# Bangladesh Sweden Polytechnic Institute
## Department of Computer Technology
### Semester Plan – 2017

**Semester**: 6th (Sixth)
**Name of the Subject**: Computer Servicing
**Name of the Teacher**: Md. Jabed Hossain
**Designation**: Guest Lecturer

**Subject Code**: 6665

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| Week | Date | Class No. | Topic Details | Theory Class | Practical Class | Class Test | Quiz Test |
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| **1st Week** | | **01** | **Discussion about the Aim of Computer Servicing**<br><br>- To be able to identify the external features and the electrical connections of different units of a microcomputer system.<br>- To be able to develop the knowledge, skill and attitude in PC assembling and servicing.<br>- To be able to perform the maintenance of PC.<br>- To be able to develop the skill in error detection or correction.<br>- To be able to develop the skill in PC servicing.<br>- To be able to develop expertise in board /components level troubleshooting of power Supply, monitor printer and I/O devices.<br>- To be able to develop the skill in PC maintenance (hardware and software).<br>- To be able to develop the skill in network maintenance and troubleshooting. | | P1 | | |
| | | **02** | **Identification of necessary equipments & connections for computer servicing**<br>**Chapter-1**: Identify the internal & external controls and connectors of a microcomputer specially system unit. | | P2 | | |
| **2nd Week** | | **03** | **Chapter 2: Disassemble the old working PC.**<br>2.1 Select the required tools and equipment.<br>2.2 Turn off the power.<br>2.3 Unplug the power cord and disconnect the electrical connections among different units.<br>2.4 Unscrew and remove the cover of the system unit<br>2.5 Disconnect the cables and other connections with special paper pencil note of the connections. | | P3 | | |
| | | **04** | 2.6 Seek and remove the attached screw of the drives.<br>2.7 Seek and remove all the attached screws of different units connected with chassis.<br>2.8 Remove the individual units and put them in safe place.<br>2.9 Make a report. | | P4 | | |

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| **3rd Week** | | 05 | **Chapter 3: Assemble a new PC.**<br>3.1 Select the tools, manuals and individual hardware units for a new PC.<br>3.2 Unscrew the cover of the casing.<br>3.3 Set the assemble main board into the casing<br>3.4 Fit the display card into the respective slot of the MB.<br>3.5 Connect the power connector into the MB.<br>3.6 Connect the monitor into the video terminal. | **P5** | | |
| | | 06 | 3.7 Connect the power cord(s) to the main line.<br>3.8 Check the display.<br>3.9 Place all other devices into the respective location of the casing.<br>3.10 Connect all the cables, power terminals, ports and other LED wires among the different units.<br>3.11 Check the display again.<br>3.12 Mount the cover and make a report. | **P6** | | |
| **4th Week** | | 07 | **Chapter 4: Identify the main board components and layout.**<br>4.1 Select the required tools, a new motherboard and manuals.<br>4.2 Seek the major chips, BIOS, socket, slots, connectors, jumpers etc. of the motherboard.<br>4.3 Draw the layout of a motherboard.<br>4.4 Make a report. | **P7** | | |
| | | 08 | **Chapter 5: Partitioning & Formatting HDD (using dos & third party software)**<br>5.1 Connect a new HDD to PC<br>5.2 Format the HDD<br>5.3 Partitioned (Primary & Secondary) the HDD<br>5.4 Create more partition of Secondary partition<br>5.4 Make a report | **P8** | | |
| **5th Week** | | 09 | **Chapter – 7: CONFIGURING BIOS**<br>6.1 Select the system unit, keyboard, mouse and monitor.<br>6.2 Connect the I/O units, other cables and cords with system unit.<br>6.3 Connect the power cord(s) to the main line<br>6.4 Turn on the power and then press the respective key to enter into the BIOS.<br>6.5 Set up the BIOS as required<br>6.6 Setup the supervisory & user password.<br>6.7 Save & exit from the BIOS. | **P9** | | |
| | | 10 | **Chapter – 7: INSTALLING OPERATING SYSTEM.**<br>7.1 Select the new assembled PC, boot up disk or start up CD with operating system.<br>7.2 Insert the start up disk or CD into the respective drive.<br>7.3 Turn on the PC. | **P10** | | |

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| | | | 7.4 Take action according to the messages of POST routine and on-screen message.<br>7.5 Make the partitions into the hard disk. Using Fdisk and modem windows Operating system.<br>7.6 Format the hard disk and transfer the system file.<br>7.7 Run the setup file and follow the on-screen message(s) to complete the installation procedures. | | | | |
| 6th Week | | 11 | **Review the previous Class (Chapter - 7)** | | **P11** | | |
| | | 12 | **Chapter – 8: Install driver software such as sound card /graphics card etc.**<br>8.1 Select the required software CDs.<br>8.2 Run the PC and open the system options from control panel.<br>8.3 Select the appropriate device driver options.<br>8.4 Remove the conflict-device-driver and reboot the system if required. | | **P12** | | |
| 7th Week | | 13 | **Install application software such as ms office etc.**<br>9.1 Select the required elements or software CDs.<br>9.2 Start the PC to run the OS.<br>9.3 Insert the application software CD.<br>9.4 Run the setup file of the application and or follow the on screen messages to complete the installation procedures. | | **P13** | | |
| | | 14 | **Install utility software such as antivirus, modem etc.**<br>10.1 Select the required elements or software CDs.<br>10.2 Start the PC to run the OS.<br>10.3 Insert the software CD.<br>10.4 Run the setup file of the application and or follow the on screen messages to complete the installation procedures. | | **P14** | | |
| 8th Week | | 15 | **Perform the tasks to diagnosis the faults and repair the power supply of a PC.**<br>11.1 Select required tools, equipment, manuals<br>11.2 Note and record the nominal power connector voltages.<br>11.3 Measure the voltages at different pins and check it with recorded tabulated voltages.<br>11.4 Measure the power good signal.<br>11.5 Write down the steps to check the power supply problems (e.g. for completely dead, momentarily work and fails after period of operation.<br>11.6 Repair or replace the faulty PS with a good one. | | **P15** | | |
| | | 16 | **Quiz Test 01 (From Chapter 1 – 11)** | | **P16** | | |

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| **9th Week** | | 17 | **Perform the tasks to identify the faults of motherboard and remedy the problems.**<br><br>12.1 Select the required elements.<br>12.2 Record the symptoms that are not attributable to a specific device.<br>12.3 Check the systems basic physical conditions ensure that all internal cables are connected, expansion cards are seated, ICs are socketed properly.<br>12.4 Disconnect the above mentioned elements and reinstall those to the appropriate location properly. | | **P17** | | | |
| | | 18 | 12.5 Run the diagnostic (if the machine can boots) to seek the causes of faults.<br>12.6 Check the memory errors and test both the base extended memory using advanced diagnostics or a third party product.<br>12.7 List the system faults for motherboard problems.<br>12.8 Write down the steps to replace a motherboard. | | **P18** | | | |
| **10th Week** | | 19 | **Perform the tasks to locate the faulty parts/components of a Laser printer and replace/repair the faulty parts/components.**<br><br>13.1 Select the required tools, equipment and manuals.<br>13.2 Open/Disassemble the printer using appropriate tools.<br>13.3 Name the parts and components<br>13.4 Locate the mechanical assembly and its parts, power supply section, main circuit board and their components. | | **P19** | | | |
| | | 20 | 13.5 Check the condition of the scanning assembly, drum, fuser unit, head assembly, toner, gears etc.<br>13.6 Detach the mechanical assembly and its parts, power supply section and main circuit board.<br>13.7 Locate the faulty parts/components<br>13.8 Replace the faulty parts/components<br>13.9 Reassemble the parts and components using appropriate tools. | | **P20** | | | |

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| **11th Week** | | 21 | **Perform the tasks to apply setup and optimization the PC performance.**<br><br>14.1 List the name of the files that runs during booting.<br>14.2 List the common device drivers that loaded at boot time.<br>14.3 Partition the hard disk for best performance.<br>14.4 Run the defragmenter to speed up the disk access.<br>14.5 Solve the most common configuration problems. | | **P21** | | |
| | | 22 | 14.6 List the symptoms of virus affected machine.<br>14.7 List the name of virus detection software.<br>14.8 Load the anti-virus software into the machine.<br>14.9 Run the anti-virus to remove the virus.<br>14.10 List the preventive cares from virus infection.<br>14.11 Update the anti-virus software using offline/Online process. | | **P22** | | |
| **12th Week** | | 23 | **Perform the tasks to provide careful preventive maintenance of PC.**<br><br>15.1 Back up of all data.<br>15.2 Clean the PC, monitor, keyboard and other devices.<br>15.3 Check that all leads and cables are fully secured.<br>15.4 Clean the diskette drives using a commercial head cleaner.<br>15.5 Disconnect all cables and remove the system unit cover. | | **P23** | | |
| | | 24 | 15.6 Clean out the deposited dirt.<br>15.7 Undo the retaining screws of each expansion card and remove it, reseat the socket IC chips and replace it.<br>15.8 Check the all internal cables are fully secured.<br>15.9 Re-place the system unit cover, leads and cables and then test the machine. | | **P24** | | |

## REFERENCE BOOKS

- ❖ Upgrading, Maintaining & servicing IBM PCs & Compatibles - **by Julian Moss**.
- ❖ IBM PC AND CLONES - **by B Govindarajalu**