

2920/202A
COMPUTER APPLICATIONS II
November 2022
Time: 2 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL
DIPLOMA IN INFORMATION COMMUNICATION TECHNOLOGY
MODULE II
COMPUTER APPLICATIONS II

2 hours

INSTRUCTIONS TO CANDIDATES

*This paper consists of SIX questions.
Answer FOUR of the SIX questions in the answer booklet provided.
Candidates should answer all the questions in English.*

This paper consists of 4 printed pages.

Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

1 (a) Categorise each of the following items as either Income (I), Expense (E), Asset (A), Liability (L), or Capital (C). (3 marks)

- (i) Accounts payable (iv) Drawings
(ii) Rent received (v) Building
(iii) Cash (vi) Fees received

(b) Distinguish between *informed search* and *uninformed search* as used in artificial intelligence. (4 marks)

(c) Sketch the output that would be generated when the following sequence of commands in a Computer Aided Design program are executed. (4 marks)

```
-multiple _pline  
0,0  
50,0  
50,50  
80,80  
0,80  
0,0
```

(d) Explain **two** ways in which Geographic Information Systems (GIS) could be used in the execution of rescue missions. (4 marks)

2 (a) Explain the application of artificial intelligence in each of the following areas:

- (i) email filters;
(ii) search engines;
(iii) e-commerce website.

(6 marks)

(b) The following information relates to Tomina Traders stock records for the year 2021. Use it to answer the question that follows.

Stock as at: 01/01/2021	Ksh 3,323,500
Purchases	Ksh 25,027,000
Returns outwards	Ksh 1,246,000
Carriage inwards	Ksh 57,000
Carriage outwards	Ksh 538,000
General distribution expenses	Ksh 284,000
Stock as at 31/12/2021	Ksh 4,589,000.

Determine the cost of sales for the year for Tomina Traders. (5 marks)

(c) State **one** circumstance necessitating enabling of each of the following features in a CAD program.

- (i) object snap;
(ii) dynamic input.

(4 marks)

- 3 (a) Explain the function of each of the following objects in a GIS:
- coordinate data objects;
 - vector objects. (4 marks)
- (b) Outline the function of each of the following financial statements:
- balance sheet; ✓
 - profit and loss account; ✓
 - cash flow statement. ✓ (3 marks)
- (c) Explain a reason for switching between model space window and paper space window while designing in a CAD program. (4 marks)
- (d) State the relationship between *machine learning* and *artificial intelligence*. (4 marks)
- 4 (a) Explain each of the following types of Artificial Intelligence (AI) used in computers:
- reactive machines AI;
 - limited memory AI;
 - self-aware AI. (6 marks)
- (b) Differentiate between *first in first out* (FIFO) and *last in first out* (LIFO) stock valuation methods. (4 marks)
- (c) With the aid of an illustration in each case, describe the following types of dimensions used in CAD design:
- radial;
 - arc length. (5 marks)
- 5 (a) State **two** difference between *human intelligence* and *artificial intelligence*. (4 marks)
- (b) Explain the term *intelligent agent* as used in Artificial Intelligence. (2 marks)
- (c) State **four** advantages of using *vector data* in Geographic Information System. ✓ (4 marks)

- (d) Dalili Ltd acquired a new mainframe computer system for Ksh 600,000 on 1 November 2019. The computer's estimated useful life is five years, at the end of which it is expected to have a scrap value of Ksh 54,500.
If the company's financial year ends on 31 March, and straight-line depreciation is applied on a monthly basis, what is the depreciation charge on the computer in the profit and loss account for the year ending 31 March 2021? (5 marks)

- 6 (a) Outline **three** basic functions of a Geographic Information System (GIS). ✓ (3 marks)
- (b) A designer opted to use the block feature in a CAD program while creating a design. Outline **two** reasons for this preference: (2 marks)
- (c) Skyweb GIS Company has been advised to hire the following categories of employees:
- (i) cartographers;
 - (ii) GIS Programmer;
 - (iii) remote sensing specialists. ✓
- Explain the services that each of the above employees could provide to the company. (6 marks)
- (d) Explain each of the following accounting terms:
- (i) provision for depreciation;
 - (ii) historical cost accounting basis. (4 marks)

24
✓
✓
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