SKILL COURSE ON 'HARDWARE, PC ASSEMBLY AND NETWORKING

Open for First Year Graduate Student w.e.f. 2022-23

Approved by the Board of Studies in Computer Science
And
Finalized by the Academic Council

Devrukh Shikshan Prasarak Mandal's
Nya. Tatyasaheb Athalye Arts, Ved. S. R. Sapre Commerce, and
Vid. Dadasaheb Pitre Science College (Autonomous), Devrukh.
Tal.Sangmeshwar, Dist. Ratnagiri-415804, Maharashtra, India

Academic Council Item No: _____

Name of the Implementing Institute	:	Nya. Tatyasaheb Athalye Arts, Ved. S. R. Sapre Commerce, and Vid. Dadasaheb Pitre Science College (Autonomous), Devrukh. Tal. Sangmeshwar, Dist. Ratnagiri-415804,
Name of the Parent University	:	University of Mumbai
Name of the Programme	:	Bachelor of Computer Science
Name of the Class to Which the course is Open	:	First Year, Semester Two
No. of Credits	:	04
Title of the Course	:	Hardware, PC Assembly and Networking
Course Code	:	UCSSK21
Passing Marks		40%
Nature of Course	:	Skill Course
Level	:	UG
Pattern	:	70:30
Status	:	Multidisciplinary- Open to all in the First Year
To be implemented from Academic Year	:	2022-2023

Syllabus for Skill Course on Hardware, PC Assembly and Networking

(With effect from the academic year 2022-2023)

Title of the Course: Hardware, PC Assembly and Networking

Course: UCSSK21	**Certificate course in Hardware, PC Assembly and Networking (Credits : 2, Lectures/Week: 3)**	
Objectives: This paper enables the students to identify the hardware in-depth and helps them to learn about PC Assembling, hardware technologies, their implementation/installation, uses, troubleshooting and maintenance. **Learning Outcomes:** After completion of this course, learner should get a clear understanding of PC Assembling, hardware technologies and networking.		
Module I	**PC Assembling:** Gather and Inspect Components and Tools. Prepare System Case for Assembly. Checking SMPS and fit with system Case. Plan System Layout. Install Hard Disk Drive/DVD-RW Drive. Configure Motherboard. Install Processor. Install Memory Modules/Motherboard/I/O Port Connectors/PS/2 Mouse Port Connector Connect Motherboard and Case Connect Hard Disk Drive/ DVD-RW Drive to Motherboard. Install Video Card. Perform Post-Assembly Inspection. Connect External Peripherals. Perform Initial Boot/Initial BIOS Setup/Install System Tests/Additional Peripherals. Partition and Format Hard Disk. Complete Assembly. Installation of Windows (Client version). Installation and configuration of driver software. Installation of Linux (Client version), Updating Service Pack of O. S. Installation of Anti Virus Software(Well known), Updating Anti Virus Software.	**10 L**
Module II	**Trouble shoots for Hardware Problems**: Monitor display problems: No signals, Resolution problem, strange display etc. Mouse Problems: Wired mouse and wireless mouse both. Overheating issues. Troubleshooting for Desktop& Laptop Hard Drive Failure, Date and Time problem, No power etc. RAM failure.	**10 L**

Module III	**Trouble shoots for O.S.:** Slow Operating System, Start-up Errors, Operating System will not Start, Unable to Connect to the Wireless Network (for Laptop), System restarts without warning. Trouble shoots for Virus affected systems: Suspicious computer behavior such as high CPU usage on unrecognized processes. Unable to access network resources such as shared drives. Internet Explorer home page is changed without permission. Exploring error for drives. **Trouble shoots for Application software malfunctioning**: Issue opening or running a software program. Unable to install a software program. Trouble shoots for Network problems. Bad network card drivers or software settings. Firewall preventing computers from seeing each other. Connection related issues. Bad network hardware. Connection IP conflict problem etc. Internet Configuration Different types of internet connection and their configuration method. Broad band connection (ADSL and Cable etc.).Webcam installation. Troubleshoot while configuring internet.	**10 L**
Reference book: • Mastering PC Hardware & Network, Dr. Ajit Mittal, Dr. Ajay Rana • How Computers Work, Ron White • Modern TFT & LCD Monitor Introduction and Troubleshooting, BPB Publication • Service Manual Mother Board & Laptop, GT Publication • Fundamental of Computer, V. Rajaraman.		

Practical

Course: UCSSK21	**Practical of** UCSSK21 **(Credits : 2, Lectures/Week: 3)**
UCSSK21	Prepare System Case for Assembly. 1. Checking SMPS and fit with system Case. 2. Plan System Layout. 3. Install Hard Disk Drive/DVD-RW Drive. 4. Configure Motherboard. 5. Install Processor. 6. Install Memory Modules/Motherboard/I/O Port Connectors/PS/2 Mouse Port Connector 7. Connect Motherboard and Case 8. Connect Hard Disk Drive/ DVD-RW Drive to Motherboard. 9. Install Video Card. 10. Perform Post-Assembly Inspection. 11. Connect External Peripherals. 12. Perform Initial Boot/Initial BIOS Setup/Initial System Tests/Additional Peripherals. 13. Partition and Format Hard Disk. 14. Complete Assembly. 15. Installation of Windows (Client version) 16. Installation and configuration of driver software 17. Installation of Linux (Client version) or dual boot 18. Installation of Anti-Virus Software (Well known) and Updating Anti-Virus Software. 19. LAN cable crimping. 20. Network configuration

Practical Record: A journal comprising above experiments needs to be submitted by the student at the end of the course.

Required Previous Knowledge

No previous knowledge is necessary to start learning the course.

Access to the Course

The course is available for all the students admitted for Bachelor of Arts, Commerce, and Science and admitted in the first year at UG.

Forms of Assessment

The assessment will be in the form of a Continous Assessment. Students completing the Course as per the direction of the concerned teacher and submitting the day to the journal will be graded according to the quality of the work done by the student.

Grading Scale

The grading scale used is O to F. Grade O is the highest passing grade on the grading scale, and grade F is a fail. The Board of Examinations of the college reserves the right to change the grading scale.

SKILL COURSES- SCHEME OF EXAMINATION

A) Theory Component- 30 marks

a) Class Test- 10 marks

One class test of 30 marks, one hour duration, shall be conducted in a given semester, and the performance of students in the test shall be converted to out of 10 marks.

b) Semester End Assessment (SEA)- 20 marks

The Semester End Examination of 50 marks, 2 hours duration, shall be conducted at the end of the semester, and the performance of students in the examination shall be converted to out of 20 marks.

B) Skill Component- 70 marks

1) Attendance- 10 marks
2) Journal/ workbook/assignment book- 20 marks
3) Viva- 10 marks
4) Skill Assessment- 30 Marks

Any two practicals in the laboratory (students having laboratory work)