

## SEMESTER S2

### IT WORKSHOP

(Common to Group A&B)

<b>Course Code</b>	<b>ITW208</b>	<b>CIE Marks</b>	50
<b>Teaching Hours/Week(L: T:P: R)</b>	0:0:2:0	<b>ESE Marks</b>	50
<b>Credits</b>	3	<b>Exam Hours</b>	2 Hrs. 30 Min.
<b>Prerequisites (if any)</b>	None	<b>Course Type</b>	Lab

#### Course Objectives:

- To provide a basic understanding about computer hardware, software, and computer network.
- To familiarize the learner with the web development process using HTML, CSS, and Java script.

#### Details of Experiment

<b>Expt. No</b>	<b>Experiment (Minimum 10 Experiments)</b>
1	Practice Computer Hardware – Familiarization CPU Box, Motherboard, CPU & Chip-set, Interface cards, Card slots, Hard disk, Cables, SMPS, NIC, Various ports, etc. Computer Peripherals - I/O Devices. Storage devices, Interface cards – Buses – Firmware
2	Familiarization of Boot process
3	Familiarizing installation of Linux and Windows operating systems
4	Familiarizing basic Unix/Linux commands - ls, mkdir, cp, mv, grep, rmdir, chmod, useradd, passwd, history, dmesg, cpuinfo, uname, du, time, write, fdisk

5	Familiarizing networking hardware - RJ45, UTP, fibre, switch, NIC, router, Wireless Access Point (WAP), modem
6	Familiarizing basic networking commands - ifconfig, ping, traceroute, nslookup, ssh, scp, telnet, ftp
7	View network traffic using Wireshark/Packet tracer
8	Familiarizing the steps how to configure and establishing a network connecting
9	Shell programming in Linux(bash)
10	Create a web page and deploy on a local web server.
11	Use Javascript to validate forms.
12	Create an image slider using HTML, CSS, and JavaScript. Allow users to navigate between images using previous and next buttons.
13	Familiarisation of LaTeX - Basic only
14	Familiarisation of Development Environments - Visual studio code, Sublime Text, Atom
15	Introducing Repositories - Git / Bitbucket

**Course Assessment Method**

**(CIE: 50 Marks, ESE: 50 Marks)**

**Continuous Internal Evaluation Marks (CIE):**

<b>Attendance</b>	<b>Preparation/Pre- Lab Work, experiments, Viva and Timely completion of Lab Reports / Record. (Continuous Assessment)</b>	<b>Internal Exam</b>	<b>Total</b>
<b>5</b>	<b>25</b>	<b>20</b>	<b>50</b>

**End Semester Examination Marks (ESE):**

<b>Procedure/ Preparatory work/Design/ Algorithm</b>	<b>Conduct of experiment/ Execution of work/ troubleshooting/ Programming</b>	<b>Result with valid inference/ Quality of Output</b>	<b>Viva voce</b>	<b>Record</b>	<b>Total</b>
<b>10</b>	<b>15</b>	<b>10</b>	<b>10</b>	<b>5</b>	<b>50</b>

**Mandatory requirements for ESE:**

- Submission of Record: Students shall be allowed for the end semester examination only upon submitting the duly certified record.

**Course Outcomes (COs)**

**At the end of the course the student will be able to:**

Course Outcome		Bloom's Knowledge Level (KL)
<b>CO1</b>	Experiment with the fundamental hardware components of a computer and how to interface them with software systems.	<b>K3</b>
<b>CO2</b>	Make use of the command line of Linux operating system and shell programming.	<b>K3</b>
<b>CO3</b>	Experiment with the data network communication scenarios using Wireshark.	<b>K3</b>
<b>CO4</b>	Develop basic websites using HTML, CSS & JavaScript and manage the versions.	<b>K3</b>

**K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create**



**CO-PO Mapping Table**

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
<b>CO1</b>	3	3	3		3						3
<b>CO2</b>	3	3	3	3	3						3
<b>CO3</b>	3	3	3	3	3						3
<b>CO4</b>	3	3	3	3	3						3

**1: Slight (Low), 2: Moderate (Medium), 3: Substantial (High), : No Correlation** Note: K1- Remember, K2- Understand, K3- Apply, K4- Analyse, K5- Evaluate, K6- Create

<b>Text Books</b>				
<b>Sl. No</b>	<b>Title of the Book</b>	<b>Name of the Author/s</b>	<b>Name of the Publisher</b>	<b>Edition and Year</b>
<b>1</b>	Invitation to ComputerScience	G. Michael Schneider, Judith Gersting	Cengage	2/e, 2020
<b>2</b>	LINUX for Developers: Jumpstart Your LinuxProgramming Skills	William Rothwell	Pearson	1/e, 2018
<b>3</b>	HTML, CSS, and JavaScript -All in One, Sams Teach Yourself	Julie C. Meloni Jennifer Kyrnin	Pearson	1/e, 2018

<b>Reference Books</b>				
<b>Sl. No</b>	<b>Title of the Book</b>	<b>Name of the Author/s</b>	<b>Name of the Publisher</b>	<b>Edition and Year</b>
<b>1</b>	The Architecture of Computer Hardware, Systems Software, & Networking: An Information Technology Approach	Irv Englander	Wiley	5/e, 2014
<b>2</b>	Mastering Git : Attain expert level proficiency with Git for enhanced productivity and efficient collaboration	Jakub Narebski	Packt	1/e, 2016
<b>3</b>	Web Design with HTML, CSS, JavaScript, and Jquery.	Jon Duckett	Wiley	1/e, 2014

Video Links (NPTEL, SWAYAM...)	
Sl. No.	Link ID
1	<a href="https://overthewire.org/wargames/bandit/">https://overthewire.org/wargames/bandit/</a>
2	<a href="https://www.w3schools.com/">https://www.w3schools.com/</a>

### **Continuous Assessment (25 Marks)**

#### 1. Preparation and Pre-Lab Work (7 Marks)

- Pre-Lab Assignments: Assessment of pre-lab assignments or quizzes that test understanding of the upcoming experiment.
- Understanding of Theory: Evaluation based on students' preparation and understanding of the theoretical background related to the experiments.

#### 2. Conduct of Experiments (7 Marks)

- Procedure and Execution: Adherence to correct procedures, accurate execution of experiments, and following safety protocols.
- Skill Proficiency: Proficiency in handling equipment, accuracy in observations, and troubleshooting skills during the experiments.
- Teamwork: Collaboration and participation in group experiments.

#### 3. Lab Reports and Record Keeping (6 Marks)

- Quality of Reports: Clarity, completeness and accuracy of lab reports. Proper documentation of experiments, data analysis and conclusions.
- Timely Submission: Adhering to deadlines for submitting lab reports/rough record and maintaining a well-organized fair record.

#### 4. Viva Voce (5 Marks)

- Oral Examination: Ability to explain the experiment, results and underlying principles during a viva voce session.