

Answer all the questions

Read the questions carefully. Select the most suitable answer.

- Which of the following is incorrect?
 - The first generation computers were based on vacuum tubes.
 - Ada Lovelace is the first programmer of the world.
 - UNIVAC belongs to second generation of computers.
 - Joseph Jacquard introduced the punch card system.
- Which of the following is not a component of a central processing unit?
 - ALU
 - Power supply unit
 - CPU
 - memory registers
- The binary equivalent of 123 is
 - 10100111
 - 10100011
 - 10110111
 - 01111011
- The hexadecimal number B8 has the decimal value equivalent to
 - 127
 - 284
 - 118
 - 168
- The minimum number of bits required to store the octal number 173 is
 - 12
 - 9
 - 5
 - 7
- What is the largest decimal number that can be represented using a 5 bit binary number?
 - 32
 - 63
 - 64
 - 31
- A number is represented as 101_y . If y is the base of the number system, which of the following number it could belong to?
 - Octal and Binary only.
 - Hexadecimal and Binary only.
 - Octal and Hexadecimal only.
 - Either Binary, Octal or Hexadecimal
- Which piece of computer hardware is known as the “brain” of the computer and is responsible for processing instructions?
 - Motherboard
 - RAM
 - CPU
 - ROM

9. Which of the following has the highest storage capacity?

- (1) CD (3) Hard disk
 (2) Blue -ray (4) DVD

10. Select the operation represented by the following truth table:

- (1) OR (3) AND
 (2) NOT (4) XOR

Input 1	Input 2	Output
0	0	0
1	1	1
0	1	0
1	0	0

11. Which of the following is incorrect if A =1 and

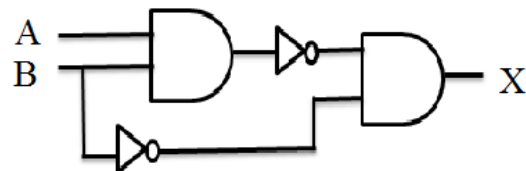
B = \bar{A} in the given logic circuit?

- (1) C = 0 (3) C = 1
 (2) B = 1 (4) B = 0



12. The correct Boolean expression for the X in the following circuit is

1. $(\bar{A} + \bar{B}).\bar{B}$
2. $(\bar{A} . \bar{B}) + \bar{B}$
3. $(\bar{A} . \bar{B}).\bar{B}$
4. $(\bar{A} + \bar{B}) . \bar{B}$



13. A canteen offers three types of fruit juices for students which are called as S, T and U. if a student selects S for a meal he or she cannot select it throughout the day. Which of the following represents the selection of a fruit juice by a student?

- (1) S OR (T OR U) (3) S AND (T OR U)
 (2) S AND (T AND U) (4) S OR (T AND U)

14. Amal is the manager of XYZ Company. He bought a word processing software (P) from a shop to manage its word processing tasks. He consulted a software firm to develop a payroll system (Q) for his company. Which of the following is true regarding the above scenario?

- (1) Both P and Q are off the shelf software.
- (2) P an off the shelf software and Q is a tailor made software.
- (3) Both P and Q are tailor made software.
- (4) P is a tailor made software and Q is an off the shelf software.

15. Which of the following is not one of the benefits of using a network?

- (3) Accessing shared data (3) communication
 (4) Protection from viruses (4) peripheral sharing

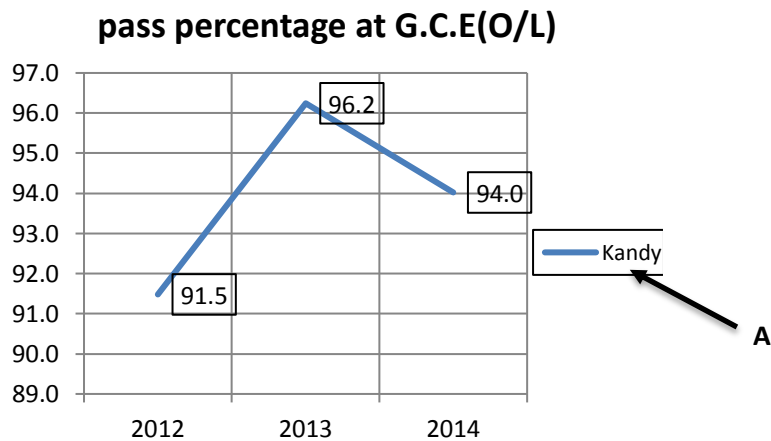
16. Which of the following icon is used in a word processing software to change case of text?

- (1) 
- (2) 
- (3) 
- (4) 

17. Consider the following statement and identify the feature applied to 'th' in it.

We went on the first day of the last weekend, which was 17th of October.

- (1) Subscript
- (2) Superscript
- (3) strikethrough
- (4) hidden



The above chart is prepared using a spreadsheet software.it displays the pass percentage at G.C.E(O/L)examination in a certain subject from 2012 to 2014.

18. A in chart is called as

- (1) Label
- (2) Legend
- (3) Title
- (4) Axis

19. Figures 91.5,96.2 and 94.0 in chart are called as

- (1) series
- (2) Data label
- (3) point
- (4) grid

20. An example for Simplex mode data communication is

- (1) Internet browsing
- (2) Radio transmission
- (3) Full-Duplex mode
- (4) Half-Duplex mode

21.is NOT an operating system?

- (1) Linux
- (2) Macintosh OSX
- (3) Apple iOS
- (4) Microsoft Internet Explorer

22. Electronic presentations are spacilaized to
- A.object animation
 - B.mail merge
 - C.Slide transtion
- (1) A and C only (3) A and C only
- (2) B and C only (4) All are correct
23. Which of the following will happen if you press W while presenting a slide show presentation
- (1) Slide will move to previous slide.
 - (2) The screen will be black
 - (3) Slide will move to next slide.
 - (4) The screen will be white
24. Which of the following is incorrect about electronic presentations?
- (1) We can change the slide back ground from the slide sorter view.
 - (2) We cannot use the file extension jpeg in presentations.
 - (3) LibreOffice Base is a presentation software.
 - (4) A slide should contain at least 12 lines.
25. Which of the following function keys activate the spell checker, slide show and Help respectively?
- (1) F9 ,F12 and F1
 - (2) F7 ,F5 and F1
 - (3)F7,F8 and F9
 - (4)F5 , F1and Shift + F7
26. Which one of the following statement is **correct** about the Most Significant Bit of a number?
- (1) MSB is the value in the right extreme in a whole number.
 - (2) It is the value which is not zero, in the left extreme in a whole number.
 - (3) MSB is the value in the left extreme in a decimal number.
 - (4) MSB is the value which is zero, in the left extreme in a whole number.
27. Which of the following statements are true?
- A.** OpenOffice Calc is a spreadsheet software
 - B.** Text entered in a table cannot be formatted.
 - C.** Ctrl + A selects all the text in a document.
- (1) A and C only (3) A and C only
- (2) B and C only (4) All are correct
28. Which of the following statement is **true** about data and information?
- (1) Processed data is always correct.
 - (2) The accuracy of information depends on the input data.
 - (3) There should be a lot of data to make a decision.
 - (4) Processed information is reliable.

29. Which of the following statements are correct?

- A. The CPU activates the BIOS
- B. Loading the operating system into RAM is called booting
- C. POST checks for viruses in the operating system.

- (1) A and C only
- (2) B and C only
- (3) A and B only
- (4) All of the above

30. When $=7 \wedge 2/(9-2)$ is typed in a cell of a spreadsheet, the answer is

- (1) 1
- (2) 7
- (3) 2
- (4) 4

Questions 31 to 32 are based on the given spreadsheet table.

31. The correct range of marks is

- (1) =(D22:D27)
- (2) =(D24:D27)
- (3) D24:D27
- (4) C24:D27

32. The correct formula to find the average marks of the given subject is

- (1) =sum(D22:D27)
- (2) =average(D24:D27)
- (3) =avg(D24:D27)
- (4) =average(C24:D27)

	C	D
22		
23	name	marks
24	Anne	45
25	Ravi	34
26	Mala	56
27	Lal	22
28		

33. Which of the following gives a correct matching of the contents of Column A with those of Column B?

A	
p	E6
q	row
r	worksheet
s	workbook

B	
i	Consists of several worksheets
ii	A cell address
iii	Consists of number of cells
iv	Consists of columns and rows

- (1) (p-i),(q-ii),(r-iii),(s-iv)
- (2) (p-ii),(q-iii),(r-iv),(s-i)
- (3) (p-iii),(s-ii),(r-i),(q-iv)
- (4) (q-i),(r-ii),(p-iv),(s-iii)

Questions 34 to 36 are based on the student table.

student table

regno	name	DOB	nameofguardian
2342	M.Dayan	2/9/2008	K.Gomez
2540	E.Herath	4/2/2008	B. Herath
2367	W.Ebert	12/30/2007	W.K.Ebert

34. Most suitable data types for the fields regno, DOB and name respectively are

- (1) Text, Number, Text
- (2) Number, Text, date
- (3) Number, datetime, Text
- (4) Text, datetime, Text

35. The primary key of student table is
- (1) name
 - (2) regno
 - (3) DOB
 - (4) nameofguardian
36. Number of fields in the student table is
- (1) 6
 - (2) 3
 - (3) 4
 - (4) 5
37. Which one of the following statement is correct?
- (1) Ctrl + M can be used to create a new presentation.
 - (2) Hyperlinks cannot be inserted in slides.
 - (3) Ctrl + Z will undo the last action we perform
 - (4) Ctrl + Home brings you to the next slide in your presentation
38. Which of the following statements are correct?
- K.** FAT16 and NTFS are file extensions.
 - L.** Renaming the files and folders is a task of the operating system'.
 - M.** Formatting is preparing a data storage device or storing data.
- (3) K and M only
 - (3) L and K only
 - (4) M and L only
 - (4) All of the above
39. Which of the following statement is incorrect about operating systems?
- (1) Real time operating systems are used in ATMs and scientific devices.
 - (2) Multi-tasking operating systems are used in personal computers.
 - (3) MS DOS is a single user operating system
 - (4) Windows 7 is a multi-tasking operating system
40. Which of the following is not an e government activity?
- (1) Payment of utility bills
 - (2) Renewal of vehicle licenses
 - (3) Online shopping
 - (4) Downloading facility of circulars

Answer five questions. The first question is compulsory.

1. Follow the given instructions and answer all the questions.

- Express the octal number 562 using the BCD representation
- Compare RAM and ROM giving two features.
- A storage device has a capacity of 2400 GB. Express that amount in bits.
- Compare first generation and third generation computers giving two features of them.
- Write two demerits of ICT.
- What is a universal gate? Name a universal gate.
- Briefly explain two features of a good quality electronic presentation.
- Prove $p \cdot \bar{p}$ using a logic circuit with a two-input AND gate and a NOT gate. Draw the relevant logic circuit diagram.
- Name two types of utility software.
- State two reasons to select a solid state drive over a hard disk drive.

2. A shop keeper uses a relational database to record details of items he sell, supplier details and stock. The tables are shown below.

item table

ItemID	Item	Unitprice
I001	White sugar	95
I002	Brown sugar	125
I005	Wheat flour no 1	120
I065	Nadu rice	67.50
I074	Wheat flour no 3	100

stock table

supNum	ItemID	Currentstock
s009	I001	75
s456	I005	90
s009	I002	35
s089	I001	70
s001	I074	100

Supplier table

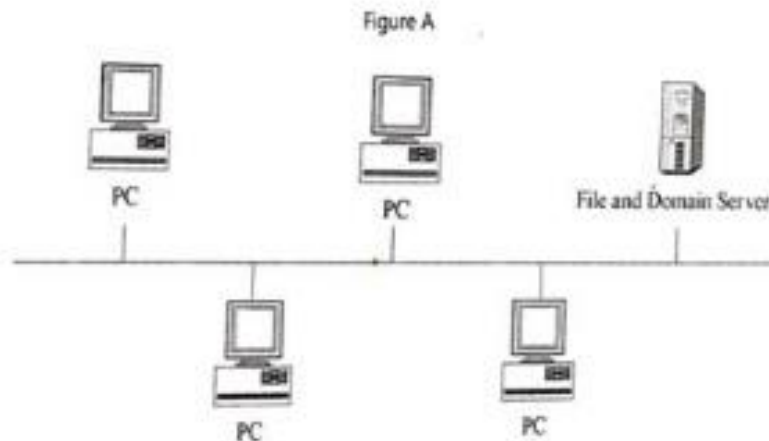
supNum	Surname	Initials	Address
s009	Perera	W.T.	No.45, Temple lane, Kandy
s456	Silva	A.K.D	Park Lane, Nugegoda
s234	Wijesinghe	S.G.	No.22.Cross Street, Matale
s089	Perera	C.F.	6/15, University Quarters, Peradeniya
s001	Silva	A.K.D	No.45/A, Temple lane, Kandy

- Give a suitable data type for the following fields:
 - supNum
 - Initials
 - stock
 - Unitprice

- b. Name the primary key fields with corresponding tables.
- c. Explain the term 'foreign key' using the given tables.
- d. When someone buys 3 Kgs of Wheat flour no 3 , which table(s) need(s) updating?
- e. Write down the relevant updated record when Mr. W.T. Perera changed his address to No.4, School road, Katugastota.

3. DiriSisu Vidyalaya is going to set up a computerized system which will monitor who is in the computer lab at any given time and which computers they use. The system should prevent any unauthorized person from entering the lab. Currently they use an ID card with a photograph of the student with his or her name. It may be necessary to modify the ID cards.

- a. Name two hardware devices you would propose for the above system.
- b. Justify one different possible use for each hardware you have suggested in a.
- c. Figure A displays a sketch of the arrangement of computers in the computer lab.



- i. Name the network topology shown here.
- ii. Name the data transmission method of the cable shown here.
- iii. What is a server with regard to computer networks?
- iv. Name the type of network this belongs, if this network is categorized according to its geographical distribution.

4. Gayan needs to draw a graph for the quadratic function $y=a^2-3a+5$ using a spreadsheet. But he needs your help to complete the data table given below. Answer his questions.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
15		$y=a^2-3a+5$												
16														
17			-4	-3	-2	-1	0	1	2	3	4	5	6	7
18		a^2	16	9	4	1	0	1	4	9	16	25	36	49
19		$3a$	-12										18	21
20									3				23	33

- a. Write the formula you would type in cell C18 to calculate a^2 .
- b. Write the steps you would use to copy the above formula to calculate a^2 for other relevant cells.
- c. Write the formula you would type in cell C19 to calculate 3a.
- d. Write the formula you would type in cell M20 to calculate y.
- e. What should be typed in the cells B17 and B20 respectively?
- f. Write a type of chart most suitable for a quadratic function.

5. The following advertisement is created using word processing software.

- a. What is the tool used to insert A?
- b. Write the steps to insert B into the advertisement.
- c. Identify the formatting in C.
- d. What is D? Write the keyboard shortcut to insert D.

Vacancies



For Creative, talented, experienced people
in all levels
with a

- Good knowledge of *PHP, CSS, SQL server*
- Hardware and network Knowledge
- Linux/Windows environment

Reply imediately
Send your CV to : Office@mymdiccom.com

- e. The word imediately is underlined in red colour when viewed as a soft copy. Write a way to remove it.

6. A greenhouse uses a logic circuit to water the plants inside it. The plants should be watered

- When the plants become dry or
- When it is dark.

If someone needs to water the plants at any other time there is also a manual switch.

You are assigned the task of implementing the above logic circuit using AND, OR, NOT gates only.

- a. Construct a truth table to represent the functionality of the above system.
- b. Write the Boolean expression(no need to simplify) to represents logic circuit of above system
- c. Draw the logic circuit using AND, OR, NOT gates only.