

**தீர்மான வினா தேர்வத்திற்கு**  
**இலங்கைப் பரீட்சைத் திணைக்களம்**

**புதிதான அறிவு மற்றும் பரீட்சைத் திணைக்களம்**  
**தேசிய மதிப்பீட்டிற்கும் பரீட்சைத் திணைக்களம் சேவை**

**த.பொ.க. (த.பொ.க.) வினா 2011**  
**க.பொ.க. (சா.தர)ப் பரீட்சை 2011**

வினா  
பாடம் } Information and Communication Technology } வினா எண்  
பாட இலக்கம் } ..... 80

**தேசிய மதிப்பீட்டிற்கும் பரீட்சைத் திணைக்களம்**  
**புதிதான அறிவு மற்றும் பரீட்சைத் திணைக்களம்**

| புதிதான<br>எண் | பிළுதூர் | புதிதான<br>எண் | பிළுதூர் | புதிதான<br>எண் | பிළுதூர் | புதிதான<br>எண் | பிළுதூர் |
|----------------|----------|----------------|----------|----------------|----------|----------------|----------|
| வினா<br>இல     | விடை     | வினா<br>இல     | விடை     | வினா<br>இல     | விடை     | வினா<br>இல     | விடை     |
| 01.            | 3        | 11.            | 3        | 21.            | 3        | 31.            | 3        |
| 02.            | 2        | 12.            | 3        | 22.            | 3        | 32.            | 4        |
| 03.            | 4        | 13.            | 2        | 23.            | 3        | 33.            | 2        |
| 04.            | 2        | 14.            | 4        | 24.            | 2        | 34.            | 2        |
| 05.            | 2        | 15.            | 2        | 25.            | 4        | 35.            | 4        |
| 06.            | 3        | 16.            | 2        | 26.            | 1        | 36.            | 3/4      |
| 07.            | 3        | 17.            | 1        | 27.            | 4        | 37.            | 1        |
| 08.            | 3        | 18.            | 3        | 28.            | 4        | 38.            | 2        |
| 09.            | 1        | 19.            | 1        | 29.            | 3        | 39.            | 3        |
| 10.            | 4        | 20.            | 1        | 30.            | 4        | 40.            | 4        |

வினா எண் } புதிதான  
வினா எண் } புதிதான

01

புதிதான  
புதிதான

புதிதான 01 X 40 = 40

- 01 -

புதிதான புதிதான

Special Notes:

( .../.../... ) indicate only one of the options included in square brackets are considered as one answer

{...} indicates that words inside are optional. Even without any of the options in side brackets full marks will be awarded

[..] indicates marking guidelines

1.

i.

- (Special Purpose/Special)Computers
- (General Purpose/General) Computers

[ 1 mark each = 2 marks ]

If alternative correct words (e.g විශේෂ පරිගණක, (පොදු පරිගණක/ සාමාන්ය පරිගණක) are accepted .

[ I mark each = 2 marks or 0 ]

ii. Input – Index No

[ ½ mark ]

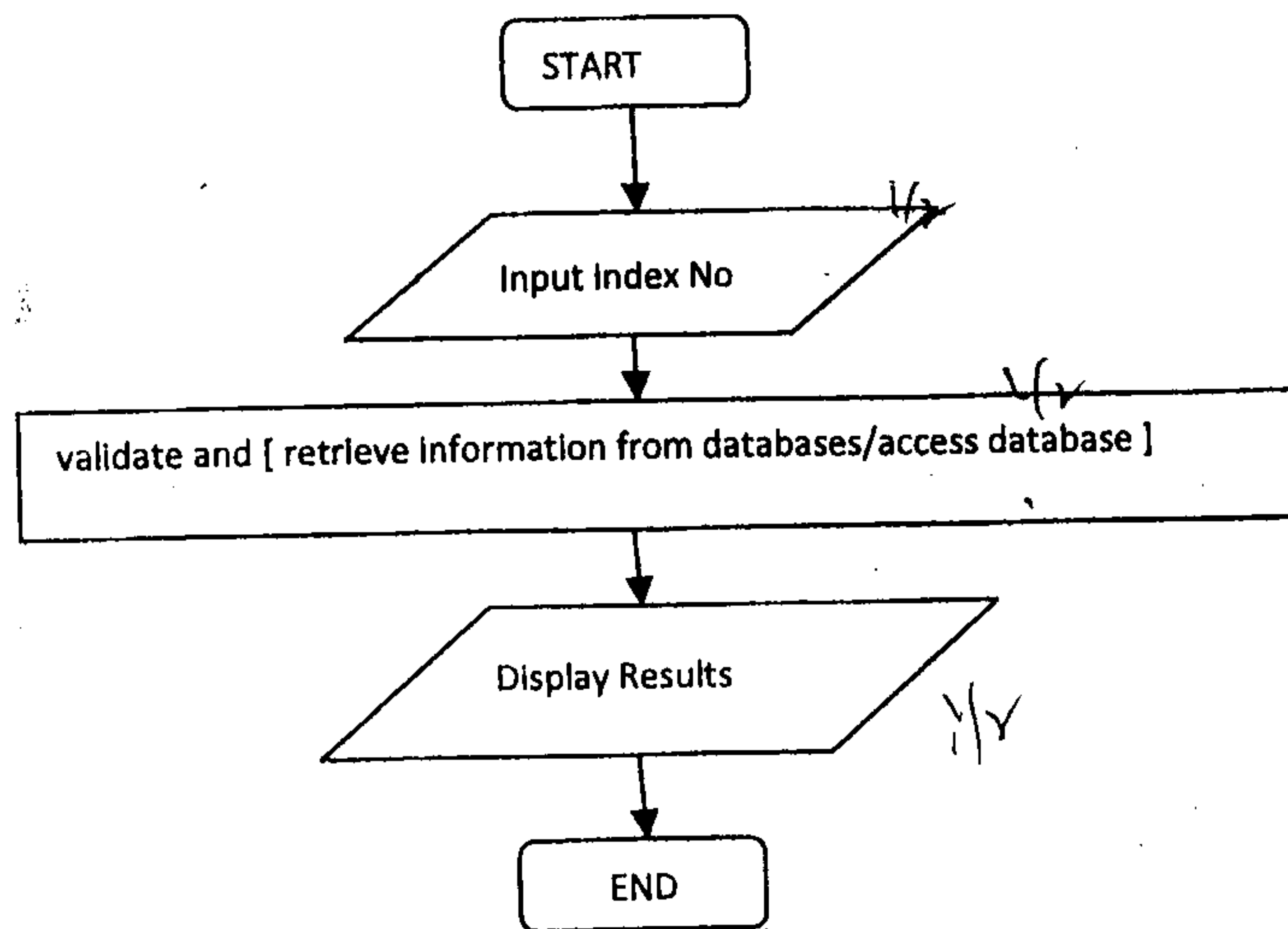
Process - validate and (retrieve information from databases/access database)

[ ½ for each part of process = 1 mark ]

Output → Display Results

[ ½ mark ]

[ Note: Flowchart based symbols are acceptable if correct symbols are used ]



iii.

|               |   |                   |
|---------------|---|-------------------|
| Email address | → | www.google.com    |
| URL           | → | Internet Explorer |
| IP address    | → | Google            |
| Search Engine | → | 172.16.12.1       |
| Web Browser   | → | exams@doenets.lk  |

Or

|               |                   |
|---------------|-------------------|
| Email address | exams@doenets.lk  |
| URL           | www.google.com    |
| IP address    | 172.16.12.1       |
| Search Engine | Google            |
| Web Browser   | Internet Explorer |

[ 1 correct = ½ mark, 2 correct = 1 mark, 3 correct = 1 ½, 4 or more correct = 2 marks ]

[Note: Reordering the second column is accepted as indicated accepted. Arrows without labels are not accepted.]

iv.

$$x.y + \overline{x}y = z$$

[ 1 Mark ]

$$z = 1$$

[ 1 mark ]

[Truth table or DeMorgan's Theorem is accepted]

v. Number of Bits = 8

| Total number of symbols | $2^8$ | $2^7$ | $2^6$ | $2^5$ | $2^4$ | $2^3$ | $2^2$ | $2^1$ |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Min                     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Max                     | 255   | 127   | 63    | 31    | 15    | 7     | 1     | 2     |

OR

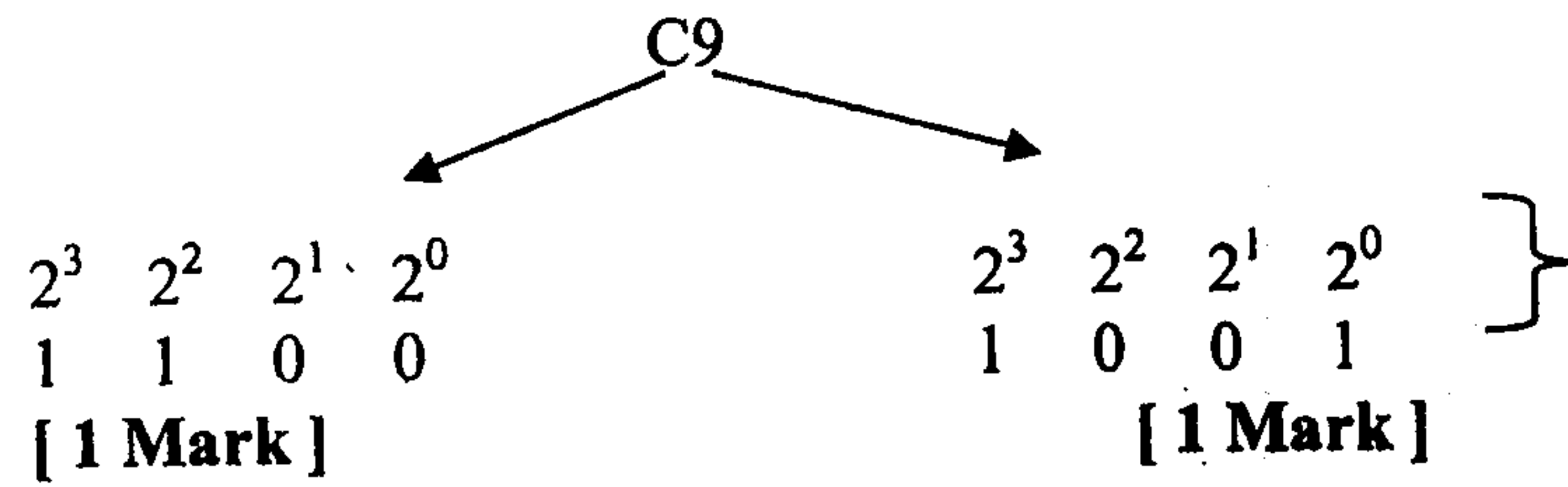
$$2^8$$

[ 1 Mark ]

Number of Symbols = 256

[ 1 mark ]

vi.



[Note: conversion of each symbol is awarded 1 mark]

11001001

OR

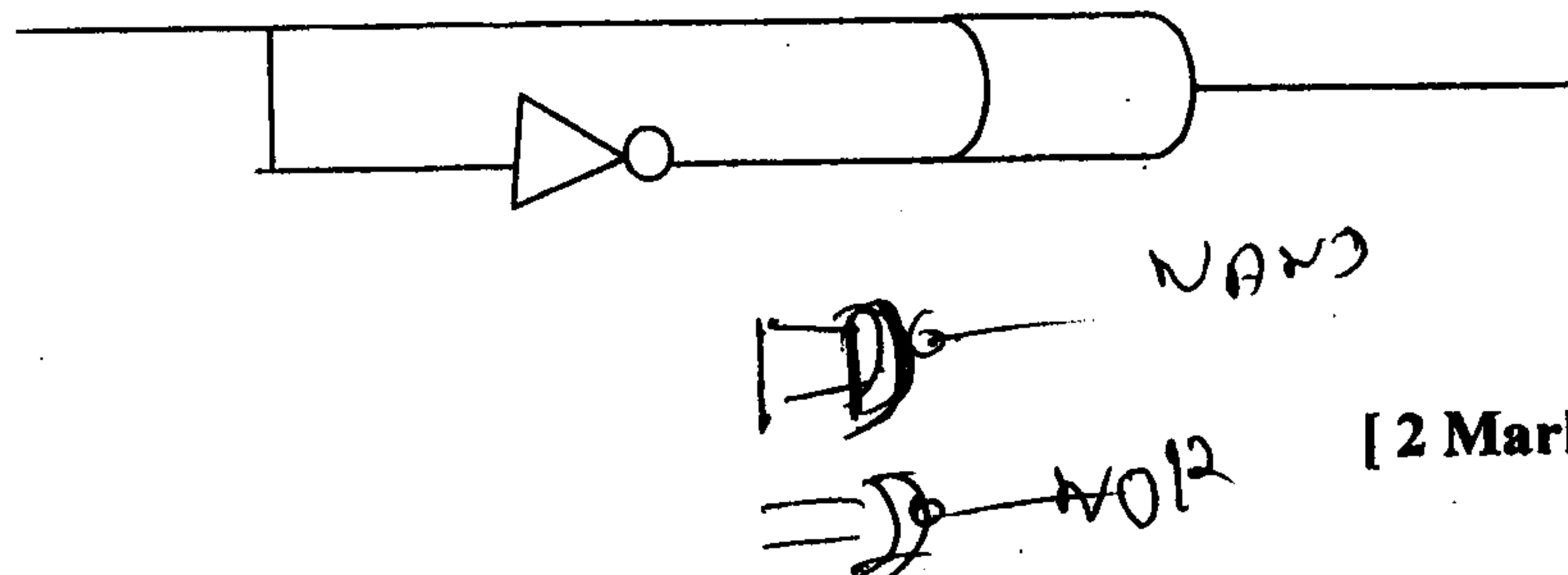
C9 => Decimal=>Binary

[ Method = 1 Mark , final answer 1 mark ]

[Note: Marks awarded to final answer even if base is not mentioned]

vii.

Only Modified circuit awarded marks



viii.

|               |
|---------------|
| A. Fla        |
| B. swf        |
| C. canvas     |
| D. magic wand |

[ ½ Mark Each = 2 Marks ]

ix. Begin

Set Total to zero

For Counter = 2 to 10 Step 2

Total = Total + Counter

Next Counter

End

[ ½ Mark Each = 2 Marks ]

x. Following are accepted as answers

- Interviewing

- Observation

- Document Inspection

- Questionnaires

- (Discussions/Brain storming) *collaboration, sampling*

[ ½ Mark each = 2 Marks ]

2.

i. (Bar Chart/ Column Charts)

[ 2 marks ]

ii.  $= c^4 - b^4$  or  $+c^4 - b^4$  or  $= +c^4 - b^4$

[ 3 marks ]

[Note: marks only awarded to only those, if there are additions or omissions no marks awarded / marks only awarded to only those, if there are any additions or omissions no marks awarded / If the students has written a sentence e.g

**“...the formula that appears in D5 is ...” / “කෝෂයේ ඇතුළත් කළ යුතු සමීකරණය වන්නේ...” before the formulae then marks will be awarded]**

iii.  $=c5-b5$  or  $+c5-b5$  or  $=+c5-b5$

**[ 3 marks ]**

**[ marks only awarded to only those, if there are any additions or omissions no marks awarded / If the students has written a sentence e.g “...the formula that appears in D5 is ...” / “කෝෂයේ ඇතුළත් කළ යුතු සමීකරණය වන්නේ...” before the formulae then marks will be awarded ]**

iv.  $=sum(d4:d8)$  or  $@sum(d4:d8)$  or  $=+sum(d4:d8)$  or  $=d4+d5+d6+d7+d8$

**[ 2 marks ]**

**[Note: Only the above 4 answers will be considered as valid if there are any additions or omissions no marks awarded / If the students has written a sentence e.g “...the formula that appears in D5 is ...” / “කෝෂයේ ඇතුළත් කළ යුතු සමීකරණය වන්නේ...” before the formulae then marks will be awarded]**

3.

- i. Storing same data repeatedly. E.g Nuha Jameel’s details (Teacher ID/Date of Birth/ Address) repeated

**[ explanation 2, example 2 marks = 4 marks ]**

- ii. It limits storage capacity, inefficient (wastes time), data can be inconsistent (inability to create proper relationships is also acceptable)

**[each point 1 mark = 3 marks]**

iii.

|               |                              |
|---------------|------------------------------|
| Teacher Id    | (Text/Number/Numeric/String) |
| Full name     | (Text / String)              |
| Date of Birth | (Date/Date and Time)         |
| Address       | (Text / String)              |
| Subject ID    | (Text / String)              |
| Subject Name  | (Text / String)              |

[ each correct data type ½ mark = 3 marks ]

4.

i.

Domain name, web site and a host (computer/web host)

Obtain permission of the (web server /host) *SP*

Transfer the files to the web server using a tool such as FTP *B*

[ 1 Mark each step = 3 Marks ]

ii.

[the following explanation should include the correct meaning of words  
underlined for awarding marks]

a) Digital Divide : the gap between the individual communities that  
have and those who do not have access to information technologies.

[ 3 Marks ]

[ no partial marks awarded . 3 or 0 marks ]

b) Encryption : a mathematical technique used to scramble or encode a  
message into an unreadable format

[ 2 Marks ]

[Note: no partial marks awarded . 2 or 0 marks ]

- c) Firewall : one or more systems that control access to computer networks. It controls access to computers by out side users. It also controls transfer of information from inside network to outside internet

[ 2 Marks ]

[Note: no partial marks awarded. 2 or 0 marks ]

5.

a.

- a. 50 [ 1 Mark ]  
b. No [ 1/2 Mark ]  
c. Yes [ 1/2 Mark ]  
d. Yes [ 1/2 Mark ]  
e. No [ 1/2 Mark ]  
f. Number of House Holds

[ 1 Mark ]

[ Note: Exact variable name must be specified ]

[ = 4 Marks ]

b. <sup>1/2</sup> (BEGIN/START) <sup>Read,</sup>

(LET/INPUT/Get) Number of Students n

[ ½ Mark ]

{Process} Student\_count = 0

[ ½ Mark ]

DO-WHILE Student\_count < n

[ 1 Mark ]

(BEGIN)

(INPUT/READ/GET) next student's name

[ ½ Mark ]

IF student is present THEN

[ 1 mark ]

[Note: need to have ELSE/ENDIF or two IF statements with two ENDIF ]

{PROCESS} Write 'OK' in the file

[ ½ Mark ]

ELSE

{PROCESS} Write 'Absent' in the file

[ ½ Mark ]

ENDIF

Student\_count = Student\_count + 1

[ ½ Mark ]

(END<sup>1</sup>/END-DO/LOOP)

(START/END)

<sup>1</sup> END required if BEGIN used after while loop

6.

i.

i.

a

- Reduce Cost of Goods due to reduction of overheads {such as shop space, electricity, staff salaries, }
- Provide 24 hours 365 days service,
- Selling goods to buyers at a distance {national and international market},
- Digital products can be delivered instantly {by downloading},
- no parking and other problems associated with (traditional/brick-and-mortar) shopping

*Answer of question*

[ each point 1 Mark = 3 Marks ]

[ Note: These advantages have to be "specific" to online shopping. ]

ii.

b

- Use of Firewalls
- Use of (Secure user names and passwords/Access privileges)
- Installing (Virus Guard/Anti virus Application) or

updating the Virus Guard Software, or

Installing Operating System (security patches/ Security Software)

[ each point 1 Mark = 2 Marks ]

iii.

- Displaying advertisements in other websites,
- Using 'social media' advertisements,
- sending email advertisements,
- using traditional media such as TV/Radio adverts or Newspapers etc

**[ multiple types of this will only be considered for 1 mark ]**

**[ each point 1 Mark = 2 Marks ]**

ii.

- Know with whom you are dealing with (find out about the seller e.g buy from reputed sites)
- Know exactly what you are buying (read product details/check sellers use of words like "refurbished", "vintage")
- Know how much it will cost (total cost of items including delivery cost etc)
- Pay using a secure method ( Pay by credit card or charge card or any other secure means/use secure sites to buy/Do not send cash)
- Check out the terms and conditions such as return policy etc
- Print or save details (such as reference number) details of your transaction

**[ each point 1 Mark = 3 Marks ]**

7.

i.

a)

- Online Chatting
- Tele Conferencing
- video chat

not

[ each point 1 Mark = 2 Marks

[Note : Students may refer to applications such as Skype. Marks will be awarded If such tools are referred with a method such as video call, SMS using internet sites etc. Listing only a name of a tool such as Skype ,yahoo will not be awarded marks

b)

- (Efficient/fast/quick)
- (cost effective/ cheap)
- (any time any where availability/24x365 availability/ improved accessibility/)
- attachments could be sent
- can sent multiple copies simultaneously
- secure from physical damage to documents

[ 1 mark each = 3 marks

11.

a)

- Economic,
- operational,
- technical feasibilities

**[ each point 1 mark = 3 marks ]**

b) Parallel. It is safer

**[ method 1 mark , justification 1 mark = 2 marks ]**

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