

Solapur University, Solapur

UGC Sponsored

Career Oriented Programme  
(COP)

Repair and Maintenance of Electronic Appliances

Shankarrao Mohite Mahavidyalaya, Akluj

Tal, Malshiras Dist Solapur - 413101

Note : Board of Studies in Electronics approved copy for  
further necessary action.

## 1. Introduction:

The University Grants Commission (UGC) New Delhi, sponsored Career Oriented Programme. **Repair and Maintenance of Electronic Appliances**, is started in the Shankarao Mohite Mahavidyalaya, Akhuj from academic year 2007-08. This is an add-on course. It is envisaged that professionally qualified graduates with a sound knowledge of their core disciplines and expertise in a concerned skill will have more openings in for employments in various sectors and self-employment. Demand and scope for such professionally trained graduates are visible in the various sectors. To meet this challenge, UGC would like to introduce skill oriented & value added, add-on course in the college to be opted by students as a parallel sub-discipline while pursuing their degree level education.

As per the UGC Guidelines, the programme will be run at three progressive levels **Certificate level, Diploma level and Advanced Diploma level**, parallel to the conventional B.Sc. degrees.

## 2. Objectives

The main objective of this scheme is to introduce career and market-oriented, skill enhancing add-on course that have utility for job, self-employment and empowerment of the students. At the end of three years, the students will be equipped with a Certificate/Diploma/Advanced Diploma as an add-on course.

## 3. Levels : The programme runs in following three levels, progressively.

- a) Certificate Course
- b) Diploma Course
- c) Advanced Diploma Course

**4. Eligibility :** The students of our college having admission at B.Sc.-I are eligible for Certificate level course. Further, progressively, they can opt for diploma and advanced diploma course at B.Sc.-II and B.Sc.-II

**5. Intake Capacity** : 40

**6. Coordinating Department** : Department of Electronics.

**7. Salient Features** :

- ❖ The course is sponsored by University Grants Commission, New Delhi.
- ❖ The University will issue Certificate to the Successful candidate.
- ❖ Separate and well equipped laboratory.
- ❖ Qualified and experienced staff.
- ❖ Facility of On-job training.

**8. Course Structure :**

In addition to the theoretical knowledge, emphasis is given to the laboratory training. Project work, Field work and On-Job Training. The Course includes Theory papers and Laboratory Training. The structure is as under.

- ❖ Theory Paper : **100 Marks**  
(Two Sections each of 50 Marks)
- ❖ Practical course : **100 Marks**

**Distribution of Practical Course**

- **Practical** : **60 Marks**
  - Expt. No. 1 : 25 Marks
  - Expt. No. 2 : 25 Marks
  - Laboratory journal : 10 Marks
- **Project work/On-Job Training** : **40 Marks**
  - Project work / On-Job Training : 25 Marks
  - Project / Training report : 10 Marks
  - Industrial Visit : 5 Marks

9) Syllabus :

**II) Diploma Course**  
**Maintenance of computer Hardware and Networking**

**Section – I**

**Unit – I Fundamental of Computer Hardware**

Fundamentals of computer Hardware. Speed, Memory capacity etc.  
The Motherboard. Memory Unit, Buses, Input and output devices, 10  
Disk Drives, I/O Ports, Parallel Ports, Com Port and USB ports.  
Power supply, Speakers and Cooling Fans etc devices.

**Unit – II Operating Systems :**

- Need of operating systems.
- Introduction to Windows Xp and its features
- Operating system and Application Programmes
- Windows Xp : Desktop and Menus, Taskbar, My documents, My Picture, Recycle bin etc. 16
- Files and Folders : Managing of the files and folders, Creation, Deletion, Navigation, Copying of the files and folders.

**Unit – III Computer Assembling and Trouble Shooting :**

- Variants of Motherboards, Variants of CPU, Types of Hard disk, Types of memories.
- Assembling Hardware component of the computer. 15
- Installation of Windows Xp Operating System.
- Disk, Formatting Partitioning Defragmentation Scandisk etc.

**Unit – IV Installation of Hardware**

Installation of Scanners and Printers. 04

**Section – II**

**Unit – I Network Fundamentals**

- Introduction of computer network
- Types of Network: LAN, WAN, PSTN, ISDN, Structure, merit & demerits only
- Internetworking, Comparison between LAN and WAN.

## **Unit – II Network Topology and Network Control devices**

### **(a) Network topology :**

- Introduction of Network Topology
- Classification of network topology, comparison between BUS. 14  
Star, Mesh, Ring, Tree Topologies.

### **(b) Network Control devices :**

Introduction to Hubs, Repeaters, Routers, Switches etc devices

## **Unit – III TCP/IP Protocols**

- Introduction to OST Reference Model.
- Introduction to TCP/IP reference Model.
- Overview of TCP/IP Architecture. Advantages and Disadvantages of TCP/IP. 15

## **Unit – IV Installation and trouble shooting of LAN**

- Network cables and connectors
- Crimping Techniques and Installation of LAN, Addressing 06
- Sharing etc.
- Troubleshooting of LAN.

### **Reference Books :**

- 1) Fundamentals of Computers - V. Rajaraman Third Edition, PHI Publication New Delhi.(2001)
- 2) Data Communication and Networking. J. S. Katre, Tech-Max Publication (2005)
- 3) Reference Guide to Microsoft Windows Xp, Kirtschewartz BPB Publi.
- 4) Multimedia Systems – S.K.Bansol APH New Delhi.
- 5) Networking : A beginners guide – Bruce Hallberg TMH 2005
- 6) Computer Organization – Carl Hamachar Vth Edition, TMH.

### **Practicals :**

- 1) Study of Mother Board of PC
- 2) Study of Computer Power supply unit.
- 3) Installation of Hard Disc.
- 4) Installation of Drives and Ports
- 5) Assembling the computer

- 6) Installation Operation system (Windows Xp)
- 7) Study of Windows Xp : Desktop and other menus
- 8) Study of Windows Xp : Files and Folder Management
- 9) Installation of Printers
- 10) Installation of Microsoft office
- 11) Installation LAN Card to PC
- 12) Study of Switches and Routers
- 13) Crimping and Cabling
- 14) Addressing the Network
- 15) Sharing of the Printers Folder and Drives
- 16) Installation of Internet (Modern) on Computer
- 17) Trouble shooting of the LAN
- 18) Installation of Antivirus software
- 19) Installation of Acrobat Reader
- 20) Installation of Scanners

**Project work / on job training :**

The content of project should focus the themes listed as below or similar type

- a) Design of website
- b) Chat application
- c) Computer and mobile communication

The student should submit the project report at the time of examination.

The field work / on job training should be of minimum 15 days.

The student should submit the proof along with documentation of this work, during examination.