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DMI-ST. EUGENE UNIVERSITY

ZAMBIA

DEGREE EXAMINATION – DECEMBER 2024

Semester: II **351SE43 PC HARDWARE AND TROUBLESHOOTING**

Time: 3:00 Hours **Max. Marks: 100**

Answer any FIVE Questions (5 x 20 = 100 Marks)

1. a) Explain Memory Chips in computer systems. What are memory chips, and how are they organized to store data? **(10 Marks)**

   b) Discuss the Memory Hierarchy in computer organization. What is the memory hierarchy? **(10 Marks)**

2. a) Explain the concept of Peripheral Devices in the context of computer systems. Provide examples of common peripheral devices. **(10 Marks)**

   b) Explain the overview of the Hard Disk Controller in computer systems. **(10 Marks)**

3. a) What are the primary roles and functional units of a motherboard? **(10 Marks)**

   b) Discuss CPU Overclocking and common troubleshooting associated with it. **(10 Marks)**

4. a) Discuss the importance of preventive maintenance for computer systems. **(10 Marks)**

   b) Explain the importance of pre-installation planning when setting up a computer system. What are the key considerations and steps involved in pre-installation planning to ensure a Smooth and efficient installation process? **(10 Marks)**

5. a) Explain observing and troubleshooting all parts of hardware components, including Floppy Drives, HDDs, CD drives, and SMPS (Switched-Mode Power Supply). **(10 Marks)**

   b) Explain troubleshooting methods for FDC (Floppy Disk Controller), HDC (Hard Disk

Controller), and display problems. **(10 Marks)**

6. a) Examine PC Family and PC Hardware. What is the PC Family? **(10 Marks)**

   b) Discuss Memory Modules and Packaging in computer systems. How are memory chips organized into modules for easy installation in computers? **(10 Marks)**

7. a) Explore the Expansion Bus in motherboard design. Describe common expansion bus standards and interfaces. **(10 Marks)**

   b) Provide an overview of different chipsets used in motherboards, including AMD chipsets, Intel chipsets, VIA chipsets, SIS chipsets, and OPTI chipsets. **(10 Marks)**