STUDENT KIT

Bachelor of Computer Application - IV Semester
Jan-May 2015

Devi Ahilya Vishwavidyalaya

School of Computer Science & IT

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• Professionals who dedicate themselves to mankind, who are environment conscious, follow social norms and ethics.

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Scheme-Jan-May 2015 onwards

BCA – IV Semester

<table>
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<tr>
<th>Sub. Code</th>
<th>Subject Name</th>
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<th>P</th>
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<th>Practical /Project</th>
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Note:

Proposed Scheme can be changed/amended/improved according to necessity and requirement.
BCA IV Semester

CS: 3006 - Microprocessor and Assembly language Programming

Unit-I

Unit -II
**Introduction of 8085 Microprocessor**: Architecture of 8085 processor, Register Architecture: Accumulator, Temporally Register and Flag Register. Program Counter, Stack pointer and Instruction register.
**Addressing Modes**: Direct addressing mode and Register direct Addressing Mode. Register Indirect Addressing Mode, Immediate Addressing Mode and Implicit or Implied Addressing Mode. Overview of addressing modes of 8086 Microprocessor. Direct memory access (DMA), SID and SOD lines, Interrupt System.

Unit -III
**Introduction to Assembly Language Programming**: Various Instructions Classifications: Instruction Format, Opcode, Operand and Hex code. Instruction Operation Status, Various Instruction Sets: Data Transfer Group Instructions: Arithmetic Group Instructions, Logical Group Instruction, Branch Group Instruction, Conditional and Unconditional branch instruction I/O and Machine control Instructions.

Unit -IV
**Solving Problems with Flowchart, Programming Techniques**: Looping, Counting. Additional Data Transfer and 16 bit Arithmetic Instructions Additional Data Transfer and 16 bit Arithmetic Instructions, Arithmetic operations related to memory, Logic Operation: Rotate, Compare. Counters and Timing Delays, Programs for modulo counters, Some Programs based on Counters and Time-Delays, Debugging Counters and Time-Delay Programs, Stack, Subroutine, Conditional Call and Return Instruction, Some Programs based on Subroutine. Advanced Subroutine Concepts,

Unit -V
BCD to binary conversion, Binary to BCD conversion, BCD addition and subtraction. Introduction to advanced Applications, Multiplication, Basic Interfacing Concepts: Output Displays, Interfacing Input Keyboards (8212 device),Overview of Memory-Mapped I/O, Overview of Interfacing Memory,8255 Peripheral Interfacing, Block Diagram of 8255,Pin description of 8255 IC, Parallel ports of 8255 IC.

Text Book(s):
Reference Books:
1. Introduction to Microprocessor by D.A.Godse A.P.Godse, ISBN8184311265, 9788184311266

CS-3206 Database Programming in Visual Basic

Unit I
Introduction: Data, Information, Data v/s Information, Database Management System, Advantages of DBMS approach over File System, Meta Data, Architecture of DBMS, Data independency. DBA(Roles & Responsibility), Data Models, Different Models of DBMS, Cardinality, Special Features of E-R Models

Unit II
Key Concepts: Primary, Unique, Secondary, Candidate, Super, Foreign Key Relational Algebra, SQL. Exercise: Queries (Simple & Complex). MS-Access: Database Files, Table, Fields, Data Types. Creating and Manipulating Database.

Unit III
Introduction of Visual Studio: IDE, Start Visual Studio, Open an existing project, Compile and run a program, Create a user interface. Design Issues: Use of text box, button, radio button, list box, drop-down list box and drop-down list box. Creation of menu Items, Tool Strip control, use of Dialog Box.

Unit IV
Programming Issues: Declare a variable, Change the value of a variable, Get input/output with aTextbox, Create a constant, formula, and Combine text strings. Write a conditional expression, Use an If…Then decision structure, Make two comparisons in a conditional expression, Use a Select Case decision structure. Loop Control Statements. Error handling, Error by try catch.

Unit V
Database Programming: Establish a connection to a database; Create a dataset, Create bound objects capable of displaying data from a dataset on a Windows form, Add navigation controls to a Windows form, Format database information on a form. Create a data grid view object on a form to display an entire database table, Preview data bound to a data grid view object. Connection with database. Data Access Components, Data Manipulation.

Text Books:
3. SQL, PL/SQL - The Prog. Language of Oracle - 3rd Rev. Edn. Ivan Bayross

Reference Books:
1. Fundamentals of Database Systems, Shamkant B. Navathe
3. Database Management Systems, Raghu Ramakrishnan
CS-2401 Introduction to Information Systems

Unit-I
AN OVERVIEW: An introduction to information systems, Information systems in organizations.

Unit -II
INFORMATION TECHNOLOGY CONCEPTS: Hardware: input, processing, and output devices. Software: systems and application software. Telecommunications and networks: The Internet, intranets, and extranets.

Unit -III

Unit -IV

Unit -V

Text Books :
2. Internet and Web Technology by Dr. Rajkamal, Tata McGraw Hill publication.

CS-2133 Statistics & Probability

Unit-I
Measures of central tendency: Arithmetic Mean, Median and Mode, Geometric mean, Harmonic Mean and Partition values.
Measures of dispersion: Dispersion, Range, Quartile Deviation, Mean deviation, Standard Deviation, Variance and Coefficient of Dispersion.

Unit –II
Skewness, Kurtosis, Moments, Measure of skewness and kurtosis.
Unit -III
Theoretical Distribution: Discrete Distribution- Binomial Distribution and Poisson Distribution.
Continuous Distribution –Rectangular and Normal distribution.
Curve fitting: Curve fitting and Methods of Least square, fitting a Straight line and a Parabola.

Unit -IV
Correlation and Regression: Correlation, Coefficient of Correlation, Rank Correlation, Lines of Regression. Multiple and Partial Correlation.

Unit -V
Testing of hypothesis: Null and Alternative hypothesis, two types of errors, level of significance and power of the test.
Tests of significance: Chi-square distribution, test of popular variance and test of goodness of fit. t, F ,Z distribution and tests based on them.

Text Book(s) :

Reference Books :
1. D.N.Elhance.-‘Fundamentals of Mathematical Statistics’ Kitab Mahal, Allahabad

IC-2927 Environmental Awareness

Unit – I
Environment meaning, structure and type of environment, components of environment, society and resources. Man environment relationship: Approach to study man interaction with environment(historical to present day)

Unit – II
Environmental degradation: Meaning of degradation, types of degradation, process of degradation, cause of degradation, Religious and philosophical factors, deforestation, agricultural development and degradation, population growth and degradation, urbanization and degradation, modern technology and degradation.

Unit – III
Environmental disasters: Meaning and concepts, types of hazards and disaster, man induced and natural hazards, global warming, ozone depetion, green house effect and other major environmental problems.
Unit – IV
Environmental pollution: Air, water, solid, noise pollution. Meaning, definition, sources, types, adverse effects and methods of control.

Unit – V

Text Book(s):

1. Environmental Awareness : Dr. Dhananjoy Verma, Published by : Madhya Pradesh Hindi Granth Academy.