FACULTY OF SCIENCE

SYLLABI

FOR

INFORMATIONS AND COMMUNICATION TECHNOLOGY
CERTIFICATE /DIPLOMA (ADD-ON COURSE)

EXAMINATIONS : 2017 - 2018
**CERTIFICATE COURSE**

<table>
<thead>
<tr>
<th>Paper-Code</th>
<th>Paper -Name</th>
<th>Lectures /week</th>
<th>Practical/week</th>
<th>Ext</th>
<th>Int</th>
<th>Total Univ. Exam Marks</th>
<th>Exam Hours</th>
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<tbody>
<tr>
<td>A</td>
<td>Introduction to Information Technology</td>
<td>03</td>
<td>00</td>
<td>65</td>
<td>5</td>
<td>70</td>
<td>03</td>
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<tr>
<td>B</td>
<td>PC Software</td>
<td>03</td>
<td>00</td>
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<td>Practical Based On Paper A &amp; B</td>
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<td>60</td>
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**DIPLOMA COURSE**

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<tbody>
<tr>
<td>A</td>
<td>Introduction to Computer Network &amp; Internet Programming</td>
<td>03</td>
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<td>65</td>
<td>5</td>
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<td>03</td>
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<tr>
<td>B</td>
<td>Programming Fundamentals Through “C” Language</td>
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Objective: To make students understand basic concepts related to computers and Operating Systems.

Note:

i. The Question Paper will consist of Four units.

ii. Examiner will set total of **NINE** questions comprising **TWO** questions from each unit and **ONE** compulsory question of short answer type covering whole syllabi.

iii. The students are required to attempt **ONE** question from each unit and the Compulsory question.

iv. All questions carry equal marks unless specified.

v. Use of non-programmable scientific calculator is allowed.

**UNIT - I**

**Computer Fundamentals**: Historical evolution of computer, characteristics of computers capabilities and limitations of computers, Computer generations.

**Types of Computers:**

**Desktops, Laptops, Palmtop, PDA**

Application of Computers: Computer and their impact on society, computer in education, commercial data processing, public utilities and computers in home.

**Concepts:** Hardware, Software, Machine Language, Assembly Language, High level Language.

**UNIT - II**

Block diagram of Computer identifying various components and their functions.

**Primary Memory**: Concepts of RAM, ROM, EPROM etc.

**Secondary Memory**: Floppy disk, hard disk. DVD, compact disk (Read only, Write only, Rewritable CD’s)

**I/P Devices**: Keyboard, light pen, Mouse, joystick, trackball, scanner, barcode reader, data gloves, voice input systems.

**O/P Devices**: Types of printers like character, link page printers, impact and non impact printers, plotters, voice output systems.

**UNIT - III**

**Number System**: Non Positional and Positional number system, binary, octal, decimal hexadecimal number systems, arithmetic (addition, subtraction, multiplication and division) in different number systems, base conversion between two different number systems Binary Arithmetic and Boolean algebra.

**Binary Codes**: BCD, ASCII, EBCDIC codes.
UNIT - IV

Introduction to operating system: Definition, need of system, operating system services, functions of operating systems as resource manager.

Types of operating systems: Simple batch systems, multi-programmed systems, time.

Sharing systems, multi tasking system, multi user systems, multi processor systems. Network Operating System.

Introduction to System Software: System VS Application Software, Compiler Vs Interpreter, Linker, Loaders.

References
1. V. Rajaraman, Fundamentals of Computers, PHI
2. Lary Long and Nancy Long, Computers, PHI.
Objective: To make students understand that working of DOS, Windows, Word Processing, PowerPoint Package and Spreadsheets.

Note:
1. The Question Paper will consist of Four units.
2. Examiner will set total of Nine questions comprising Two questions from each unit and One compulsory question of short answer type covering whole syllabi.
3. The students are required to attempt One question from each unit and the Compulsory question.
4. All questions carry equal marks unless specified.
5. Use of non-programmable scientific calculator is allowed.

UNIT - I
Disk Operating System: DOS, system files, commonly used Internal and External Commands, Batch Files, Config.Sys and Autoexec. Bat.


Maintenance-Recycle Bin, Disk Cleanup, Add and Remove Programs.

UNIT - II
Word Processing: Introduction to World Processing, Toolbars, Ruler, Menu, Keyboard Shortcut. Previewing documents, printing documents, Formatting documents, Checking the grammar and spelling, formatting via find and replace, Using the Thesaurus, using Auto Correct, word count Hyphenating, Mail merge, mailing Labels Wizards and Templates, Handling Graphics, tables as Converting a word document into various formats.

UNIT - III
Power-Point Package: Introduction, Elements of Power Point Package, Starting and exploring Power Point menus (Insert, Format, Tools, Slide Show, Window, Help options and all of their features, Options and sub options etc.), Creating, inserting, deleting and formatting slides, Formatting and enhancing text, Slides with graphs, Giving Animation to slides, Transfer of files between Power Point and other word processors and software packages.

UNIT - IV
Spreadsheets: Creating worksheet, entering data into worksheet, Entering, data, dates, alphanumeric, values, saving & quitting worksheet, Opening and moving and existing worksheet, Toolbars and Menus, keyboard shortcut. Working with...
single and multiple workbooks, working with formulation & cellreferencing, formatting of worksheet.

References:

PAPER : C PRACTICAL BASED ON PAPER A & B
Maximum Marks: 60                Time: 4 Hrs.
Minimum Pass Marks: 35%          Practical Units to be conducted: 30

The laboratory course will comprise of exercise from Paper A & B.

The break up of marks for the practical will be as under:
Lab Record     : 10 Marks
Viva Voce      : 15 Marks
Program Development : 35 Marks
and Execution
Objective: To make students understand Networking concepts, concepts related to Internet and HTML.

Note:

i. The Question Paper will consist of Four units.

ii. Examiner will set total of nine questions comprising two questions from each unit and one compulsory question of short answer type covering whole syllabi.

iii. The students are required to attempt one question from each unit and the Compulsory question.

iv. All questions carry equal marks unless specified.

UNIT - I

Computer networks- Hardware, Software, users, goals and applications of computer networks.

Types of Network: Local area networks, wide area networks, metropolitan area networks and value added networks - their features.

Transmission media: Magnetic media, twisted pair, coaxial cables, fibre optics, radio transmission, microwave transmission, infrared waves and Line of sight transmission, Cellular radio and communication Satellites.

UNIT - II

Internet: What is Internet, its advantages, disadvantages, internet facilities through WWW and HTML, Internet Protocols, TCP/IP, FTP, newsgroups, remote logins, chat groups etc.

WWW: the client side, the server side, web browsers, web pages, locating information on the web.

E-Mail: architecture, various aspects, the user agent, message format, message transfer, e-mail privacy.


UNIT - III

HTML: Introduction to HTML, SGML, Internet and Web structure of HTML document.

Starting an HTML document: Head element, body element, style element, Script element, Text formatting, using lists to organise information.

Organising Data with Table: Basic table Structures, individual cells and headings, vertical controls, database considerations, displaying real data with a table.

Table Layout and Presentation: Table Syntax, two column layout, staggered body with an index, traditional newspaper layout.
UNIT - IV

Uniform Resource Locators (URLs): Absolute URLs, Relative URLs, fragment URLs, Types of URL Schemes- HTTP, mailto, news, FTP, Telnet, File etc.
Using Hyper Links and Anchors: Uses to Hyper Links, Structure of Hyper Links, Links to specialised contents.
Images: Adding Images to web page, using images as links, creating menus with image maps, image formats-GIF, JPEG etc.

REFERENCES:

5. Rick Darnell et al, HTML 4 Unleashed, Tech media Publications.
Objective: To make students understand how to programme in C language.

Note:

i. The Question Paper will consist of Four units.

ii. Examiner will set total of **NINE** questions comprising **TWO** questions from each unit and **ONE** compulsory question of short answer type covering whole syllabi.

iii. The students are required to attempt **ONE** question from each unit and the Compulsory question.

iv. All questions carry equal marks unless specified.

UNIT - I

**Programming process:** Problem definition, program design, coding, compilation and debugging.

**Fundamentals of C:** Identifiers and keywords, data types, input and output, type conversion, operators and expressions: Arithmetic, unary, logical and relational operators, assignment operator, conditional operator, and library functions.

UNIT - II

**Control statements:** branching, looping using for, while and do-while statements, nested control structures, switch, break and continue statement

**Functions:** definition, call prototype and passing arguments to a function, recursion versus iteration

**Storage classes:** automatic, external and static variables.

UNIT - IV

**Arrays:** Definition, accessing elements, initialization, passing to functions, multi dimensional arrays, strings

**Pointers:** address and referencing operators, declaration, assignment, passing pointer to functions, pointer arrays

UNIT - IV

**Structures:** variables, accessing members, nested structures, pointer to structures and union.

**Files in C:** Sequential files, random access files, Unformatted files, Text files, binary files.
Text Book:
   TMH

References:
1. Ram Kumar and Rakesh Aggarwal: Programming in Ansi C, TMH
   Mcgraw Hill international edition.

Paper : C Practical Based On Paper A And B

Maximum Marks: 60 Time: 4 Hrs.
Minimum Pass Marks: 35% Practical Units to be conducted : 60

The laboratory course will comprise of exercise to what is learnt under Paper A & B.

The break up of marks for the practical will be as under:

- Lab Record : 10 Marks
- Viva Voce : 15 Marks
- Program Development And Execution : 35 Marks