SCOTT CHRISTIAN UNIVERSITY
EXAMINATIONS
28 JUL 2025
SIGN:.....
P. O. BOX 49 - 90100, MACHAKOS

Scott Christian
UNIVERSITY
A Dynamic Centre of Academic Excellence

SCHOOL OF EDUCATION AND BUSINESS STUDIES

DIPLOMA IN INFORMATION COMMUNICATION TECHNOLOGY

UNIT CODE/NAME: DCT 025 HARDWARE SUPPORT AND MAINTENANCE /CIT 010 COMPUTER MAINTENANCE AND SUPPORT

May - August 2024/2025 End Semester Exam - Time: 2 Hours

Instructions: Answer Question ONE (Compulsory) and any other TWO questions.

QUESTION ONE (Compulsory)

a) Define the following terms: **(3 Marks)**
   i) Motherboard
   ii) Case form factor
   iii) Troubleshooting

b) When a computer system is switched on a program performs a power-on-self-test (POST) to check the presence of all common hardware devices
   i) Identify a firmware that facilitate the above booting process **(1 Mark)**
   ii) Explain power-on-self-test(POST) process as performed by the firmware identified in b (i) above **(4 Marks)**

c) Outline five factors that one should consider before purchasing a laptop **(5 Marks)**

d) Discuss how the following computer problems contributes to slow computer performance and how to overcome them:
   i) Malware **(2 Marks)**
   ii) Hard disk fragmentation **(2 Marks)**
   iii) Insufficient main memory **(2 Marks)**

e) As a computer laboratory technician advise users on five safety precautions to be undertaken to protect users from harm while using computers in the laboratory **(5 Marks)**

f) Assume you have been contracted as an IT specialist by an organization to maintain their computer laboratory. Describe six maintenance activities that you can undertake to improve the performance of those computers. **(6 Marks)**

QUESTION TWO

a) Differentiate between the following printer types:
   i) Impact and non-impact printers **(2 Marks)**
   ii) LaserJet and inkjet printers **(2 Marks)**

b) Identify four common printer problems experienced within an organization **(4 Marks)**

c) Highlight the troubleshooting procedure that you can undertake when a printer has experienced the problems discussed in (b) above. **(4 Marks)**

d) Explain the difference between optical storage technologies, magnetic storage technologies, and electronic storage technologies **(3 Marks)**

QUESTION THREE

a) Highlight the step-by-step procedure for installing a new hard drive into a personal desktop computer. **(4 Marks)**

b) Highlight the role of the following hardware components.
   i) BIOS
   ii) CMOS battery
   iii) Power supply unit **(3 Marks)**

c) Computers have been designed in a way that their functionality can be expanded by connecting external devices through the available ports. List any four types of ports found in computers that support video **(4 Marks)**

d) Describe four roles and responsibilities that a PC technician will play during the course of their career. **(4 Marks)**

QUESTION FOUR

a) Identify the four main types of computers and describe the distinctive characteristics for each computer type. **(4 Marks)**

b) Discuss the role of the following computer buses: **(3 Marks)**
   i) Processor Bus
   ii) Memory Bus
   iii) Address Bus

c) TELSA is all rounded company with its main office in Nairobi Kenya. You have been hire as an IT support to handle customer complains as well as troubleshooting daily computer problems in the main office. Briefly explain how you can apply good communication skills to handle the following kind of customers. **(4 Marks)**
   i) Talkative customers
   ii) Rude customers
   iii) Knowledgeable customers
   iv) Inexperienced customers

d) Differentiate between the following connectors: **(4 Marks)**
   i) PATA Connectors and SATA Connector
   ii) PS/2 and USB Connector

QUESTION FIVE

a) (i) Define the term Disk partitioning as applied in computer maintenance. **(1 Mark)**
(ii) Provide a comparison between the three common file systems that are used by PC operating systems today. **(3 Marks)**

b) Discuss six reasons why Computer users are highly advised to maintain their computers on a frequent basis. **(6 Marks)**

c) It is highly recommended to protect your PC from cyber-threats or Malware. Describe five best ways to prevent virus infections. **(5 Marks)**

