level management
- Technological Infrastructural preparedness
  - ✤ Information and communications technology
  - ✤ Data Warehousing
  - Cloud Computing

#### UNIT 3: E-Governance: Country Experience 12hrs

- INDIA
- US
- UK
- AUSTRALIA
- DUBAI

#### **UNIT 4: E-Governance in India**

- Andhra Pradesh
- Karnataka
- Kerala
- Uttar Pradesh
- Madhya Pradesh
- West Bengal
- Gujarat

#### UNIT 5: Latest Applications in Real Time Governance 10hrs

12hrs

- Agriculture
- Rural Development
- Health care
- Education
- Tourism
- Commerce and Trade

#### **Textbooks:**

- 1. E-Governance: concepts and case studies |CSR Prabhu | Prentice-Hall |
- 2. E-Governance| Niranjanpani, Sanhari Mishra | Himalaya Publishing House

#### Website References:

- 1. http://www.egov4dev.org/success/case/
- 2. https://vikaspedia.in/e-governance/resources-for-vles
- 3. https://altametrics.com/en/information-systems/information-system-types.html
- 4. https://core.ap.gov.in/CMDashBoard/Index.aspx

#### **Co-Curricular Activities:**

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

#### A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)

2. Student seminars (on topics of the syllabus and related aspects (individual activity))

3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))

4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity)

#### **B.** General

1. Group Discussion

2. Try to solve MCQ's available online.

#### **RECOMMENDED CONTINUOUS ASSESSMENT METHODS:**

#### Some of the following suggested assessment methodologies could be adopted;

10. The oral and written examinations (Scheduled and surprise tests),

- 11. Closed-book and open-book tests,
- 12. Practical assignments and laboratory reports,
- 13. Observation of practical skills,
- 14. Individual and group project reports.
- 15. Efficient delivery using seminar presentations,
- 16. Viva-Voce interviews.
- 17. Computerized adaptive testing, literature surveys and evaluations,
- 18. Peers and self-assessment, outputs form individual and collaborative work

## Course-7C: Real Time Governance System (RTGS); Lab (Practical) Syllabus (15Hrs)

(Since, the proposed SECs are connected to Computer Programming/Software Tools and Skill enhancement, the students need to get exposure on the syllabus content by practicing on the computer even though there is no formal assignment of credits and laboratory hours for practical sessions. So, as part of the Co-curricular activities and continuous assessment, students should be engaged in practicing on computer for at least 15 hours per semester.)

**Note:** Here the students have to gather the details in computer lab by surfing several websites & Google Search Engines and submit the report to the class/lab instructor before leaving the lab.

Week 1: Write a Report on the role of Nationwide Networking in E-Governance

Week 2: Write a Report on SETU: A Citizen Facilitation Centre in India, regarding it's successful or failure journey.

Week 3: Write a Report on National Cyber Security Policy, how it is useful to Indian citizens.

Week 4: Write a Report on mee-seva/Village Secretariat/Ward secretariat, a new paradigm in citizen services.

Week 5: Write a Report on how Andhra Pradesh is implementing RTGS in Agriculture.

Week 6: Write a Report on how Andhra Pradesh is implementing RTGS in social welfare schemes

Week 7: Write a Report on how Andhra Pradesh is implementing RTGS in waste lands, agricultural lands and house properties.

Week 8: Write a Report on Electronic Birth Registration in any one state of our country.

**Note:** The list of experiments need not be restricted to the above list. *Detailed list of Programming/software tool based exercises can be prepared by the concerned faculty members.* 

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#### (Affiliated to Adikavi Nannaya University, Rajamahendravaram) (Re-accredited with NAAC "B" Grade with 2.61 CGPA points)

#### B.Com (Computer Applications)

#### III YEAR V SEMESTER Real Time Governance System (RTGS) Model Paper

(5x5=25)

(5x10=50)

Time: 3 Hours

#### Maximum Marks: 75

#### Section – A

#### Answer any FIVE questions

1. What is E-Governance or Electronic Governance?

- 2. Explain about Data Systems Infrastructure?.
- 3. What are the Human Infrastructural preparedness?
- 4. Explain about E- Governance Experience in INDIA and US?.
- 5. Explain about E- Governance Experience in AP and Karnataka?
- 6. What are the Latest Applications in RTGS on Agriculture and Education?
- 7. What are the benefits of E- Governance ?
- 8. What are the issues while implementing E- Governance?

#### Section – B

#### Answer any FIVE questions

9(a) What are the Types of E- Governance ?

#### (OR)

(b) What are the Objectives and Components of E- Governance ? 10(a) Explain about Legal Infrastructural preparedness.

#### (OR)

(b) Explain about Technological Infrastructural preparedness.

11(a) How the E- Governance Experience in AUSTRALIA (OR)

(b) How the E- Governance Experience in DUBAI ?

12(a) Explain about E- Governance in INDIA any two states . (OR)

(b) ) Explain about E- Governance in West Bengal and Gujarath

13(a) Explain about Health care and Education Applications in RTG? (OR)

(b) Explain about Tourism and Commerce Applications in RTG?

#### (Affiliated to Adikavi Nannaya University, Rajamahendravaram) (Re-accredited with NAAC "B" Grade with 2.61 CGPA points)

Four-year B.A. /B.Com. (Hons) Semester-V (from 2022-23) Domain Subject: **Computer Applications for Arts/Commerce** 

Course Code:

Max Marks: 100

12Hr

Course-6D: MULTIMEDIA TOOLS AND APPLICATIONS

(Skill Enhancement Course (Elective), 4 credits)

After successful completion of the course, a student will be able to:

CO1:Gain knowledge on the concepts related to Multimedia.CO2:Understand the concepts like image data representation and colour modes.CO3:Understand the different types of video signals and digital audio.CO3:Know about multimedia data compression types and audio compression standardsCO4:Know about basic video compression techniques.

Syllabus: (Total hours: 75 including Theory, Practical, Training, Unit tests etc.)

#### **Unit-1: Introduction to multimedia:**

- 1. What is Multimedia?
- 2. Components of Multimedia System
- 3. Multimedia and Hypermedia
- 4. Multimedia Authoring metaphors
- 5. Multimedia Production
- 6. Multimedia Presentation
- 7. Some Technical Design Issues
- 8. Automatic Authoring

#### Unit-2: Image Data Representations and color models:

- 1. Color science Human vision Image data types:
- 2. Black & white images
  1-bit images (Binary image)
  8 -bit (Gray -level images)
- 3. Color images
  - 24-bit color images
    - 8-bit color images
- 4. Color models

#### Unit-3: Fundamental concepts in video:

 Types of Video Signals Analog Video Digital Video 12Hr

12Hr

#### **Basics of Digital Audio:**

 What is Sound? Digitization of Sound Quantization and Transmission of Audio Pulse code modulation Differential coding of audio Predictive coding

#### Unit-4:

#### **Multimedia Data Compression:**

1. Introduction

Basics of Information Theory

Lossless Compression Algorithms

Fix-Length Coding

Run-length coding

#### 1.2.4 Dictionary-based coding Variable Length Coding

Huffman Coding Algorithm

#### Audio Compression standards:

2. Introduction

Psychoacoustics model

#### MPEG Audio

#### **Unit-5: Basic Video Compression Techniques:**

11Hr

13Hr

- 1. Introduction to Video compression
- 2. Video compression standard H.261
- 3. Video compression standard MPEG-1

#### **Text Books:**

Fundamentals of Multimedia by Ze-Nian Li & Mark S. Drew. Publisher: Prentice Hall

#### **Reference Books:**

1. An introduction to digital multimedia by Savage, T. M. and Vogel, K. E. 2008.

2. Digital Multimedia by Nigel Chapman & Jenny Chapman. 2009.

Online Resources: <u>https://ksuit342.wordpress.com/lectuers/</u> https://www.tutorialspoint.com/multimedia

#### Recommended Co-Curricular Activities (participation: total 15 weeks):

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

#### A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)

2. Student seminars (on topics of the syllabus and related aspects (individual activity))

3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))

4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity))

#### **B.** General

- 1. Group Discussion
- 2. Others

#### **RECOMMENDED CONTINUOUS ASSESSMENT METHODS:**

Some of the following suggested assessment methodologies could be adopted;

- 1. The oral and written examinations (Scheduled and surprise tests),
- 2. Closed-book and open-book tests,
- 3. Programming exercises,
- 4. Observation of practical skills,
- 5. Efficient delivery using seminar presentations,
- 6. Viva voce interviews.
- 7. Computerized adaptive testing, literature surveys and evaluations,
- 8. Peers and self-assessment, outputs form individual and collaborative work

#### Suggested Software

- 1) Image Editing GIMP
- 2) Audio Editing Audacity
- 3) Video Editing video pad
- 4) NCH software tools.

## Course-6D: Multimedia Tools and Applications; Lab (Practical) Syllabus (15 Hrs.)

(Since, the proposed SECs are connected to Computer Programming/Software Tools and Skill enhancement, the students need to get exposure on the syllabus content by practicing on the computer even though there is no formal assignment of credits and laboratory hours for practical sessions. So, as part of the Co-curricular activities and continuous assessment, students should be engaged in practicing on computer for at least 15 hours per semester.)

- 1. Editing images using GIMP
- 2. Improve the Quality of your Image in GIMP
- 3. Create an impressive background in GIMP
- 4. Applying Shadow & Highlight effects in images
- 5. Black& white and color photo conversion.
- **Note:** The list of experiments need not be restricted to the above list. *Detailed list of Programming/software tool based exercises can be prepared by the concerned faculty members.*

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#### (Affiliated to Adikavi Nannaya University, Rajamahendravaram) (Re-accredited with NAAC "B" Grade with 2.61 CGPA points)

Four-year B.A./B.Com (Hons) Semester-V (from 2022-23)

Domain Subject: Computer Applications for Arts/Commerce

Course Code:

Max Marks: 100

#### Course-7D: DIGITAL IMAGING

(Skill Enhancement Course (Elective), 4 credits)

#### **Learning Outcomes:**

After successful completion of the course, a student will be able to:

CO1:Gain knowledge about Types of Graphics, Types of Objects and Types of video editingtools

CO2:Show their skills in editing and altering photographs for

through abasic understanding of the tool box.

CO3:Gain knowledge in using the layers.

CO4:Gain knowledge in using the selection tools, repair tools.

CO5:Gain knowledge in using selection tools, applying filters and can show their skills.

Syllabus: (Total hours: 75 including Theory, Practical, Training, Unit tests etc.)

#### UNIT-I

Types of Graphics
 Raster vs Vector Graphics
 Types of Objects
 Audio formats
 Video formats
 Image formats
 Text document formats
 Types of video editing
 Different color modes.
 Image Scanner
 Evaluation of the second seco

Types of Image Scanners

#### **UNIT-II**

- 1. What is GIMP?
- 2. GIMP tool box window
- 3. Layers Dialog
- 4. Tool Options Dialog
- 5. Image window
- 6. Image window menus

12 Hrs

12 Hrs

#### UNIT-III

#### **Improving Digital Photos**

Opening files Rescaling saving files Cropping Brightening & Darkening

Rotating Sharpening

#### Introduction to layers

- 2. What is layer?
  - Using layer to add text
  - Using move tool

Changing colors

Simple effects on layers

- 2.5 Performing operations on layers
- 2.7 Using layers to copy and paste

#### **UNIT-IV**

#### **Drawing:**

Drawing lines and curves Changing colors and brushes

Erasing

Drawing rectangles, Circles and other shapes

Outlining and filling regions

Filling with patterns and gradients

#### Selection:

Working with selections Select by color and fuzzy Select Bezier paths

2.5 Modifying selections with selection modes

#### UNIT-V

#### **Erasing and Touching Up:**

1.1 Dodge and burn tool Clone tool Sharpening using convolve tool Correcting Color Balance

#### **Filters:**

Filters Blur Enhance Noise Filters

**References:** 

Textbook: Beginning GIMP from Novice to professional by Akkana Peck, Second Edition, Apress 12 Hrs

**12 Hrs** 

#### Recommended Co-Curricular Activities (participation: total 15 weeks):

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

#### A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)

2. Student seminars (on topics of the syllabus and related aspects (individual activity))

3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))

4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity))

#### **B.General**

5. Group Discussion

6. Others

#### **RECOMMENDED CONTINUOUS ASSESSMENT METHODS:**

Some of the following suggested assessment methodologies could be adopted;

- 1. The oral and written examinations (Scheduled and surprise tests),
- 2. Closed-book and open-book tests,
- 3. Programming exercises,
- 4. Observation of practical skills,
- 5. Efficient delivery using seminar presentations,
- 6. Viva voce interviews.
- 7.Computerized adaptive testing, literature surveys and evaluations,

8.Peers and self-assessment, outputs form individual and collaborative work

#### Course-7D: DIGITAL IMAGING; Lab (Practical) Syllabus (15 Hrs.)

(Since, the proposed SECs are connected to Computer Programming/Software Tools and Skill enhancement, the students need to get exposure on the syllabus content by practicing on the computer even though there is no formal assignment of credits and laboratory hours for practical sessions. So, as part of the Co-curricular activities and continuous assessment, students should be engaged in practicing on computer for at least 15 hours per semester.)

- 1. Designing a Visiting card
- 2. Design Cover page of a book
- 3. Paper add for calling tenders
- 4. Design a Pamphlet
- 5. Brochure designing
- 6. Titles designing
- 7. Custom shapes creation
- 8. Image size modification
- 9. Background changes
- 10. Texture and patterns designing

Note: The list of experiments need not be restricted to the above list. Detailed list of Programming/software tool based exercises can be prepared by the concerned faculty members.

#### Draft Syllabus prepared by:

- 1. Dr. M. Babu Reddy, Krishna University, Machilipatnam
- 2. Mr.Kavuri Sridhar, PB Sidhartha College of Arts & Science,
- Vijayawada, 3. Mr.SAB Nehru, Andhra Layola College, Vijayawad

## **B.A(COMPUTER APPLICATIONS)**

#### SRI A.S.N.M. GOVERNMENT COLLEGE (A), PALAKOL

(Affiliated to Adikavi Nannaya University, Rajamahendravaram) (Re-accredited with NAAC "B" Grade with 2.61 CGPA points)

## **Course Structure**

**B.A** (Computers)

CBCS/Semester System

#### I Semesters-I,II,III,IV

Year	Semest er	Course	Title	Hours	Credits	Mid sem Exam	SemEnd Exam	Total
Semester-I 1. Semester- II	Semester-I	Course-I	Computer Fundamentals and Office Tools	5	4	40	60	100
		M.S.Office Lab	2	2	-	50	50	
	Semester- II	Course-II	Programming in C	5	4	40	60	100
			C Programming Lab	2	2	-	50	50

Year	Semest er	Course	Title	Hours	Credits	Mid sem Exam	Sem End Exam	Total
	Somostor I	Course-I	Data Base Management Systems	5	4	25	75	100
II	Semester-1		Data Base Management Systems Lab	2	2	-	50	50
	Semester-	Course-II	Object Oriented Programming using Java	5	4	25	75	100
	II		Object Oriented Programming using Java Lab	2	2	-	50	50

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Rajamahendravaram) (Re-accredited with NAAC "B" Grade with 2.61 CGPA points)

B. Sc /B.A	Semester: I	Credits: 4
Course: 1	COMPUTER FUNDAMENTALS AND OFFICE TOOLS	Hrs/Wk: 5

1. Aim and objective of Course:

To introduce the fundamental concepts of Computers, Hardware, Software and able to interact with documentation, Power point and Spreadsheet.

2. Learning outcomes of Course:

CO1:To learn about Basics of Computers

CO2:To learn about basics of Hardware Components

CO3:To learn about basics of Operating System Software

CO4:To learn about basics of Application System Software

CO5: To practice handful exercises on Documentation, Spreadsheet, Presentation

3. Detailed Syllabus: (Five units with each unit having 12 hours of class work)

#### **UNIT I:**

Basics of Computers :Definition of a Computer - Characteristics and Applications of Computers -Block Diagram of a Digital Computer - Classification of Computers based on size and working -Central Processing Unit – I/O Devices.

#### **UNIT II:**

Primary, Auxiliary and Cache Memory – Memory Devices. Software, Hardware, Firmware and People ware – Definition and Types of Operating System – Functions of an Operating System – MS-DOS – MS Windows - Desktop, Computer, Documents, Pictures, Music, Videos, Recycle Bin, Task Bar -Control Panel.

#### **UNIT III:**

MS-Word: Features of MS-Word – MS-Word Window Components – Creating, Editing, Formatting and Printing of Documents - Headers and Footers - Insert/Draw Tables, Table Auto format - Page Borders and Shading – Inserting Symbols, Shapes, Word Art, Page Numbers, Equations – Spelling and Grammar - Thesaurus - Mail Merge.

#### UNIT. IV:

**MS-PowerPoint:** Features of PowerPoint – Creating a Blank Presentation - Creating a Presentation using a Template - Inserting and Deleting Slides in a Presentation - Adding Clip Art/Pictures -Inserting Other Objects, Audio, Video - Resizing and Scaling of an Object - Slide Transition -Custom Animation.

#### UNIT V:

MS-Excel: Overview of Excel features – Creating a new worksheet, Selecting cells, Entering and editing Text, Numbers, Formulae, Referencing cells - Inserting Rows/Columns-Changing column widths and row heights, auto format, changing font sizes, colors, shading.

#### **PRESCRIBED BOOKS:**

- 1. Fundamentals of Computers by Reema Thareja, Second Edition, Publishers
- 2. Oxford University Press, India, ISBN: 9780199499274

#### **REFERENCES:**

#### 12 Hrs

## 12 Hrs

12 Hrs

#### 10 Hrs

10 Hrs

- 1. Fundamentals of Information Technology Including Lab Work by Vinod Babu Bandari, Publishers : Pearson
- 2. Fundamentals of Computers by V.Raja Raman, Publishers : PHI
- 3. Microsoft Office 2010 Bible by John Walkenbach, Herb Tyson, Michael R.Groh and Faithe Wempen,

#### (Affiliated to Adikavi Nannaya University, Rajamahendravaram) (Re-accredited

#### with NAAC "B" Grade with 2.61 CGPA points)

#### 1. Details of Lab Syllabus: Computer Fundamentals and Office Tools LAB

#### List of Experiments for Lab:

#### WORD:

- 1. Create curriculum vitae of a graduate
- 2. Design a visiting card for an Organization
- 3. Create a letter as the main document and create 5 records for the 5 persons use mail merge to create letter for selected persons among 5.
- 4. Macro's concept implementation.

#### **SPREADSHEET:**

- 1. Students Marks, Result, Grade & Rank Calculation
- 2. <u>Number conversions</u>: Decimal to Octal, Hexa, Decimal, Binary conversion Binary to decimal, octal, hexa decimal conversion Octal to decimal, hexa decimal, binary conversion Hexa decimal to decimal, octal, binary conversion

Column Chart Bar Chart Pie Chart

#### **POWERPOINT:**

- 1. Make a Power point presentation about Social Network.
- 2. Make a Power point presentation about College.
- 3. Make a Power point presentation about the given topic.

#### 5. RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

#### A. Measurable

- 1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
- 2. Student seminars (on topics of the syllabus and related aspects (individual activity))
- 3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
- 4. Study projects (by very small groups of students on selected local real- time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity)

#### (Affiliated to Adikavi Nannaya University, Rajamahendravaram) (Re-accredited

#### with NAAC "B" Grade with 2.61 CGPA points)

#### **B.** General

- 1. Group Discussion
- 2. Try to solve MCQ's available online.
- 3. Others

#### 6. RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

- 1. The oral and written examinations (Scheduled and surprise tests),
- 2. Closed-book and open-book tests,
- 3. Problem-solving exercises,
- 4. Practical assignments and laboratory reports,
- 5. Observation of practical skills,
- 6. Individual and group project reports like "Creating Text Editor in C".
- 7. Efficient delivery using seminar presentations,
- 8. Viva voce interviews.
- 9. Computerized adaptive testing, literature surveys and evaluations,
- 10. Peers and self-assessment, outputs form individual and collaborative work

#### (Affiliated to Adikavi Nannava University, Rajamahendravaram) (Re-accredited

#### with NAAC "B" Grade with 2.61 CGPA points)

#### B. Sc /B.A DEGREE EXAMINATION SEMESTER: I

#### MODEL QUESTION PAPER COMPUTER APPLICATIONS Course 1: COMPUTER FUNDAMENTALS AND OFFICE TOOLS

Time: 3Hrs.

Max. Marks: 100

#### Section - A

#### Answer any 5 question.

- 1. Write the Applications of Computers.
- 2. Define and write the types of Operating Systems.
- 3. Write the Features of MS-Word.
- 4. Write the Features of MS-Power Point.
- 5. Write the Features of MS-Excel.
- 6. Define and write examples for Software, Hardware, Firmware and People ware.
- 7. Write MS-Word Window Components.
- 8. Write about Types of effects in Custom Animation.

#### Section -B

#### Answer following question

9. a) Write about Classification of Computers based on size and working.

#### (OR)

- b) Draw the block diagram of Computer and explain the functioning.
- 10. a) Write about different types of Memory.

#### (**OR**)

- b) Explain the functions of Operating System.
- 11. a) Explain the process of inserting a table and write the properties of table in MS-Word.

#### (**OR**)

- b) Write the process of mail merge to prepare progress reports of students in MS-Word.
- 12. a) Explain the process to inserting, resizing and scaling the objects in MS-Power Point.

#### $(\mathbf{OR})$

- b) Write the process to prepare a power point presentation with designs and animations.
- 13. a) Write the process to prepare students results table using formulae in MS-Excel.

#### (**OR**)

b) What are the types of charts in Excel and write the process to insert a chart? B.Sc/ B.A Computer Applications H

### 5X4 = 20M

5X8 = 40M

#### (Affiliated to Adikavi Nannava University, Rajamahendravaram) (Re-accredited

#### with NAAC "B" Grade with 2.61 CGPA points)

B. Sc /B.A	Semester: II	Credits: 4
Course: 2	PROGRAMMING IN C	Hrs/Wk: 4

#### 1. Aim and objectives of Course:

This course aims to provide exposure to problem-solving through programming. It introduces the concepts of the C Programming language.

#### 2. Learning outcomes of Course:

On completing the subject, students will be able to:

CO1: Analyse a given problem and develop an algorithm to solve the problem.

CO2:Understand tokens and control structures in C.

CO3:Understand arrays and strings and implement them.

CO4:Understand the right way of using functions, pointers, structures and unions in С

CO5: Develop and test programs written in C.

3. Detailed Syllabus: (Five units with each unit having 12 hours of class work)

UNIT I:

Introduction to Algorithms: Algorithm - Key features of Algorithms - examples of Algorithms, Flow Charts.

Introduction to C : Structure of C Program, Writing the first C Program, Files used in C Program, Compiling and Executing C Programs, Using Comments, Keywords, Identifiers, Basic Data Types in C, Variables, Constants, I/O Statements in C, Operators in C, Type Conversion and Type Casting.

#### UNIT II:

**Control and Looping Statements:** Introduction to Decision Control Statements, Conditional Branching Statements, Iterative Statements, Nested Loops, Break and Continue Statement, Goto Statement. Functions: Introduction, using functions – Function declaration/ prototype – Function definition function call – return statement – Passing parameters, Recursive functions.

#### UNIT III:

**Arrays:** Introduction, Declaration of Arrays, Accessing elements of the Array – Storing Values in Array, One dimensional array -declaration, initialization, Accessing one dimensional array, Passing one dimensional array to function, Two dimensional Arrays- declaration, initialization, Accessing two dimensional arrays, passing two dimensional arrays to functions. Strings: Introduction, String and Character functions, String Operations using String functions- strcat(), strcmp(), strcpy(), strlen().

#### UNIT IV:

8 Hrs

8 Hrs

12 Hrs

16 Hrs

16 Hrs

**Pointers:** declaring Pointer Variable, Pointer Expressions and Pointer Arithmetic, Passing Arguments to Functions using Pointers, Memory Allocation in C Programs, Drawbacks of Pointers.

#### UNIT V:

**Structures:** Introduction to structures, Arrays of Structures, Nested Structures. **Union and Enumerated Data Types:** Introduction to Union – accessing union elements,

Enumerated Data Types.

#### **TEXT BOOKS:**

1. Computer Fundamentals and Programming in C by REEMA THAREJA from OXFORD UNIVERSITY PRESS

#### **REFERENCE BOOKS:**

- 1. E Balagurusamy Programming in ANSI C Tata McGraw-Hill publications.
- 2. Brain W Kernighan and Dennis M Ritchie The 'C' Programming language" Pearson publications.

3. Ashok N Kamthane: Programming with ANSI and Turbo C, Pearson Edition Publications.

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#### 4. Details of Lab Syllabus: Programming in C Lab

#### List of Experiments

- 1. Write a C program to calculate the expression: ((a\*b)/c)+(a+b-c)
- 2. Write a C program to calculate  $(a+b+c)^3$ .
- 3. Write a C Program to convert temperature from
- a. Celsius to Fahrenheit.
- b. Fahrenheit to Celsius.
- 4. Write a C program to find roots of quadratic equation.
- 5. Write a C Program to convert Hours into seconds.
- 6. Write a C program to Find Biggest of Three numbers.
  - i. Write a C program to read student marks in five subjects and calculate the Total, Average and Grade according to the following conditions:
  - ii. If average >=75 grade is \_A'.
  - iii. If average >=60 and <75 grade is  $\_B'$ .
  - iv. If average >=50 and <60 grade is \_C'.
  - v. Otherwise grade is \_D'.
  - vi. Check that marks in each subject  $\geq 35$ .
- 7. Write a C Program to display number of days in given month using Switch - Case.
- 8. Write a C Program to check whether a given number is perfect or Not.
- 9. Write a C program to check whether the given number is Prime or Not.
- 10. Write a C program to Check whether given number is Palindrome or Not.
- 11. Write a C Program to check whether a given number is Armstrong or Not.
- 12. Write a C program to print Fibonacci Series.
- 13. Write a C program to print multiplication tables up to given range.
- 14. Write a C program to perform i) Matrix addition ii) Matrix Multiplication.
- 15. Write a C program to find largest number in the array.
- 16. Write a C Program to find factorial of a given number using functions.
- 17. Write a C Program to accept and display Student Details using Structures.
- 18. Write a C Program to swap two numbers using different parameter passing techniques.

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#### 5. RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

#### A. Measurable

- 1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
- 2. Student seminars (on topics of the syllabus and related aspects (individual activity))
- 3. Quiz (on topics where the content can be compiled by smaller aspects and

data (Individuals or groups as teams))

4. Study projects (by very small groups of students on selected local real- time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity)

#### **B.** General

- 1. Group Discussion
- 2. Try to solve MCQ's available online.
- 3. Others

#### 6. RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

- 1. The oral and written examinations (Scheduled and surprise tests),
- 2. Closed-book and open-book tests,
- 3. Problem-solving exercises,
- 4. Practical assignments and laboratory reports,
- 5. Observation of practical skills,
- 6. Individual and group project reports like "Creating Text Editor in C".
- 7. Efficient delivery using seminar presentations,
- 8. Viva voce interviews.
- 9. Computerized adaptive testing, literature surveys and evaluations,
- 10. Peers and self-assessment, outputs form individual and collaborative work.

#### B.Sc/ B.A

#### Computer Applications

#### Page 60 of 31

#### SRI A.S.N.M. GOVERNMENT COLLEGE (A), PALAKOL

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#### MODEL QUESTION COURSE

#### B. Sc /B.A DEGREE EXAMINATION SEMESTER: COMPUTER APPLICATIONS Course-II Course 2: PROGRAMMING IN C

Time: 3Hrs.

Max. Marks: 75

5X5 = 25M

#### Section -A

#### Answer any 5 question

- 1. What is Flow chart and draw the symbols used in flowchart.
- 2. Write about the conditional branching statements in C.
- 3. Define Array and write Declaration, initialization and accessing of elements in Array.
- 4. Write the Drawbacks of Pointers.
- 5. What the difference between Structure and Union.
- 6. Write about the basic Data Types used in C.
- 7. Write about function declaration, definition and calling.
- 8. Write about Nested Structures.

#### Section - B

#### Answer following question

9. a) Explain about the operators in C with examples.

#### (**OR**)

- b) Explain the Structure of C program with example.
- 10. a) Explain about different types of Loops available in C.

#### (OR)

- b) Explain about Parameter passing techniques with examples.
- 11. a) Write algorithm and C Program for Matrix multiplication.

#### (OR)

- b) Explain the String operations using String functions in C.
- 12. a) Explain about Passing Arguments to Functions using Pointers.

#### (OR)

- b) Explain about Memory Allocation in C Programs.
- 13. a) Explain about creating a structure and accessing elements of structure with example.

#### (**OR**)

b) Explain about Enumerated Data Types with example program.

5X10 = 50M

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<b>B.</b> Sc / <b>B.</b> A	Semester: III	Credits: 4
Course: 3	DATABASE MANAGEMENTSYSTEMS	Hrs/Wk: 4

#### 1. Aim and objectives of Course:

- 1. To educate student regarding databases and how to manage databases.
- 2. To provide knowledge about creating relationships.
- 3. To provide knowledge about dependencies and relational constraints.
- 4. To enable student to write various types of queries for handling data.

2. Learning outcomes of Course:

On completing the subject, students will be able to:

CO1:Gain knowledge of Database and DBMS.

CO2:Understand the fundamental concepts of DBMS with special emphasis on relational data model.

CO3:Demonstrate an understanding of normalization theory and apply such knowledge to the normalization of a database

CO4:Model database using ER Diagrams and design database schemas based on the model.

3. Detailed Syllabus: (Five units with each unit having 12 hours of class work)

#### UNIT I:

**Introduction:** Data and Information, **Characteristics of the Database Approach:** 

Self-Describing Nature of the a Database System, Insulation between Programs and Data, Data Abstraction, Support of Multiple Views of the data, Sharing of Data and multiuser Transaction Processing, **Actors on the Scene:** Database Administrators, Database Designers, End Users, System Analysts and Application, Advantages of DBMS, **Data Models, Schemas and Instances:** Categories of Data Models, Schemas, Instances, and Database State, **DBMS Architecture and Data Independence:** The Three-Schema Architecture, Data Independence.

#### **UNIT II:**

**Entity Relationship Model:** Introduction, Entity types, Entity sets, Attributes and Keys, Entities and Attributes, Entity Types, Entity Sets, Keys and Value Sets, Relationships, Relationship types, Roles, and Structural Constraints, Relationship Types, Sets and Instances, Relationship Degree, Role Names, and Recursive Relationships, Constraints on Relationship Types, Attributes of Relationship Types, Weak Entity Types, ER Diagrams, Naming Conventions, and Design Issues

**Enhanced Entity-Relationship:** Subclasses, super classes, and inheritance, Specialization and Generalization, Constraints and characteristics of Specialization and Generalization.

#### **UNIT III:**

12 Hrs

12 Hrs

12Hrs

**The relational data model, Relational Constraints:** Introduction, Relational Model Concepts, Domains, Attributes, Tuples and Relations, Characteristics of Relations, Relational Model Notation Relational Constraints and Relational **Database Schemas:** Domain Constraints, Key Constraints and Constraints on Null, Relational Databases and Relational Database Schemas, Entity Integrity, Referential Integrity and Foreign Keys **Functional Dependencies and normalization for Relational Databases:** Functional Dependencies, Definition of Functional Dependency, Inference Rules for Functional Dependencies, Equivalence of sets of Functional Dependencies, Minimal Sets of Functional Dependencies, **Normal forms based on primary keys**: Introduction to Normalization, First Normal Form, Second Normal Form, Third Normal Form.

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#### **UNIT IV:**

12 Hrs The Relational Algebra: Basic Relational Algebra Operation, The SELECT Operation, The PROJECT operation, Sequences of Operations and the, RENAME Operation, Set Theoretic Operations, The JOIN Operation, A Complete Set of Relational Algebra Operations, The DIVISION Operation, Additional **Relational Operations:** Aggregate Functions and Grouping, Recursive Closure Operations, OUTER JOIN and OUTER UNION Operations

#### **UNIT V:**

12 Hrs

**SOL** (STRUCTURED OUERY LANGUAGE): Data Definition, Constraints and Schema changes in SQL, The CREATE TABLE Command and SQL Data Types and Constraints, The DROP SCHEMA and DROP TABLE Command, The ALTER TABLE Command, The SELECT-FROM-WHERE Structure of SQL Queries WHERE-Clause, Aggregate Functions and Grouping, Insert, Delete, and Update Statements in SQL, The INSERT Command, The DELETE Command

#### **TEXT BOOKS:**

- 1. "Fundamentals of Database Systems" by R.Elmasri and S.Navathe.
- 2. "Introduction to Database Management System" Atul Kahate Pearson Education ISBN: 9789332505537.
- 3. "Database System Concepts" by Abraham Silberschatz, Henry Korth, and S. Sudarshan, McGrawhill, 2010.

#### **REFERENCE BOOKS:**

- 1. "Database Management Systems" by Raghu Ramakrishnan, NcGrawhill, 2002
- 2. "Prinicples of Database Systems" by J.D.Ullman.
- 3. "An Introduction to Database Systems" by Bipin C Desai.
- 4. "Fundamentals of Relational Database Management Systems" by S.Sumathi, S. Esakkirajan, Springer Publications

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#### 4. Details of Lab Syllabus: DATABASE MANAGEMENT SYSTEMS LAB

1. Draw ER diagram for hospital administration

- 2. Creation of college database and establish relationships between tables
- 3. Relational database schema of a company is given in the following figure.

**Relational Database Schema - COMPANY** 



#### Questions to be performed on above schema

- 1. Create above tables with relevant Primary Key, Foreign Key and other constraints
- 2. Populate the tables with data
- 3. Display all the details of all employees working in the company.
- 4. Display ssn, lname, fname, address of employees who work in department no 7.
- 5. Retrieve the Birthdate and Address of the employee whose name is 'Franklin T. Wong'
- 6. Retrieve the name and salary of every employee
- 7. Retrieve all distinct salary values

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- 8. Retrieve all employee names whose address is in 'Bellaire'
- 9. Retrieve all employees who were born during the 1950s
- 10. Retrieve all employees in department 5 whose salary is between 50,000 and 60,000(inclusive)
- 11. Retrieve the names of all employees who do not have supervisors
- 12. Retrieve SSN and department name for all employees
- 13. Retrieve the name and address of all employees who work for the 'Research' department
- 14. For every project located in 'Stafford', list the project number, the controlling department number, and the department manager's last name, address, and birth date.
- 15. For each employee, retrieve the employee's name, and the name of his or her immediate supervisor.
- 16. Retrieve all combinations of Employee Name and Department Name
- 17. Make a list of all project numbers for projects that involve an employee whose last name is 'Narayan' either as a worker or as a manager of the department that controls the project.
- 18. Increase the salary of all employees working on the 'ProductX' project by 15%. Retrieve employee name and increased salary of these employees.
- *19.* Retrieve a list of employees and the project name each works in, ordered by the employee's department, and within each department ordered alphabetically by employee first name.
- Select the names of employees whose salary does not match with salary of any employee in department 10.
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#### 5. RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

#### A. Measurable

- 1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
- 2. Student seminars (on topics of the syllabus and related aspects (individual activity))
- 3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
- 4. Study projects (by very small groups of students on selected local realtime problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity)

#### **B.** General

- 1. Group Discussion
- 2. Try to solve MCQ's available online.
- 3. Others

#### 6. RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

- 1. The oral and written examinations (Scheduled and surprise tests),
- 2. Closed-book and open-book tests,
- 3. Problem-solving exercises,
- 4. Practical assignments and laboratory reports,
- 5. Observation of practical skills,
- 6. Individual and group project reports like "Creating Text Editor in C".
- 7. Efficient delivery using seminar presentations,
- 8. Viva voce interviews.
- 9. Computerized adaptive testing, literature surveys and evaluations,
- 10. Peers and self-assessment, outputs form individual and collaborative work.

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SRI A.S.N.M. GOVERNMENT COLLEGE (A), PALAKOL

# MODEL QUESTION COURSE

### **B. Sc /B.A DEGREE EXAMINATION SEMESTER: III COMPUTER APPLICATIONS Course 3: DATABASE MANAGEMENT SYSTEMS**

Time: 3Hrs.

Max. Marks: 75

#### Section - A

5X5 = 25M

- 1. Define Database management systems.
- 2. What is a Data Model?

Answer any 5 question

- 3. What is Specialization?
- 4. What is a Weak Entity?
- 5. What is referential integrity Constraint?
- 6. Define Functional Dependency?
- 7. List out Aggregate Functions
- 8. Explain SQL Data Types.

#### Section -B

# **Answer following question**

What are the characteristics of the Database? Explain the responsibilities of the Actors of 9. a) the database.

# (**OR**)

- Explain about the Three-Schema Architecture with the help of a neat diagram. b)
- 10. a) Discuss the convention for constructing an ER-diagram along with an example.

#### $(\mathbf{OR})$

- b) Discuss the Enhanced Entity-Relationship with a suitable example.
- 11. a) Explain the concepts of relational model with example.

#### $(\mathbf{OR})$

- b) What is Normalization? Explain 1NF, 2NF, 3NF, BCNF and multivalve dependency.
- 12. a) Discuss various types of Join operations with examples.

# (OR)

b) List the operations of relational algebra and the purpose of each.

- 13. a) Explain Data Definition Commands with example database and queries for each command.  $(\mathbf{OR})$ 
  - b) Explain Data Manipulation Commands with suitable queries

# 5X10 = 50M

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# with NAAC "B" Grade with 2.61 CGPA points)

B.Sc/B.A	Semester: IV	Credits: 4
Course: 4	OBJECT ORIENTATED PROGRAMMING USING JAVA	Hrs/Wk: 4

1. Aim and objectives of Course:

To introduce the fundamental concepts of Object-Oriented programming and to design & implement object oriented programming concepts in Java.

2. Learning outcomes of Course:

CO1:Understand the concept and underlying principles of Object-Oriented Programming, Understand how object-oriented concepts are incorporated into the Java programming language.

CO2:Implement Object Oriented Programming Concepts (class, constructor, overloading, inheritance, overriding) in java.

CO3:Create and use interfaces in a Java.

CO4:Implement Multithreading, exception handling in Java.

C O 5 : Create and use packages and applets

3. Detailed Syllabus: (Five units with each unit having 12 hours of class work)

#### UNIT I:

**FUNDAMENTALS OF OBJECT – ORIENTED PROGRAMMING**: Introduction, Object Oriented paradigm, Basic Concepts of OOP, Benefits of OOP, Applications of OOP, Java features.

**OVERVIEW OF JAVA LANGUAGE:** Simple Java program structure, Java tokens, Implementing a Java Program, Java Virtual Machine, Command line arguments.

**CONSTANTS, VARIABLES & DATATYPES:** Constants, Variables, Data Types, Declaration of Variables, Giving Value to Variables, Getting Value of Variables, Operators in Java.

#### **UNIT II:**

**DECISION MAKING & BRANCHING:** Decision making with if statement- Simple if statement, If - Else statement, Nesting of if- else statements, The else if ladder, The switch statement, The conditional operator.

**LOOPING:** The While statement, The do-while statement, The for statement.

**CLASSES, OBJECTS & METHODS:** Defining a class, Adding variables, Adding methods, Creating objects, Accessing class members, Constructors, Method overloading, Static members.

#### UNIT III:

**INHERITANCE:** Extending a class, Overriding methods, Final variables and methods, Final classes, Abstract methods and classes. **ARRAYS, STRINGS :** Arrays, One-dimensional arrays, Two – dimensional arrays, Strings. **INTERFACES:** Introduction to multiple inheritance, Defining interfaces, Extending interfaces, Implementing interfaces.

#### **UNIT IV:**

**MULTITHREADED PROGRAMMING:** Creating Threads, Extending the Threads, Stopping and Blocking a Thread, Lifecycle of a Thread, Using Thread Methods. **MANAGING ERRORS AND EXCEPTIONS:** Types of errors, Compile-time errors, Run-time errors, Exceptions, Exception handling, Multiple Catch Statements, Using finally statement.

#### UNIT V:

**APPLET PROGRAMMING:** Local and remote applets, Applets and Applications, Building Applet code, Applet Life cycle:-Initialization state, Running state, Idle or stopped state, Dead state, Display state. **PACKAGES:** Java API Packages, Creating Packages, Accessing a Package, Using a Package.

# **TEXT BOOKS:**

1. E.Balaguruswamy, Programming with JAVA, A primer, 3e, TATA McGraw-Hill Company.

12Hrs

12Hrs

12Hrs

12Hrs

12Hrs

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# **REFERENCES:**

- 1. Core Java: An Integrated Approach, Authored by Dr. R. Nageswara Rao &Kogent Learning Solutions Inc.
- 2. John R. Hubbard, Programming with Java, Second Edition, Schaum's outline Series, TATA McGraw-Hill Company.
- 3. Deitel & Deitel. Java TM: How to Program, PHI (2007)
- 4. Object Oriented Programming Through Java by P. Radha Krishna, Universities Press (2008)

# 4. Details of Lab Syllabus: Object Orientated Programming using Java Lab

- 1. Java program to generate Harmonic Series (1/1+1/2+...+1/n).
- 2. Java program to display even, odd numbers and their sum upto given number n.
- 3. Java program to find a sub string in the given string.
- 4. Java program to arrange the given strings in Alphabetic Order.
- 5. Java program to implement Addition and multiplication of two Matrices.
  - 6. Java program to demonstrate the use of Constructor.
  - 7. Java program to implement method overloading.
  - 8. Java program to demonstrate Method overriding.
  - 9. Java program for single Inheritance.
  - 10. Java program for implementing Interface.
  - 11. Java program on Multiple Inheritance.
  - 12. Java program to implement Threads.
  - 13. Java program to demonstrate Exception handling.
  - 14. Java program to demonstrate Applets.

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#### with NAAC "B" Grade with 2.61 CGPA points) RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

# A. Measurable

- 1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
- 2. Student seminars (on topics of the syllabus and related aspects (individual activity))
- 3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
- 4. Study projects (by very small groups of students on selected local real- time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity)

### **B.** General

- 1. Group Discussion
- 2. Try to solve MCQ's available online.
- 3. Others

### 5. RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

- 1. The oral and written examinations (Scheduled and surprise tests),
- 2. Closed-book and open-book tests,
- 3. Problem-solving exercises,
- 4. Practical assignments and laboratory reports,
- 5. Observation of practical skills,
- 6. Individual and group project reports like "Creating Text Editor in C".
- 7. Efficient delivery using seminar presentations,
- 8. Viva voce interviews.
- 9. Computerized adaptive testing, literature surveys and evaluations,
- 10. Peers and self-assessment, outputs form individual and collaborative work.

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# B. Sc /B.A DEGREE EXAMINATION SEMESTER: IV COMPUTER APPLICATIONS Course 4: OBJECT ORIENTED PROGRAMMING USING JAVA MODEL QUESTION PAPER

Time: 3Hrs. Max. Marks: 75 Section - A Answer any 5 question 5X5 = 25M1. What are the benefits of Object oriented programming? 2. Explain different data types in Java? 3. Describe simple 'if statement' with example? 4. What is overriding method and give one example? 5. Explain one-dimensional array? 6. Write short notes on threads? 7. How to terminate a thread? 8. Explain local and remote applets? Section - B Answer following question 5X10 = 50M9. a) Explain basic concepts of object oriented programming? (**OR**) b) Discuss different operator in java? 10. a) What is switch statement? and write a program using switch statement? (OR)b) Explain constructors and types of constructors with an example? 11. a) Briefly explain about final, finally and finalize key words? (**OR**) b) Explain interface with an example?

12. a) Explain life cycle of a thread with example?

#### (OR)

- b) Discuss different types of exception handlings?
- 13. a) Explain applet life cycle with an example?

#### (**OR**)

# b) Explain java API packages?

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B.Sc / B.A	Semester: IV	Credits: 4
Course: 5	WEB DESIGN	Hrs/Wk: 4

1. Aim and objectives of Course:

To introduce the fundamental concepts of HTML, PHP, MySQL and able to design the web pages using scripting languages.

- 2. Learning outcomes of Course:
  - 1. To learn about Basic tags in Html.
  - 2. To learn about the CSS and Java Script.
  - 3. To learn about the Building Blocks of php, functions.
  - 4. To learn about working with Forms, Sessions, Cookies.
  - 5. To learn about Interacting with MySQL using PHP.

3. Detailed Syllabus: (Five units with each unit having 12 hours of class work)

#### UNIT I:

**Introduction to HTML:** Introduction to HTML and World Wide Web, Basic html, Document body, text, Hyperlinks, Adding more formatting Lists, Tables, Images, Multimedia Objects, Frames, Forms.

#### UNIT II:

**CSS and Java Script: CSS**: Introduction, Using Styles: Simple Examples, Defining your own Styles, Properties and Values in Styles, Stylesheets-A worked example, Formatting Blocks of Information, Layers. Java Script: Dynamic HTML, JavaScript-The basics, variables, String manipulation, Mathematical functions, Statements, Operators, Arrays, Functions, Data validation.

#### UNIT III:

**Building blocks of PHP:** Variables, Data Types, Operators and Expressions, Constants. Flow Control Functions in PHP: Switching Flow, Loops, Code Blocks and Browser Output. Working with Functions: Defining Functions, Calling functions, returning the values from User Defined Functions, Variable Scope, Saving State between Function calls with the Static statement, more about arguments.

#### UNIT IV:

**Working with Forms**: Creating Forms, Accessing Form - Input with User defined Arrays, Combining HTML and PHP code on a single Page, Redirecting the user, Sending Mail on Form Submission, Working with File Uploads. Working with Cookies and User Sessions: Introducing Cookies, Setting a Cookie with PHP, Session Function Overview, Starting a Session, Working with session variables, passing session IDs in the Query String, Destroying Sessions and Unsettling Variables, Using Sessions in an Environment with Registered Users.

#### UNIT V:

**Interacting with MySQL using PHP:** MySQL Versus MySQL Function, Connecting to MySQL with PHP, Working with MySQL Data. Creating Database Tables, Creating Menu, Creating Record Addition Mechanism, Viewing Records, Creating the Record Deletion Mechanism, Adding Subentities to a Record.

# **TEXT BOOKS**:

- 1. Chris Bates, Web Programming Building Internet Application, Second Edition, Wiley (2007)
- 2. Head First Servlets and JSP 2<sup>nd</sup> Edition, Bryan Basham, Kathy Sierra 3. Uttam Kumar Roy, Web Technologies from Oxford University Press.
- 3. Julie C. Meloni, PHP MySQL and Apache, SAMS Teach yourself, Pearson Education (2007).
- 4. Xue Bai Michael Ekedahl, The web warrior guide to Web Programming, Thomson (2006).

10Hrs

14Hrs

13Hrs

13 Hrs

10 Hrs

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# 4. Details of Lab Syllabus: Web Design Lab

# List of Laboratory Experiments:

# HTML

- 1. Write an HTML program to demonstrate text formatting, working with image and hyper links
- 2. Write an HTML program to create Student Marks sheet preparation.
- 3. Write an HTML program to explain String manipulation-using functions.
- 4. Write an HTML program to explain <form> events
- 5. Write an HTML program to perform all arithmetic operations using java script.
- 6. Develop a HTML Form, which accepts any Mathematical expression.

# PHP Programs

- 7. Introduction To PHP programming, XAMPP Tool and Dreamweaver Editor Write a Simple Hello Program in PHP by Installing & Configuring XAMPP with Dreamweaver
- 8. Study Of Basic Building Blocks In PHP Write a Program in PHP for type Casting Of a Variables
- 9. Study Of Control Structure & Loops In PHP Write a Program In PHP to Display Multiplication Table Using Nested For Loop
- 10. Study Of Array and Function In PHP Write a program In PHP to Sort an array using function (Bubble Sort)
- 11. Study Of Form handling In PHP Design a personal Information form , then Submit & Retrieve the Form Data Using \$\_GET(), \$\_POST() and \$\_REQUEST() Variables
- 12. Study Of Server Side Validation and Page Redirection In PHP Design A Login Form and Validate that Form using PHP Programming
- 13. Study Of Cookies And Sessions In PHP Create Admin Login, Logout form using session variables.
- 14. Write a PHP application to add new Rows in a Table.
- 15. Write a PHP application to modify the Rows in a Table.
- 16. Write a PHP application to delete the Rows from a Table.
- 17. Write a PHP application to fetch the Rows in a Table.

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# with NAAC "B" Grade with 2.61 CGPA points)

#### **MySQL Lab Cycle - Experiments:**

#### Cycle -1:

An Enterprise wishes to maintain the details about his suppliers and other corresponding details. For that, he uses the following details.

Suppliers (sid: Integer, sname: string, address: string) Parts (pid: Integer, pname: string, color: string) Catalog (sid: integer, pid: integer, cost: real)

The catalog relation lists the prices charged for parts by suppliers.

#### Write the following queries in SQL:

- 1. Find the pnames of parts for which there is some supplier.
- 2. Find the snames of suppliers who supply every part.
- 3. Find the snames of supplier who supply every red part.
- 4. Find the pnames of parts supplied by London Supplier abd by no one else.
- 5. Find the sid"s of suppliers who charge more for some part than the average cost of that part.
- 6. For each part, find the sname of the supplier who charges the most for that part.
- 7. Find the sid"s of suppliers who supply only red parts.
- 8. Find the sid"s of suppliers who supply a red and a green part.
- 9. Find the sid<sup>\*</sup>s of suppliers who supply a red or green part.
- 10. Find the total amount has to pay for that suppler by part located from London.

#### Cycle – 2:

An organisation wishes to maintain the status about the working hours made by his employees. For that, he uses the following tables.

Emp (eid: integer, ename: string, age: integer, salary: real) Works (eid: integer, did: integer, pct\_time: integer) Dept (did: integer, budget: real, managerid: integer)

An employee can work in more than one department; the pct\_time field of the works relation shows the percentage of time that a given employee works in a given department. Resolve the following queries.

- 11. Print the names and ages of each employee who works in both Hardware and Software departments.
- 12. For each department with more than 20 full time equivalent employees (i.e., where the parttime and full-time employees add up to at least that many full-time employees), print the did"s together with the number of employees that work in that department.
- 13. Print the name of each employee whose salary exceeds the budget of all of the departments that he or she work in.
- 14. Find the managerid"s of managers who manage only departments with budgets greater than 1,000,000.
- 15. Find the enames of managers who manage the departments with largest budget.
- 16. If a manager manages more than one department, he or she controls the sum of all the budgets for those departments. Find the managerid's of managers who control more than 5,000,000.
- 17. Find the managerid"s of managers who control the highest amount.

18. Find the average manager salary.

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### 5. RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and

shall encourage self/independent and group learning)

#### A. Measurable

- **1.** Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
- 2. Student seminars (on topics of the syllabus and related aspects (individual activity))
- **3.** Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
- **4.** Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity)

### 5. General

- 1. Group Discussion
- 2. Try to solve MCQ's available online.
- 3. Others

#### **6.** RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

- 1. The oral and written examinations (Scheduled and surprise tests),
- 2. Closed-book and open-book tests,
- 3. Problem-solving exercises,
- 4. Practical assignments and laboratory reports,
- 5. Observation of practical skills,
- 6. Individual and group project reports like "Creating Text Editor in C".
- 7. Efficient delivery using seminar presentations,
- 8. Viva voce interviews.
- 9. Computerized adaptive testing, literature surveys and evaluations,
- 10. Peers and self-assessment, outputs form individual and collaborative work.

Time: 3Hrs.

B.

#### Section - A

#### Answer any 5 question

- 1. What are the applications of World Wide Web?
- 2. Write the properties and values in Style Sheets.
- 3. Write about Operators and Expressions in PHP.
- 4. How to combine HTML and PHP code on a single Page?
- 5. Write the differences between My SQL and My SQL Function.
- 6. Write how to insert an image in to a web page using HTML.
- 7. Write about string manipulation in Java Script.
- 8. How to Set a Cookie with PHP?

#### Section - B

#### Answer following question

9. a) What are the types of Lists, explain with examples.

#### $(\mathbf{OR})$

- b) Explain about Forms and Form Controls with example program.
- 10. a) Explain the types of CSS with examples.

#### (**OR**)

- b) Create a Web Form and write java Script code for Data validation in that form.
- 11. a) Explain about Flow Control Functions in PHP.

#### (**OR**)

- b) Explain how to return the values from User Defined Functions with example.
- 12. a) Write the process how to Send Mail on Form Submission.

#### (OR)

- b) Explain about passing Session IDs and Destroying Sessions.
- 13. a) Explain about Connection to My SQL with PHP and Working with MySQL Data..

(**OR**)

b) Explain about Creating Record Addition Mechanism

# with NAAC "B" Grade with 2.61 CGPA points)

Max. Marks: 75

#### Sc /B.A DEGREE EXAMINATION **IV COMPUTER APPLICATIONS** WEB DESIGN MODEL QUESTION PAPER

SREAS AND GOVERNMENT CONFIGENT, PALAKOL (Affiliated to Adikavi Nation July Argin and Angina Content of the second secon

5 x5= 25M

5X10 = 50M

# SRI A.S.N.M. GOVERNMENT COLLECE (A) DALAKOL UG-LIFE SKILL COURSE

# INFORMATION AND COMMUNICATION TECHNOLOGY

#### (ICT)

(w.e.f. 2020-2021 A.Y.)

Semester	Course Code (LS)	Course Title	Hrs/Sem	Hrs/wk	Credits	Sem End Exam (2 hrs)
Π	Life skill course	Information and Communication Technology (ICT)	30	2	2	50 Marks

**Objectives:** This course aims at acquainting the students with basic ICT tools which help them in theirday to day and life as well as in office and research.

Course outcomes: After completion of the course, student will be able to;

- Understand the literature of social networks and their properties.
- Explain which network is suitable for whom.
- Develop skills to use various social networking sites like twitter, flickr, etc.
- Learn few GOI digital initiatives in higher education.
- Apply skills to use online forums, docs, spreadsheets, etc for communication, collaboration and research.
- Get acquainted with internet threats and security mechanisms.

**UNIT-I:**Fundamentals of Internet: What is Internet?, Internet applications, Internet Addressing – Entering a Web Site Address, URL–Components of URL, Searching the Internet, Browser–Types of Browsers, Introduction to Social Networking: Twitter, Tumblr, LinkedIn, Facebook, flickr, Skype, yahoo, YouTube, WhatsApp.

**UNIT-II: E-mail:** Definition of E-mail -Advantages and Disadvantages – User Ids, Passwords, Email Addresses, Domain Names, Mailers, Message Components, Message Composition, Mail Management. G-Suite: Google drive, Google documents, Google spread sheets, Google Slides and Google forms.

**UNIT-III:** Overview of Internet security, E-mail threats and secure E-mail, Viruses and antivirus software, Firewalls, Cryptography, Digital signatures, Copyright issues. What are GOI digital initiatives in higher education? (SWAYAM, Swayam Prabha, National Academic Depository, National Digital Library of India, E-Sodh-Sindhu, Virtual labs, e-acharya, e-Yantra and NPTEL).

**RECOMMENDED CO-CURRICULAR ACTIVITIES:** Co-curricular activities shall not promotecopying from textbook or from others work and shall encourage self/ independent and group learning.

- 1. Assignments (in writing and doing forms on the aspects of syllabus content andoutside the syllabus content. Shall be individual and challenging)
- 2. Student seminars (on topics of the syllabus and related aspects (individual activity))
- 3. Quiz and Group Discussion
- 4. Slip Test
- 5. Try to solve MCQ's available online.
- 6. Suggested student hands on activities:
- a. Create your accounts for the above social networking sites and explore them, establish a video conference using Skype.
- b. Create an Email account for yourself- Send an email with two attachments to another friend. Group the email addresses use address folder.
- c. Register for one online course through any of the online learning platforms like NPTEL, SWAYAM, Alison, Codecademy, Coursera. Create a registration form for your college campus placement through Google forms.

# Reference Books:

- 1. In-line/On-line: Fundamentals of the Internet and the World Wide Web, 2/e –By RaymondGreen law and Eller Fepp, Publishers. TMH
- 2. Internet technology and Web design, ISRD group, TMH.
- 3. Information Technology The breaking wave, Dennis P.Curtin, Kim Foley, Kunai Sen andCathleen Morin, TMH.

# **MODEL QUESTION PAPER**

# LIFE SKILL COURSE

Semester: II

INFORMATION & COMMUNICATION TECHNOLOGY

Time: 2Hrs.

Marks: 50 Section -A Max.

Answer any **four questions**. Each answer carries **5 marks**.

 $4 \ge 5M = 20M$ 

- 1. Write the Applications of Internet.
- 2. Write the advantages of Email.
- 3. Write the Features of Excel.
- 4. Write History of Internet.
- 5. Write about Firewalls.
- 6. Discuss about Domain Names
- 7. Write about any four social networking applications.
- 8. Write about Digital Signatures.

# Section- B

Answer all the questions. Each answer carries 10 marks. 3x10M = 30M

9. What is URL? Discuss components of URL.

# (**OR**)

- 10. Explain about different types of Browsers with examples.
- 11. Explain about Mail Management.

# **(OR)**

- 12. Explain about G-Suite.
- 13. What are the GOI digital initiatives of Higher Education? Discuss.

# (OR)

14. Explain about Email Threats and Secure Email.