

Register No:

Name:

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

FRESHER ODD (SEMESTER 1) B.TECH DEGREE EXAMINATION(R), NOVEMBER 2024**Electronics and Computer Engineering****(2024 SCHEME)****Course Code : 24EST1005-D****Course Name : Computer Hardware and System Essentials****Max. Marks : 60****Duration:2.5 Hours****PART A***(Answer all questions. Each question carries 3 marks)*

1. List and explain the main types of computers based on size and capability.
2. What is the role of the chipset in determining compatibility with RAM and storage devices?
3. What is Secure Boot, and how can it be enabled in UEFI?
4. Explain the significance of file systems in disk formatting.
5. Explain dotted-decimal notation.

PART B*(Answer one full question from each module, each question carries 9 marks)***MODULE I**

6. (a) Describe the characteristics of the first and second generation of computers, including the technology used. 5
(b) Explain how the development of integrated circuits transformed computer design and functionality. 4

OR

7. Describe the working principles of output devices and their role in presenting processed information. 9

MODULE II

8. (a) Draw and explain the memory hierarchy in a computer system. 6
(b) Explain the importance of CPU registers and cache memory. 3

OR

9. (a) Differentiate North bridge and South bridge. 6
(b) Compare the two types of storage interfaces SATA and NVMe. 3

MODULE III

10. (a) Outline the general safety procedures and best practices to follow when working with computer components. 6
(b) Explain any three tools used for assembling computer systems. 3

OR

11. (a) Outline the step-by-step procedure to assembling a computer, from preparing the workspace to installing the CPU, motherboard, RAM, and power supply. 6

- (b) Explain how to access the BIOS/UEFI interface and adjust boot order. 3

MODULE IV

12. (a) Explain the steps involved in installing the Windows operating system, emphasizing the role of installation media. 6
(b) Explain the need for driver software. 3

OR

13. (a) Explain the process of disk partitioning and formatting. 4
(b) Compare File Allocation Table (FAT), Extended File System (ext), and New Technology File System (NTFS). 5

MODULE V

14. (a) Explain the concept of network topologies. 6
(b) Discuss the advantages of using a wireless router in a home network and how to optimize its placement for better coverage. 3

OR

15. (a) Explain the role of IP addressing in networking. Also explain the differences between IPv4 and IPv6 addresses. 5
(b) Explain the types of firewalls and their functions. 4
