

# SMARTWIZ

## GRADE10 COMPUTER APPLICATIONS TECHNOLOGY (CAT) EXAM

**MARKS: 100**

MARKS	

**TIME: 2 hours**

**SCHOOL** \_\_\_\_\_

**CLASS (e.g. 4A)** \_\_\_\_\_

**SURNAME** \_\_\_\_\_

**NAME** \_\_\_\_\_

### Instructions for Learners:

- Read all the instructions carefully before you begin the exam.
- Write your name and learner number clearly on the answer sheet/booklet.
- Answer all the questions unless otherwise instructed.
- Show all your work/calculations where applicable.
- Write neatly and legibly.
- Use only blue or black ink. *Do not use correction fluid or tape.*
- No electronic devices (calculators, phones, etc.) are allowed unless explicitly permitted.
- Raise your hand if you have any questions.
- Do not talk to other learners during the exam.
- Any form of cheating will lead to disqualification.

**This test consists of 6 pages including the cover page.**

**SECTION A: COMPUTER SYSTEMS AND COMPONENTS (25 marks)**

1. Explain the function of each of the following:
- a) Heat sink (3 marks)

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- b) Optical Drive (3 marks)

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- c) Network Interface Card (NIC) (3 marks)

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2. Describe three characteristics of SSD (Solid State Drive) compared to HDD (Hard Disk Drive). (6 marks)

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3. Explain the difference between system software and application software. Provide one example of each. (5 marks)

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4. What is virtual memory and why is it important? (5 marks)

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**SECTION B: SOFTWARE AND FILE MANAGEMENT (20 marks)**

1. Explain the term 'file compression' and provide two benefits of compressing files. (5 marks)

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2. Describe the difference between data and information. Give an example of each. (6 marks)

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3. Outline the steps to recover a deleted file from the Recycle Bin. (3 marks)

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4. What is cloud storage? List two advantages and one disadvantage of using cloud storage. (6 marks)

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**SECTION C: OFFICE APPLICATIONS (25 marks)**

1. In spreadsheet software:

- a) Write a formula to calculate the percentage of total sales in cell D2 where total sales are in cell D10. (3 marks)

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- b) Explain the difference between relative and absolute cell references. Give an example of each. (6 marks)

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2. In word processing:

a) What is the purpose of a table of contents? (2 marks)

b) How do you create a footnote in a document? (3 marks)

3. In presentation software:

a) List four types of slide layouts commonly used in presentations. (4 marks)

b) How can animations enhance a presentation? Give two examples. (4 marks)

## **SECTION D: DATABASES AND NETWORKING (20 marks)**

1. What is a query in a database? Give two examples of queries you might use. (5 marks)

2. Explain the difference between a LAN and a MAN network. Give one example of where each might be used. (6 marks)

3. Define the following terms:

a) Bandwidth (3 marks)

b) Firewall (3 marks)

c) Encryption (3 marks)

### **SECTION E: INTERNET, CYBERSECURITY, AND ETHICS (10 marks)**

1. Explain what phishing is and describe two ways to protect yourself from phishing attacks. (5 marks)

2. What is copyright? Why is it important in the digital world? (3 marks)

3. List two ethical considerations when using social media. (2 marks)

**End of Exam**  
**TOTAL: 100 marks**



## MEMO

### SECTION A: COMPUTER SYSTEMS AND COMPONENTS (25 marks)

1. **Function of components:**

- a) Heat sink: Dissipates heat away from the CPU or GPU to prevent overheating. (3 marks)
- b) Optical Drive: Reads/writes data from optical discs like CDs, DVDs, or Blu-rays. (3 marks)
- c) Network Interface Card (NIC): Allows a computer to connect to a network (wired or wireless). (3 marks)

2. **Characteristics of SSD vs HDD:**

- SSDs have faster read/write speeds than HDDs. (2 marks)
- SSDs have no moving parts, making them more durable and silent. (2 marks)
- SSDs generally consume less power than HDDs. (2 marks)

3. **System software vs Application software:**

- System software: Software that manages hardware and basic operations (e.g., Operating System). (3 marks)
- Application software: Programs that perform specific user tasks (e.g., Microsoft Word). (2 marks)

4. **Virtual memory:**

- Virtual memory is a section of a hard drive used as additional RAM when physical RAM is full. (3 marks)
- It allows running more applications by extending memory capacity, though slower than RAM. (2 marks)

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### SECTION B: SOFTWARE AND FILE MANAGEMENT (20 marks)

1. **File compression and benefits:**

- File compression reduces the size of files by encoding data more efficiently. (2 marks)
- Benefits: Saves storage space; speeds up file transfer. (3 marks)

2. **Difference between data and information:**

- Data: Raw facts and figures without context (e.g., numbers “45, 80, 67”). (3 marks)
- Information: Processed data that is meaningful (e.g., average score of 64%). (3 marks)

3. **Recovering a deleted file:**

- Open the Recycle Bin, locate the deleted file, right-click and select ‘Restore.’ (3 marks)

4. **Cloud storage and pros/cons:**

- Cloud storage is saving data on remote servers accessed via the Internet. (2 marks)
- Advantages: Access data from anywhere; automatic backups. (2 marks)
- Disadvantage: Requires internet connection; potential security/privacy concerns. (2 marks)

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### SECTION C: OFFICE APPLICATIONS (25 marks)

1. a) Formula for percentage of total sales:

$$=D2/D10*100 \text{ or } =(D2/D10)*100 \text{ (3 marks)}$$

b) Relative vs absolute references:

- Relative: Cell references change when copied (e.g., A1). (3 marks)
- Absolute: Cell references stay fixed when copied, indicated by \$ (e.g., \$A\$1). (3 marks)

2. a) Purpose of a table of contents:

- Provides an organized list of headings and page numbers for easy navigation. (2 marks)

b) Creating a footnote:

- Place cursor where footnote is needed, go to 'References' tab, click 'Insert Footnote.' (3 marks)

3. a) Types of slide layouts:

- Title Slide, Title and Content, Two Content, Comparison, Blank, Section Header. (Any four correct; 4 marks)

b) How animations enhance presentations:

- Help keep audience attention; illustrate points clearly. (2 marks)
- Examples: Fade in text, animate bullet points. (2 marks)

## SECTION D: DATABASES AND NETWORKING (20 marks)

1. **Query and examples:**

- Query: A request to retrieve specific data from a database. (3 marks)
- Examples: Retrieve all students with marks above 80; Find all products out of stock. (2 marks)

2. **Difference between LAN and MAN:**

- LAN (Local Area Network): Network confined to a small area like a home or office. (3 marks)
- MAN (Metropolitan Area Network): Larger network covering a city or campus. (3 marks)

3. **Definitions:**

- a) Bandwidth: The maximum data transfer rate of a network or internet connection. (3 marks)
- b) Firewall: Security system that monitors and controls incoming and outgoing network traffic. (3 marks)
- c) Encryption: Process of encoding data to prevent unauthorized access. (3 marks)

## SECTION E: INTERNET, CYBERSECURITY, AND ETHICS (10 marks)

1. **Phishing and protection:**

- Phishing: Fraudulent attempt to obtain sensitive info by disguising as a trustworthy entity. (3 marks)
- Protection: Do not click on suspicious links; verify sender email addresses. (2 marks)

2. **Copyright importance:**

- Copyright protects creators' works from being copied or used without permission. (3 marks)



- Important to respect intellectual property rights and avoid plagiarism. (Acceptable for 3 marks)

3. **Ethical considerations on social media:**

- Respect others' privacy. (1 mark)
- Avoid posting harmful or false information. (1 mark)

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**End of Marking Memorandum**

**TOTAL : 100**

