



Adabistan-e-Soophia

International General Certificate of Secondary Education – I (2nd Term Examination)

Adabistan-e-Soophia
School for Boys & Girls

CANDIDATE
NAME

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CENTER NUMBER							CANDIDATE NUMBER							
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Computer Science

0478

Session

2	0	2	0	-	2	1
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Time

1	h	r	3	0	m	i	n
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Marks

4	0
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Additional Materials: *Answer Booklet/Paper*

If you have been given an Answer Booklet, follow the instructions on the front cover of the Booklet. Write your Centre number, candidate number and name on all the work you hand in.

Write in dark blue or black pen.

You may use a soft pencil for any diagrams or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer all questions.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [] at the end of each question or part question

This document consists of **08** Printed pages

[TURN OVER]

1. Annie writes a paragraph of text as an answer to an examination question about programming languages.

Using the list given, complete Annie's answer by inserting the correct **six** missing terms. Not all terms will be used.

- Assembly
- Converter
- Denary
- Hexadecimal
- High-level language
- Low-level language
- Machine Code
- Source Code
- Syntax
- Translator

The structure of language statements in a computer program is called the A programming language that uses natural language statements is called a When programs are written in this type of language they need a to convert them into

A programming language that is written using mnemonic codes is called language. This is an example of a

[6]

2. Look at these two pieces of code:

```
A:      CLC
        LDX #0
loop:    LDA A,X
        ADC B,X
        STA C,X
        INX
        CPX #16
        BNE loop
```

```
B:    FOR Loop = 1 TO 4
        INPUT Number1, Number2
        Sum = Number1 + Number2
        PRINT Sum
    NEXT
```

(a) Which of these pieces of code is written in a high-level language?

..... [1]

(b) Give **one** benefit of writing code in a high-level language.

.....
.....
..... [1]

(c) Give **one** benefit of writing code in a low-level language.

.....
.....
..... [1]

(d) Complete the following by writing either *compiler*, *interpreter* or *assembler* in the spaces provided.

- – translates source code into object code.
- – translates low-level language into machine code.
- – stops the execution of a program as soon as it encounters an error.

[3]

3. Five data types and five data samples are shown below.

Draw a line to link each data type to the correct data sample.

Data type	Data sample
Integer	'a'
Real	2
Char	2.0
String	True
Boolean	"Twelve"

[4]

4. A database, MARKS, was set up to record the test results for a class of students. Part of the database is shown below.

Student Name	Class ID	Maths	English	Science	History	Geography
Paul Smith	0017	70	55	65	62	59
Ravi Gupta	0009	29	34	38	41	44
Chin Hwee	0010	43	47	50	45	52
John Jones	0013	37	67	21	28	35
Diana Abur	0001	92	88	95	89	78
Rosanna King	0016	21	13	11	27	15

- (a) Give the number of fields that are in each record.

.....[1]

- (b) State which field you would choose for the primary key.

.....

Give a reason for choosing this field.

.....

.....[2]

- (c) The query-by-example grid below selects all students with more than 60 marks in History or more than 60 marks in Geography.

Field:	Student Name	History	Geography
Table:	MARKS	MARKS	MARKS
Sort:	Ascending		
Show:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Criteria:		>60	
or:			>60

Show what would be output.

.....

.....[2]

- (d) Complete the query-by-example grid below to select and show the student names only of all students with less than 40 marks in both Maths and English.

Field:			
Table:			
Sort:			
Show:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Criteria:			
or:			

[3]

5. A television (TV) store has a database table, TVSTOCK, for its new range of televisions. The table stores the screen size of each TV, whether it will show 3D, whether the screen is curved or flat, if the internet is available on the TV, if it has a built-in hard disk drive and the price. Part of the database table is shown below.

TVID	ScreenSize	3D	CurvedFlat	Internet	HDD	Price
TV80CVINT	80	YES	CV	YES	YES	\$7,000.00
TV65CVINT	65	YES	CV	YES	YES	\$5,000.00
TV60CVINT	60	YES	CV	YES	YES	\$4,500.00
TV60FTINT	60	YES	FT	YES	YES	\$4,000.00
TV55CVINT	55	YES	CV	YES	NO	\$3,000.00
TV55FTINT	55	YES	FT	YES	NO	\$3,500.00
TV55FTNIN	55	YES	FT	NO	NO	\$3,000.00
TV50CVINT	50	YES	CV	YES	NO	\$2,500.00
TV50FTINT	50	YES	FT	YES	NO	\$2,000.00
TV50FTNIN	50	YES	FT	NO	NO	\$1,750.00
TV42FTINT	42	YES	FT	YES	NO	\$1,500.00
TV37FTINT	37	NO	FT	YES	NO	\$1,200.00
TV20FTNIN	20	NO	FT	NO	NO	\$800.00
TV15FTNIN	15	NO	FT	NO	NO	\$400.00

- (a) State the type of the field **TVID** and give a reason for your choice.

.....

.....

.....[1]

(b) Complete the table with the most appropriate data type for each field.

Field name	Data type
ScreenSize	
3D	
CurvedFlat	
Internet	
HDD	
Price	

[3]

(c) Use the query-by-example grid below to provide a list of all of the curved screen TVs that have a built-in hard disk drive. Make sure the list only displays the TVID, the price and the screen size in ascending order of price.

Field:					
Table:					
Sort:					
Show:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Criteria:					
or:					

[5]

6. A database table, 2018MOV, is used to keep a record of movie details.

CatNo	Title	Genre1	Genre2	Blu-ray	DVD	Streaming
18m01	Power Rangers	Adventure	Fantasy	Yes	No	Yes
18m02	Baywatch	Comedy	Drama	Yes	No	Yes
18m03	Table 19	Comedy	Drama	Yes	Yes	No
18m04	Wonder Woman	Action	Fantasy	Yes	No	Yes
18m05	Justice League	Action	Fantasy	Yes	Yes	Yes
18m06	Twilight	Thriller	Action	Yes	Yes	No
18m07	Ant Man	Action	Fantasy	No	Yes	No
18m08	Venice Beach	Action	History	No	Yes	No
18m12	Fast Five	Action	Thriller	No	Yes	No
18m15	King Kong	Adventure	Fantasy	No	Yes	No
18m16	Transformers: The Last Knight	Action	Sci-Fi	Yes	Yes	Yes
18m17	The Dark Tower	Fantasy	Sci-Fi	Yes	Yes	No
18m19	Beauty and the Beast	Fantasy	Romance	Yes	Yes	Yes
18m21	The Mummy	Action	Fantasy	No	No	Yes
18m22	Star Wars: Episode VIII	Sci-Fi	Action	Yes	No	Yes
18m23	Guardians of the Galaxy	Action	Sci-Fi	Yes	Yes	Yes
18m26	Thor	Action	Sci-Fi	No	Yes	Yes
18m27	Twilight	Fantasy	Sci-Fi	No	No	Yes
18m30	Beneath	Action	Fantasy	Yes	No	No
18m31	Despicable Me	Animation	Action	Yes	Yes	No

(a) Complete the table to identify the most appropriate data type for each field based on the data shown in the database table, 2018MOV.

Field	Data type
CatNo	
Title	
Genre1	
Streaming	

[2]

(b) Write the structured query language (SQL) to return the category number and title for all comedy movies on reverse order.

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[05]