CERTIFICATE COURSE IN COMPUTER HARDWARE AND MAINTENANCE
FROM THE SESSION 2015-16
(ADD-ON COURSE)

ELIGIBILITY FOR CERTIFICATE COURSE

Students at the under graduate level from Science Stream can opt for Certificate course. Student can take Add-on Course only during graduation.

WORK LOAD & DISTRIBUTION OF MARKS

1. There will two theory papers of 100 marks each and one practical paper of 100 marks.
2. Each paper shall have 100 marks and out of 100 marks theory paper shall consist of 80 marks and internal assessment shall be 20 marks based upon Class participation, Attendance and assignments.
3. Practical marks will be on the basis of practical file and practical Exam and Viva Voce.
4. There shall be 6 lectures per subject per week.

Instructions for paper setters.

Examiner will be required to set NINE questions in all. Question Number 1 will consist of total 8 parts (short-answer type questions) covering the entire syllabus and will carry 16 marks. In addition to the compulsory question there will be four units i.e. Unit-I to Unit-IV. Examiner will set two questions from each Unit of the syllabus and each question will carry 16 marks. Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit.

Paper Code	Name	Max. Marks
CCHM-101	Analog System	100
CCHM-102	Computer Hardware	100
CCHM-103	Computer Practical-1	100

CERTIFICATE COURSE IN COMPUTER HARDWARE AND MAINTENANCE

CCHM-101: Analog System

External Marks: 80
Internal Marks: 20
Time: 3 hours

Note: Examiner will be required to set NINE questions in all. Question Number 1 will consist of total 8 parts (Short-answer type questions) covering the entire syllabus and will carry 16 marks. In addition to the compulsory question there will be four units i.e. Unit-I to Unit-IV. Examiner will set two questions from each Unit of the syllabus and each question will carry 16 marks. Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit.

Objective: This paper is aimed at providing students with a comprehensive understanding of the basic components used in the basic assembly and their functions.

Unit-I: Soldering: Step for soldering, Resistor and Resistor Connection, Precautions while using/Soldering Components, Current and Voltage, Ohm's Law, Voltage rise and Voltage drop.

Unit-II: Power, Bridge Circuit: Inductor & Capacitor, RC Time Constant, AC Fundamentals.

Unit-III: Rectifiers and Amplifiers: Half wave and Full wave rectifier, Zener Diode, Transistor & Transistor Testing, Transistor Amplifier, Operational Amplifier.

Unit-IV: Junction PET Characteristics: LED Characteristics, Photo Transistor Characteristics.

Suggested Readings

1. Modern Digital Electronics by R.P. Jain, Tata McGraw Hill
2. Integrated Electronics by Jacob Millman & Christas C. Halkias, Tata McGraw Hill
3. Electronic Device and Circuits-An introduction by Allen Mottershead, PHI
4. Electronic Devices and Circuits by J.B. Gupta, S.K. Kataria and Sons, Delhi
5. Any other book (s) covering syllabi in more depth

CCHM-102: Computer Hardware

External Marks: 80
Internal Marks: 20
Time: 3 hours

Note: Examiner will be required to set NINE questions in all. Question Number 1 will consist of total 8 parts (Short-answer type questions) covering the entire syllabus and will carry 16 marks. In addition to the compulsory question there will be four units i.e. Unit-I to Unit-IV. Examiner will set two questions from each Unit of the syllabus and each question will carry 16 marks. Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit.

Objective: This paper is aimed at providing students with a comprehensive understanding of the basic hardware in the computer and other devices

Unit-I: Basic Terminology of Computer: - Computer Fundamentals, Operating Systems, Application Software, GUI and CUI, Overview of some Application software

Unit –II: Basic Computer Hardware: - Different Hardware devices, Input Devices, Processing Devices, Output Devices, Working of input and output devices, Assembling.

Unit – III: Installation:-Installation of Operating Systems like Windows 7,Windows 8 etc., Installation of Several Application Software like MS- office, Introduction to Viruses: Virus definitions, Virus Detection, Prevention and, Antivirus Utilities, Study of antivirus Programmes, Installation of Various Devices and Drivers, Updating and Upgrading of System.

Unit- IV: Troubleshooting:- Maintenance of Computer, Problem Finding and Diagnosing it.

Precautions for smooth working of Computer

Suggested Readings:

1. Schaums Teach Yourself The Internet in 24 Hours by Net Shell, Tata Mc Graw Hill
2. Windows 98 by Michael Miller, Que Publications
3. Computer Fundamental by Bhanu Pratap, Cyber Tech Publications.
4. Computer Fundamental 3/e by P.K. Sinha, Prit Sinha, BPB Publication.
5. Computer Viruses by David Harley, Robert State, I.E. Gattika Dream Teach Publications.
6. Any other book(s) covering syllabi in more depth.

CCHM-103: Computer Practical-1

Max. Marks: 100

The students will prepare practical File and the computer practical will be based on the syllabi of Paper Code CCHM-101 and CCHM-102. The Practical exam and Viva Voce will be conducted by external examiner.

Paper-II

Computer Applications (Paper Code: HM -102)

Max. Marks:100

Time: 3hrs

1. **Introduction to DOS:** Data processing, DOS (Internal & External Commands, Batch files, Using the screen editor, Printing images, ASCII Files, Communicating with other devices, parallel vs Serial communication: Optimizing DOS, CONFIG SYS & AUTOEXE BAT FILES, Freeing up memory at boot time, Managing Extended and Expanded memory, RAM disk, Disk Caching, Defragmentation, Creating a bootable floppy.
2. **Windows :** Preparing to install Windows, creating a bootable disk, Installing a printer, Installation of Windows'98 Windows'XP and Windows'NT, Configuring the Task bar, Start button, Display, font, Memory, disks, Devices & Control Panel.
3. **Multimedia :** MIDI (Musical Instrument digital Interface), Data Compression, JPEG & MPEG Standards, Configuring the speakers, Troubleshooting, Attaching Sound Cards, Audio & Video Sound card, CD-ROM.
4. Introduction to Viruses: Virus definitions, Virus Detection, Prevention and, Antivirus Utilities, Study of antivirus Programmes.

Suggested Readings :

7. Schaums Teach Yourself The Internet in 24 Hours by Net Shell, Tata Mc Graw Hill
8. Windows 98 by Michael Miller, Que Publications
9. Computer Fundamental by Bhanu Pratap, Cyber Tech Publications.
10. Computer Fundamental 3/e by P.K. Sinha, Prit Sinha, BPB Publication.
11. Computer Viruses by David Harley, Robert State, I.E. Gattika Dream Teach Publications.
12. Any other book(s) covering syllabi in more depth.

Note: The examiner will set 8 question in all. The candidate will have attempt any five question. All questions were carry equal marks.