ZONAL EDUCATION OFFICE - JAFFNA

SECOND TERM EXAMINATION - 2014

Information and Communication Technology

Grade 10 **Time : 3 Hours**

Answer all the questions

Part – I

01. Which of the following is correct chronological order of the major technologies used in computers?

1. Vacuum tube, IC, Microprocessor, Transistor
2. Vacuum tube, Microprocessor, IC, Transistor
3. Vacuum tube, Transistor, Microprocessor, IC
4. Vacuum tube, Transistor, IC, Microprocessor

02. Consider the following statements.

A – Marks obtained for science subjects

B – Average marks obtained by 30 students for science subject in a class

Which of the following is correct?

1. A is data and B is information
2. A is information and B is data
3. A and B are data
4. A and B are information

03. Which of the following lists the modern storage media in the order of increasing capacity?

1.CD, DVD, Hard disk
2. DVD, CD, Hard disk
3. DVD, Hard disk, CD
4. Hard disk, CD, DVD

04. Which of the following is a volatile memory?

1. Cache memory
2. Flash drive
3. Hard disk
4. Read only memory

05. In CPU, "……A……..performs arithmetic and operations and …..B… ..directs operation of the processor".

A and B are respectively.

1. ALU and CU
2. CU and ALU
3. ALU and memory
4. Memory and CU

06. Which of the following is optical storage device?

1. DVD
2. Flash drive
3. Hard disk
4. Floppy disk

07. Which of the following is not a characteristic of valuable information?

1. Accuracy
2. Reliability
3. Precise
4. Expensive

08. Binary equivalent of 19_{10} is.

1. 10011
2. 10101
3. 10001
4. 10100

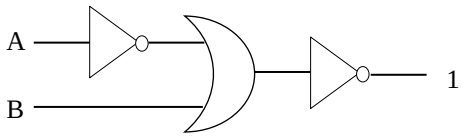
09. 0.5 GB =

1. 512 KB
2. 2^9 KB
3. 500 MB
4. 2^9 MB

10. $9A_{16}$ =

1. 10101010 2. 10011010 3. 11001100 4. 11100011

11. If the output of logic circuit in the following figure is 1, what should be the value of A and B, respectively?

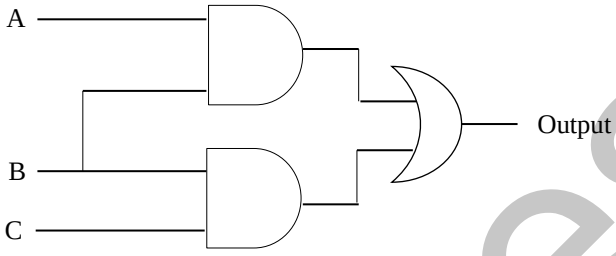


1. 0, 0 2. 0, 1 3. 1, 0 4. 1, 1

12. Valid BCD (Binary Coded Decimal) is.

1. 0011 2. 1111 3. 1110 4. 1010

13. What is the output of the following logic circuit?



1. $AB + C$ 2. $B(A + C)$ 3. $A(B + C)$ 4. $AC + B$

14. Consider the followings.

A – Creating files and folders.

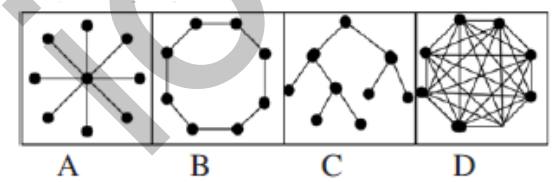
B – Managing memory among processes.

C – Acting as an interface between user and hardware.

Which of the above is/ are correct regarding operating system?

1. A only 2. B only 3. A, B only 4. A, B, C all

15. Which of the following icon represents tree topology in a computer network?



1. A 2. B 3. C 4. D

16. Consider the followings.

A – CPU B – Main memory C – CD-Writer

Which of the above can be considered as essential component(s) of a computer system?

1. A only 2. B only 3. A, B only 4. A, B, C all

17. Consider the following statements regarding word processing software.
A – It allows inserting an image in a document.
B – It allows using hyperlink in a document.
C – It allows editing text already typed.
Which of the above is/are correct?
1. A only 2. C only 3. A, B only 4. A, B, C all

18. The clock rate of a microprocessor is measured in.
1. GB 2. bps 3. MHz 4. bits

19. In a word processing software, what is the icon that can be used to do superscript in a document?

1.  2.  3.  4. 

20. In a word processing software, the shortcut keys used for bold, italic and underline are respectively.
1. Ctrl + B, Ctrl + C , Ctrl + I 2. Ctrl + B, Ctrl + U, Ctrl + I
3. Ctrl + B, Ctrl + C , Ctrl + U 4. Ctrl + B, Ctrl + I , Ctrl + U

21. Consider the followings.
A – Spelling checker B – Macros C – Video editing
Which of the above is/are the component(s) of word processing software?
1. A only 2. B only 3. A, B only 4. A, C only

22. Which of the following is **incorrect** regarding table used in a word processing software?
1. A table can be deleted. 2. A table cell can be re-sized.
3. A column and row can be merged. 4. Contents of a table cannot be formatted.

23. The output of $NOT\ (NOT\ A)$ is equivalent to.
1. A 2. $NOT\ A$ 3. 1 4. 0

24. Which of the following may act as both input and output device?
1. Keyboard 2. Mouse 3. DVD-Writer 4. Scanner

25. The two  icons in a word processing software are used to.

1. Decrease or increase the font size of a paragraph
2. Decrease or increase the indent level of a paragraph
3. Decrease or increase the line spacing of a paragraph
4. None of the above

26. The NAND gate output will be low if the two inputs are.
1. 0, 0 2.0, 1 3. 1, 0 4. 1, 1

27. Consider the following logical expression A, B and C.

A – NOT (20>25) B – (20>50) OR (34<=56) C – (10>2) AND (23<45)

Which of the following represents the correct results of A, B and C respectively?

1. True, False, True
2. True, True, False
3. False, True, True
4. True, True, True

28. If the character 'D' is represented as 1000100_2 in ASCII code, what is the equivalent ASCII code for character 'B'?

1. 1000001
2. 1000010
3. 1010101
4. 1000111

29. Which of the following can be considered to classify computers as analog and digital?

1. Speed
2. Technology
3. Physical size
4. Price

30. Consider the followings.

A – Capacity of hard disk
B – Speed of microprocessor
C – Capacity of memory

Which of the above could be considered when you purchasing a computer?

1. A only
2. A, C only
3. B, C only
4. A, B, C all

31. Which of the following is an unguided medium?

1. STP
2. Microwave
3. UTP
4. Optical fiber

32. The main reason for using of UPS (Uninterruptible Power Supply) with computer system is.

1. Protecting computer from lightning.
2. Providing backup power for computer if main power is disconnected.
3. Protecting computer from electricity.
4. Providing additional power for computer.

33. Which of the following is **incorrect** about simplex mode communication?

1. One-way communication is possible.
2. Typical computer keyboard is an example for simplex mode communication.
3. Two-way communication is possible.
4. Radio broadcasting is an example for simplex mode communication.

34. Which of the following is a **correct** order of computers based on their size?

1. Minicomputer, Microcomputer, Mainframe computer and Super computer
2. Micro computer, Minicomputer, Mainframe computer and Super computer
3. Super computer, Microcomputer, Minicomputer and Mainframe computer
4. Mainframe computer, Microcomputer, Minicomputer and Super computer

35."……***A***….. modulates digital signal into analog signal".

A can be.

1. Router
2. Hub
3. Switch
4. Modem

36. CPU stands for.

1. Central Processing Unit
2. Compact Processing Unit
3. Co-Processing Unit
4. Central Parallel Unit

37. Consider the following truth table.

A	B	Output
0	0	1
0	1	0
1	0	0
1	1	0

Which of the following gate represents the above mentioned truth table?

1. AND
2. NOT
3. NOR
4. OR

38. "……. Port is used to connect computer monitor with computer".
Which of the following is most suitable to fill the blank shown above?

1. PS/2 port
2. VGA port
3. Parallel port
4. Serial port

39. Which of the following memories stores the most number of bits?

1. 1GB
2. 1024 MB
3. 2048 MB
4. 512 KB

40. The parts of a computer system is/are.

A - Software
B - Hardware
C – Firmware

1. A only
2. A, B only
3. A, C only
4. A, B, C all

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Part - II

Answer first question and other four questions

01.

i. Write down two examples for ***magnetic storage*** devices.

ii. Give two types of computers classifying ***according to purpose***.

iii. Convert 10011_2 into ***octal*** equivalent. Show your computations.

iv. Write down the symbol and its corresponding truth table for ***XNOR*** logic gate.

v. Copy the following table on your answer sheet and match the columns A and B.

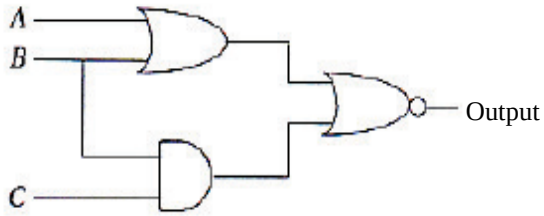
	A	B
(a)	Light pen	ROM
(b)	Printer	Input device
(c)	Non-volatile memory	Computer network
(d)	LAN	Output device

vi. …… is used to store more frequently accessed data temporarily.
Fill in the blank using one of the following terms.
[RAM, ROM, Cache memory, Register, Hard disk]

vii. Use a truth table to prove that $(x + y)(x + z) = x + yz$

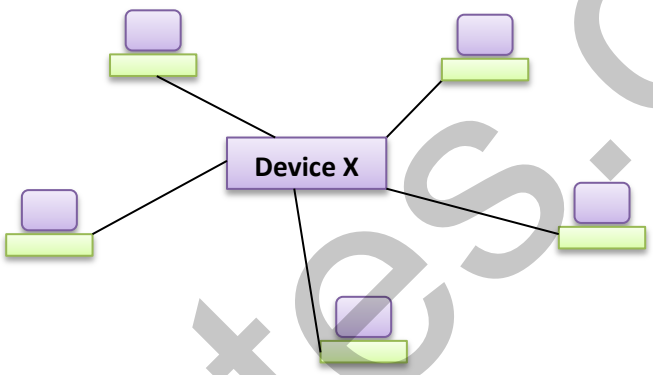
viii. Write down a suitable definition for ***computer hardware*** using an example.

ix. Write down the ***output*** for the following logic circuit. Simplify your answer.



x. Suggest a suitable definition for computer ***network topology***.

02. The following is a computer network set up in a school computer laboratory with 5 computers. All the computers are connected in a central device X and twisted pair cables are used to connect computers.



i. Suggest a name for device X.

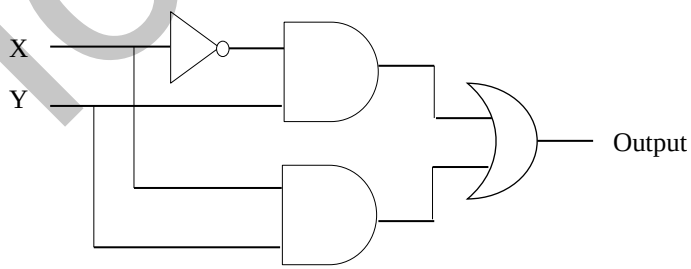
ii. Suggest an appropriate network topology name for this network.

iii. Out of LAN, MAN and WAN, what is the area type of network given in the diagram above?

iv. Write down two advantages of setting up a computer network instead of using these computers as standalone computers.

03.

(a) Consider the following logic circuit diagram.



(i) Write down the output.

(ii) Construct a truth table for the output obtained in (i).

(iii) Show the output you obtained in (i) is equivalent to Y using the truth table.

(b) The following devices are used in a POS terminal of a shop.

A

B

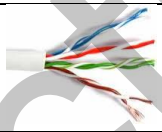
C **D**

(i) Write down the names of the devices given by the labels B, C and D.
(ii) Write down one advantage of using the device C in data capturing.

04.
(a) Fill in the blanks using the terms given below.
[Number of Pixels, Operating system, Trackball, Application software, Linux, Volatile memory, Secondary storage, Hub, Utility software]

i. …….. is an example for operating system.
ii. …….provides user interfaces between hardware and user.
iii. ……. is a computer network connectivity device.
iv. …….is almost similar to mouse.
v. …….. is a kind of software designed to carry out a specific task.
vi. When …….. increase, the quality of image also increases.

(b)Write down the names of the following figures in the Name column.

No.	Figure	Name
i		
ii		
iii		
iv		

05. Consider the following letter prepared in a word processing software.

P

Run Elementary School

Welcome to the first grade! I am looking forward to a very productive and exciting year in classroom. This year each student will be doing a lot of reading, writing, and problem-solving in English. In order to create a positive learning environment, I have developed a classroom discipline plan with specific expectations for all students. Everyone in the classroom will work together as a team to achieve our learning goals with few interruptions.

S

My classroom expectations:

Q

i. Treat others as you would like to be treated.
ii. Expect the best.
iii. Ask before acting.
iv. Offer to help.
v. Remember the signals. (quiet, question, bathroom, water, etc.)

If a student chooses to ignore an expectation:

R

- First Consequence: - Verbal warning.
- Second Consequence: - Thinking time (student will sit apart from group for 5-10 minutes)
- Third Consequence: - Student loses privilege (such as: sitting with group, recess, etc.)
- Severity Clause: - Office visit (if student chooses to fight or break multiple rules)

I look forward to working with your child and your family throughout the school year. My door is always open to you: please do not hesitate to contact me for any reason. It's going to be a great year!

Sincerely,
Ms. Gates.

i. Write down the facility used to create the letter W indicated by label P.
ii. Write down the facilities used and indicated by labels Q and R.
iii. What is the alignment used to create aligning text indicated by label S?
iv. If you send this letter for 500 parents (in different names and addresses), individually, what is the facility to create that you would use, in a word processing software, to create this letter?
v. Write down two advantages of using word processing software, comparing with type writer, in creation of a document.

06. Write down short notes on the followings.

i. Applications of ICT in teaching and learning.
ii. Advantages of computerizing term examination marks of all students in your school.
iii. First Generation and fourth generation computers.

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