Computer Science (Sub)

UNIVERSITY OF CALICUT

(Abstract)

B Sc. Computer Applications/Computer Science (Subsidiary) - combined and renamed as computer applications (Sub) - implementation of syllabus - w e f 2001 admission onwards - orders issued.

CENTRAL ACADEMIC BRANCH I

C.CAI/J1/4918/2000. Dated Calicut University P O. 22.6.2001.

Read: 1. Minutes of meeting of Board of Studies in Applied Sciences held on 21.12.2000.
2. Minutes of meeting of Faculty of Science held on 20.2.2001.
3. Minutes of meeting of A.C. held on 3.3.2001.

ORDER

(1) At present there are two subsidiary subject (1) Computer Science and (2) Computer Applications for B Sc. Courses. The Board of Studies in Applied Sciences at its meeting held on 21-12-2000 recommended that from 2001 admission onwards there will be one subsidiary subject by name computer Applications. The Board of Studies prepared the syllabus for B Sc. Computer Applications (Sub) and approved it.

(2) The meeting of Faculty of Science held on 20.2.2001 approved the minutes of Board of Studies.

(3) The Academic Council at its meeting held on 3.3.2001 approved the minutes of Board of Studies as approved by Faculty of Science and also the minutes of Faculty of Science.

(4) Sanction has been accorded for the implementation of the scheme & syllabus of B Sc. Computer Application (Subsidiary) from 2001 admission onwards.

(5) Orders are issued accordingly.

Sd/-

DEPUTY REGISTRAR (CA I)
For REGISTRAR.

To

The Principals of Colleges offering B Sc. Computer Applications/Computer Science.

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B.Sc [redacted]/COMPUTER APPLICATIONS

SUBSIDIARY SYLLABUS—PAPER I

VISUAL FUNDAMENTELS OF COMPUTER ORGANISATION AND PROGRAMMING THROUGH BASIC

UNIT I: Historical development of computers- **(2Hrs)**

What is a computer-Historical development-Mechanical computers-First generation Computers-Second generation computers-Third generation computers-Later generations.

UNIT II-Data representation in computers **(8Hrs)**

Number system-Decimal representation in computers-Alphanumeric representations. Computational data representations-Fixed point representation-Decimal fixed point representation-Floating point representations-Error detection and correction codes-Parity bit checking-Simple error codes-Instruction execution-Interrupts

UNIT III-digital logic circuits **(8 Hrs)**

Boolean algebra-Logic gates-Combinational circuits-Minimization of gates-Algebraic simplifications-Karnaugh maps-Multiplexers-Programmable logic arrays-Adders-Sequential circuits-Flip-Flops-(basic ideas only)-Registers-Counters- (4bit ripple&3 bit synchronous)-Inter connection structures-

UNIT IV-Memory organization **(8Hrs)**

Memory system-characteristic terms for various memory devices-RAM- (Ferrite core-Semiconductor).ROM-chip organization-External memory-Magnetic disks-tapes-Charge coupled devices-Magnetic bubble memories-Optical memories-High speed memories-Interleaved memories-Cache memories-Associative memories

UNIT V-Input/Output organization- **(6 Hrs)**

Peripheral I/O devices-input devices-output devices-Function &structure of I/O module-I/O techniques Programmable I/O –Interrupt driven i/o-Direct memory Access-I/O processors-External interface

Books Of Reference: -

1-Mano, M.Morris, Computer system architecture, Printice Hall Of India, 1993

2-Stallings, William, Computer organization and architecture, Third Edition, Maxwell Macmillan International Editions

Practical I

Visual Basic

1. Experiment using drag and drop methods
2. Experiment to create a text editor
3. Experiment to create a Calculator

4 Experiment using common dialog control.
5 Experiment to create explorer (windows explorer)
6 Experiment to create a simple Spread sheet.
7 Experiment to create an address book.
8 Experiment to create a web browser.
9 Experiment to create a timer alarm.
10 Experiment to create a web page
11 Experiment to create a scientific calculator
12 Experiment to create a telephone dialer.
13 Experiment to create a simple inventory control system
14 Experiment using OLE.
15 Experiment to create Pie and Bar charts.

MS WORD

1 To create and edit a simple document.
2 To create News paper style document.
3 Create form letters (Mail merge).
4 Table creation and manipulation.
5 Apply 2D animation to text.

MSDOS

1 Study of internal commands
2 Study of external commands.
3 Creation of Batch files.

WINDOWS

1 Study of control panel.
2 Study of windows explorer.
3 Study of different accessories.
4 Study of windows tools.

B.Sc. COMPUTER APPLICATIONS

SUBSIDIARY SYLLABUS—PAPER II

UNIT – 1

PROBLEM SOLVING AND PROGRAMMING THROUGH 'C'—40 HRS

Problem solving:-Problem solving with digital computer-steps in computer programming-features of a good program-modular programming-structured-top down and bottom up approaches-algorithms-flow chart-pseudocode-example-time space complexity

C fundamentals-The character set-key words-data types-constants-variables and array declarations expression-statements-symbolic constants

Operators and expressions: arithmetic-unary-relational-logical-assignment and conditional operators

Data input and output: the getchar-putchar-scanf-printf-gets and puts fuctions-ineractive programming

Control statements: -the if, if..Else and nested if..Else statement, different forms of if statement-loop control statements-the while loop-do-while loop-for loop-nested loops-the switch statement-the break-continue-goto statement-the comma operator

Functions-defining and accessing a function-function declaration and proto types-passing arguments to a function-call by value and call by reference-recursion

Arrays-defining an array-processing an array-passing array to a function-multidimensional arrays-arrays and strings

Introduction to pointers, structures, unions and files (Basic operations only)

BOOK OF STUDY:-PROGRAMMING WITH C-VENUGOPAL K R &PRADEEP SUDEEP R-TATA McGraw HILL

PART II

INTERNET CONCEPTS AND WEB PAGE MAKING

UNIT I: Introduction to Internet concepts (25 hrs)

What is internet-how does it works-DNS-various forms of address-various modes of connecting to internet-tools and services on internet-browsing-different types of browsers-the protocols-LAN connections-dedicated links-Usenet and newsgroups-FAQ-transferring of files with ftp-telnet-gopher-world wide web-hypermedia-e-mail-features and components-address book-mail reflector-mailing list and list servers-messages composition-checking and reading messages-mail window-mail menu-troubleshooting in e-mail-introduction to Archie-different types of search engines-Netscape navigator-internet explorer-NCSA mosaic-Yahoo-Lycos-Altavista-Infoseek-visiting web sites-downloading of software from a remote server

UNIT II: (15 hrs)

Introduction to HTML-basic concepts and their usage.

Introduction to MS Front page-basic commands and their realization in design of simple web pages.

Text book of study:

1: THE INTERNET BOOK-DOUGLES E.COMER-PRENTICE HALL OF INDIA

2. FUNDEMENTALS OF THE INTERNET AND WORLD WIDE WEB:RAYMOND GREENLAW&ELLEN HEPP:-TATA McGraw HILL

Practical II

I Any 20 assignments using contents of the syllabus of C language

II Information retrieval through Internet.

1 Study of the different properties of portals

2 E-mail-creation of id-sending and receiving mail

3 Information retrieval using filters

4 Experiment to study the use of FTP and Telnet.

5 Study the use of news groups and chat rooms.