451/1
COMPUTER STUDIES
PAPER 1
(Theory)
2016
$2^1/_2$ hours

ALLIANCE HIGH SCHOOL
FORM 4 END OF TERM 1 2016

COMPUTER STUDIES
Paper 1
(Theory)
$2^1/_2$ hours

INSTRUCTIONS TO CANDIDATES

This paper has two sections; **A** and **B**.
Answer **ALL** the questions in section **A and B**.
All answers should be written in the space provided on the question paper.

For Official Use Only.

SECT.	Question.	Score
A	1 – 15	
	16	
	17	
	18	
B	19	
	20	
Total Marks		

This paper consists of 9 printed pages
Candidates should check the question paper to ensure that all the
Printed pages are printed as indicated and no questions are missing.

SECTION A (40 MARKS)

1. As a computer student you have been asked to assist in buying an input device. State any **four** factors to consider when buying input devices. [4]

2. In the recent past there has been a paradigm shift of use of CRT monitors to the use of flat screen monitors. List **three** advantages flat screen monitors have over the traditional CRT monitors. [3]

3. One category of system software is utility *software*.
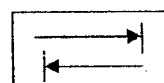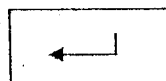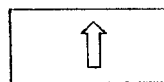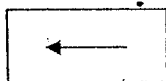(i) What is meant by utility software? [1]

(ii) Give **two** examples of utility software. [2]

(iii) Describe Firmware [2]

4. Distinguish between a workbook and a worksheet as used in spreadsheets. [2]

5. The cells D3 to D11 of a worksheet contain remarks on student's performance such as very good, good, fair and fail depending on the average mark. Write a formula that can be used to count all students who have the remark "very good". [3]

6. The following are symbols of some keys found on the keyboard. Name the keys represented by the symbols. [2]
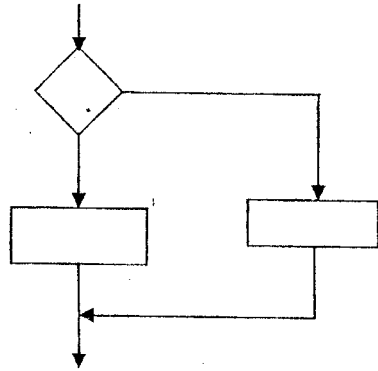
7. a) Define authenticity as used in software acquisition [1]

b) List **four** ways of acquiring software in an organization [2]

8. Define the term artificial intelligence [1]

b) List **three** branches of artificial intelligence [3]

9. What is the difference between logical and physical file? [2]

10. Differentiate between Formatting and Editing features in Word Processing [2]

11. State **two** applications in which it is appropriate to use batch processing. [2]

12. Differentiate between Internet and Intranet [2]

13. List **three** services offered by Internet Service Providers? [3]

14. Describe **two** characteristics to show that a computer is infected with a malware. [2]

15. List **four** functions of an operating system. [2]

16.

a) Name the control structure named above   [1]

b) State three characteristics of low level languages   [3]

c) Describe **two** differences between the **while ..do** and the **repeat..until** statements .
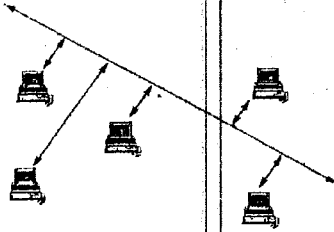   [2]

d) Write an algorithm and draw a flowchart to print the square of all numbers from 1 to 10.
                                                                   [9]

Turn over

17. A small organization has several computers in an office connected to form a network as shown below.
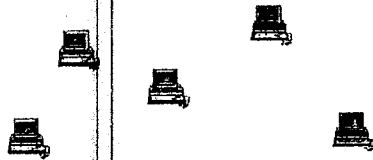
(a) What is the name of this network topology?   [1]

(b) The network could instead be connected as a star topology.

(i) Draw the connections between the computers in a star topology in the diagram below.

[1]

(ii) State **one** advantage of a star network compared with the network you have named in (a) above, and give a reason.   [2]

Advantage

Reason

(c) Write the following abbreviation in full as used in computer networks and give an example of each.   [2]

    (i)   D. T. E

    (ii)   D. C. E

d) Explain how the following ways of communication differ.   [2]

    (i)   Broadcast

    (ii)   Point-to-point

e) Name the network device shown   [1]

ii) State **two** functions of the device named above   [2]

f) State the function of each of the following:

   i.   network protocol   [1]

   ii.   hub   [1]

g) Communication in a network can take the form of simplex, half duplex or full duplex. Briefly explain these terms.   [3]

18. What is a Database Management System (DBMS)? [1]

(b) Define the following terms as used in a database. [1]
  (i) Primary key

  (ii) Foreign

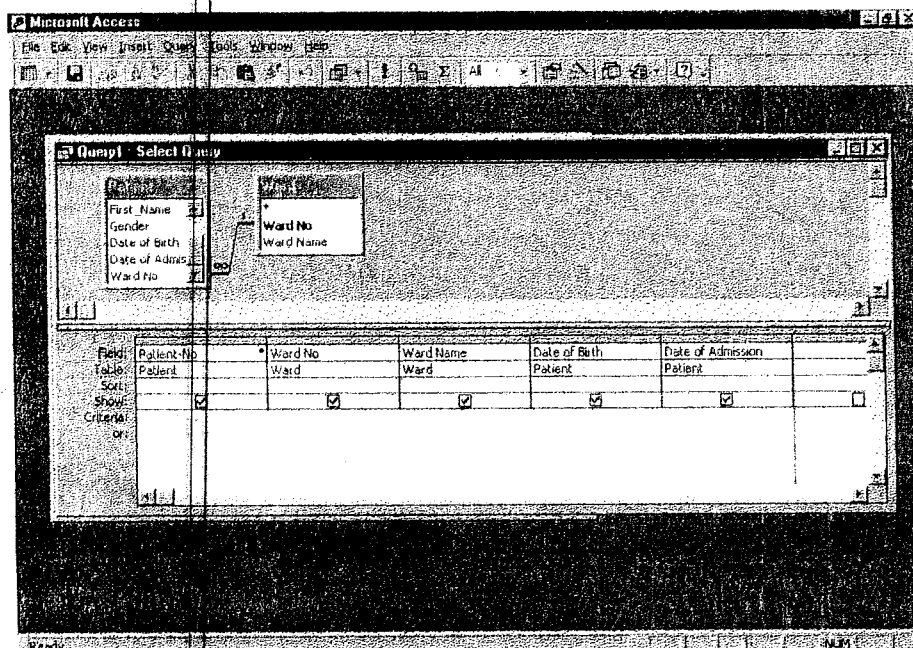c) Describe **four** advantages of database systems. [4]

d) Differentiate between the following pair of terms as used in database design: [2]
  i.   input mask and design

  ii.   table and query

b) The following is an extract of a select query (QBE) in Microsoft Access, about a Hospital Database.

Field:	Patient No	Ward No	Ward Name	Date of Birth	Date of Admission	
Table:	Patient	Ward	Ward	Patient	Patient	
Sort:						
Show:	☑	☑	☑	☑	☑	☐
Criteria:						
or:						

Turn over

i) Other than **select** queries, name two other types of queries. [2]

ii) Write an expression that will return the year of Admission for patient. [2]

(c) Explain the following concepts as used in a spreadsheet.
i) Automatic recalculation. [2]

ii) What if analysis. [2]

iii) Label [1]

iv) Value [1]

v) Formula [1]

(d) Describe mail merging feature in word processing. [2]

19(a) Describe the following ways of processing (provide examples).

[4]

      i.   Batch processing.

      ii.   Real time processing.

(b) Differentiate between Multi programming and multi processing operating system.   [2]

c) Describe the following file organization methods.   [3]
    (i) Serial

    (ii) Sequential.

    (iii) Random

d) State the following types of transcription errors: [2]
    i. 3455 instead of 3456

    ii. Simth instead of Smith

e) State **two** roles and responsibilities of each of the following ICT professionals
    i)   Webmaster   [2]

    ii)   Network Administrator   [2]

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