



**Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore**  
**Shri Vaishnav Institute of Information Technology**  
**Choice Based Credit System (CBCS) in Light of NEP-2020**  
**Generic Elective Courses (GEC) (2021-2025)**

| COURSE CODE | CATEGORY | COURSE NAME                                      | TEACHING & EVALUATION SCHEME |               |                      |                         |                      |   |   |   |         |
|-------------|----------|--|------------------------------|---------------|----------------------|-------------------------|----------------------|---|---|---|---------|
|             |          |  | THEORY                       |               |                      | PRACTICAL               |                      | L | T | P | CREDITS |
|             |          |  | ENDESEM University Exam      | Two Term Exam | Teachers Assessment* | ENDESEM University Exam | Teachers Assessment* |   |   |   |         |
| GESVIIT301U | GEC      | PC Installation, Troubleshooting and Maintenance | 60                           | 20            | 20                   | 30                      | 20                   | 2 | 0 | 2 | 3       |

**Legends:** L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;  
\*Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

**Course Objectives:**

1. Identify different hardware components of computer system.
2. Identify computer hardware Issues/Problems
3. Determine faulty Computer hardware & basic computer troubleshooting
4. Knowledge of Operating System and device Drivers
5. Basic knowledge of safeguarding hardware
6. Apply the knowledge to repair/maintain a computer.

**Course Outcomes:**

1. Identify different types of computer systems
2. Troubleshoot common motherboard problems
3. Select processors required for relevant systems
4. Partition/format hard disk drives.
5. Troubleshoot peripherals and networks.

**Syllabus:**

**UNIT-I**

**Computer Hardware:** Basic concepts and functions of system components: Mother board, Switch Mode Power Supply, Computer Memory (RAM and ROM), Input devices (Keyboard, mouse, Touchscreen, Barcode reader, Microphone, Webcam, Scanner etc.), Output devices (

Chairperson  
Board of Studies  
ShriVaishnavVidyapeeth  
Vishwavidyalaya, Indore

Chairperson  
Faculty of Studies  
ShriVaishnavVidyapeeth  
Vishwavidyalaya, Indore

Controller of Examination  
ShriVaishnavVidyapeeth  
Vishwavidyalaya, Indore

Joint Registrar  
ShriVaishnavVidyapeeth  
Vishwavidyalaya, Indore



**Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore**  
**Shri Vaishnav Institute of Information Technology**  
**Choice Based Credit System (CBCS) in Light of NEP-2020**  
**Generic Elective Courses (GEC) (2021-2025)**

| COURSE CODE | CATEGORY | COURSE NAME                                      | TEACHING & EVALUATION SCHEME |               |                      |                         |                      |   |   |   |         |
|-------------|----------|--|------------------------------|---------------|----------------------|-------------------------|----------------------|---|---|---|---------|
|             |          |  | THEORY                       |               |                      | PRACTICAL               |                      | L | T | P | CREDITS |
|             |          |  | ENDESEM University Exam      | Two Term Exam | Teachers Assessment* | ENDESEM University Exam | Teachers Assessment* |   |   |   |         |
| GESVIIT301U | GEC      | PC Installation, Troubleshooting and Maintenance | 60                           | 20            | 20                   | 30                      | 20                   | 2 | 0 | 2 | 3       |

**Legends:** L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;  
 \*Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Computer display, Printer, Projector, Speaker etc.), Storage devices (Floppy disk drive, Flash drive, Disk drive, CD/DVD drive), Modem and Network interface card (NIC)

History of Computers, Introduction to Free and Open Source Software, Computer Virus, Use of Antivirus software.

**UNIT II**

**Introduction Operating System:** Operating system-Definition & functions. Introduction to Disk Operating System (DOS): Internal & External commands. Introduction to the MS Windows OS: An overview of different versions of Windows, Basic components of Windows, managing files and folders, Control panel. Introduction to Unix/Linux system: Essential Linux commands - Commands for files and directories creating and viewing, file comparisons, View files, disk related commands, Filters and pipes, and mounting and unmounting file systems. Administration: Add and remove Users.

**UNIT III**

**System Installation:** Assemble computer system, Install/connect associated peripherals, BIOS Configuration, Installation of OS (Operating Software): Windows 10 and Linux. Installation of Device Drivers: Different types of Motherboard drivers, LAN, Audio, and Video. Hard Disk: Formatting of Hard disk, Partitioning of Hard disk in different logical drives, Disk defragmentation, Disk clean up, Scan disk etc. Physical set-up & Configuration of External

Chairperson  
 Board of Studies  
 ShriVaishnavVidyapeeth  
 Vishwavidyalaya, Indore

Chairperson  
 Faculty of Studies  
 ShriVaishnavVidyapeeth  
 Vishwavidyalaya, Indore

Controller of Examination  
 ShriVaishnavVidyapeeth  
 Vishwavidyalaya, Indore

Joint Registrar  
 ShriVaishnavVidyapeeth  
 Vishwavidyalaya, Indore



**Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore**  
**Shri Vaishnav Institute of Information Technology**  
**Choice Based Credit System (CBCS) in Light of NEP-2020**  
**Generic Elective Courses (GEC) (2021-2025)**

| COURSE CODE | CATEGORY | COURSE NAME                                      | TEACHING & EVALUATION SCHEME |               |                      |                         |                      |   |   |   |         |
|-------------|----------|--|------------------------------|---------------|----------------------|-------------------------|----------------------|---|---|---|---------|
|             |          |  | THEORY                       |               |                      | PRACTICAL               |                      | L | T | P | CREDITS |
|             |          |  | ENDESEM University Exam      | Two Term Exam | Teachers Assessment* | ENDESEM University Exam | Teachers Assessment* |   |   |   |         |
| GESVIIT301U | GEC      | PC Installation, Troubleshooting and Maintenance | 60                           | 20            | 20                   | 30                      | 20                   | 2 | 0 | 2 | 3       |

**Legends:** L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;  
\*Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Devices: Printers, Scanner, Webcam, Bluetooth device, Memory card reader etc. Perform up gradation of PC hardware and software.

#### UNIT-IV

**Troubleshooting Procedures** Identifying Troubleshooting Tools, Hardware tools, Diagnostic software, The Art of Troubleshooting, Troubleshooting basics, troubleshooting by visual Inspection.

#### UNIT-V

**Preventative Maintenance:** Preventative Maintenance, Using Preventative Maintenance Tools, Materials and equipment, Software utilities, Maintaining Environmental Controls, Ventilation and airflow, Humidity and liquids, Dirt and dust EMI, Power, UPS, and suppressors, Completing Maintenance Tasks, Case and components, Power supplies.

#### Text Books:

1. CompTIA A+ Certification All-in-One Desk Reference for Dummies by Glen Clarke
2. "Fundamentals of Computers & Information Technology": A. Jaiswal, Dreamtech Press.
3. Computer Basics Absolute Beginner's Guide, Windows 10 Edition

Chairperson  
Board of Studies  
ShriVaishnavVidyapeeth  
Vishwavidyalaya, Indore

Chairperson  
Faculty of Studies  
ShriVaishnavVidyapeeth  
Vishwavidyalaya, Indore

Controller of Examination  
ShriVaishnavVidyapeeth  
Vishwavidyalaya, Indore

Joint Registrar  
ShriVaishnavVidyapeeth  
Vishwavidyalaya, Indore



**Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore**  
**Shri Vaishnav Institute of Information Technology**  
**Choice Based Credit System (CBCS) in Light of NEP-2020**  
**Generic Elective Courses (GEC) (2021-2025)**

| COURSE CODE | CATEGORY | COURSE NAME                                      | TEACHING & EVALUATION SCHEME |               |                      |                         |                      |   |   |   |         |
|-------------|----------|--|------------------------------|---------------|----------------------|-------------------------|----------------------|---|---|---|---------|
|             |          |  | THEORY                       |               |                      | PRACTICAL               |                      | L | T | P | CREDITS |
|             |          |  | ENDESEM University Exam      | Two Term Exam | Teachers Assessment* | ENDESEM University Exam | Teachers Assessment* |   |   |   |         |
| GESVIIT301U | GEC      | PC Installation, Troubleshooting and Maintenance | 60                           | 20            | 20                   | 30                      | 20                   | 2 | 0 | 2 | 3       |

**Legends:** L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;  
\***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

4. Red Hat Enterprise Linux & Fedora Edition: The Complete Reference by Richard Peterson
5. Using Linux – David Bandel and napier – Pearson Education

**Reference Books:**

1. J IBM PC & Clones: Hardware Trouble Shooting and Maintenance by B. Govindarajalu, Tata McGraw Hill
2. Pc Upgrade & Repair Bible , Wiley India.
3. PC Systems, Installation and Maintenance, Second Edition by R. P. Beales,
4. Professional Linux Kernel Architecture by Wolfgang Mauerer.
5. The Linux Networking Architecture by Klaus Wehrle

**List of Practical's:** (If Practical Credit Shown in Syllabus)

1. Study and Identification of standard desktop personal computer
2. Understanding of Motherboard and its interfacing components
3. Install and configure computer drivers and system components.
4. Disk formatting, partitioning and Disk operating system commands
5. Install, upgrade and configure Windows operating systems

Chairperson  
Board of Studies  
ShriVaishnavVidyapeeth  
Vishwavidyalaya, Indore

Chairperson  
Faculty of Studies  
ShriVaishnavVidyapeeth  
Vishwavidyalaya, Indore

Controller of Examination  
ShriVaishnavVidyapeeth  
Vishwavidyalaya, Indore

Joint Registrar  
ShriVaishnavVidyapeeth  
Vishwavidyalaya, Indore



**Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore**  
**Shri Vaishnav Institute of Information Technology**  
**Choice Based Credit System (CBCS) in Light of NEP-2020**  
**Generic Elective Courses (GEC) (2021-2025)**

| COURSE CODE | CATEGORY | COURSE NAME                                      | TEACHING & EVALUATION SCHEME |               |                      |                         |                      |   |   |   |         |
|-------------|----------|--|------------------------------|---------------|----------------------|-------------------------|----------------------|---|---|---|---------|
|             |          |  | THEORY                       |               |                      | PRACTICAL               |                      | L | T | P | CREDITS |
|             |          |  | ENDESEM University Exam      | Two Term Exam | Teachers Assessment* | ENDESEM University Exam | Teachers Assessment* |   |   |   |         |
| GESVIIT301U | GEC      | PC Installation, Troubleshooting and Maintenance | 60                           | 20            | 20                   | 30                      | 20                   | 2 | 0 | 2 | 3       |

**Legends:** L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;  
\***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

6. Remote desktop connections and file sharing.
7. Identify, Install and manage network connections Configuring IP address and Domain name system
8. Install, upgrade and configure Linux operating systems.
9. Installation Antivirus and configure the antivirus.
10. Installation of printer and scanner software.
11. Disassembly and Reassembly of hardware.
12. Trouble shooting and Managing Systems

Chairperson  
Board of Studies  
ShriVaishnavVidyapeeth  
Vishwavidyalaya, Indore

Chairperson  
Faculty of Studies  
ShriVaishnavVidyapeeth  
Vishwavidyalaya, Indore

Controller of Examination  
ShriVaishnavVidyapeeth  
Vishwavidyalaya, Indore

Joint Registrar  
ShriVaishnavVidyapeeth  
Vishwavidyalaya, Indore