Sri Jayawardhanapura Education Zone

Grade 12 **Third Term Test – July 2019**

Information and Communication Technology – I

Two hours

Note: Answer all questions
 In each of the questions 1 to 50, pick one of the alternatives (1),(2),(3),(4),(5) which you consider as correct or most appropriate.
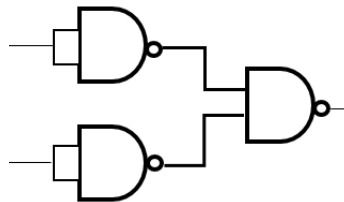
1. What is the correct statement regarding qualitative data?
    (1) Madhura obtained 85 marks for mathematics
    (2) Distance from Kandy to Colombo is 120 km
    (3) The evening sun is red color
    (4) Average lifetime of a Sri Lankan is 67 years
    (5) None of above

2. What is the correct statement about the correct steps of data Processing life cycle?
    (1) Data gathering / Input / Process / Output / Storage
    (2) Storage / Output / Process / Input / Data gathering
    (3) Process / Storage / Output / Data gathering / Input
    (4) Data gathering / Process / Output / Input / Storage
    (5) Data gathering / Process /Input / Storage / Output

3. Consider the following activities / steps
    A. Fetch an instruction from main memory
    B. Encode the instruction
    C. Execute the instruction
    D. Decode the instruction

   Which of the following sequence shows the "Fetch execute Cycle"?
    (1) A,D and C   (4) D,C and C
    (2) A,B,D and C   (5) D,B and A
    (3) A,D,B and C

4. Which of the following devices allow computer to format texts printed on a paper?
    (1) OCR   (4) Barcode reader
    (2) OMR   (5) CCTV
    (3) MICR

5. In a system which enters student's subject marks, you entered 165 as ICT marks by mistake. Then the system generates an error message. The reason for this error message could be,
    (1) The system added a presence check for marks
    (2) The system added a format check for marks
    (3) The system added a range check for marks
    (4) The system added a type check for marks
    (5) The system added a length check for marks

6. What is considered as the first digital computer that used stored programs,
    (1) ENIAC   (5) IBM 704
    (2) EDVAC
    (3) EDSAC
    (4) UNIVAC

7. Consider the following statements.
    A. Unprocessed numbers, images or characters are known as data
    B. Data can exists in the form of multimedia
    C. Data can be categorized as processed and unprocessed
    D. Data can be transferred from one location to the other

Which statement(s) is / are correct?   Answer?

(1) A only   (2) B only   (3) C only   (4) A and D only   (5) D only

8. Which of the following computer is developed using Vacuum tubes?

(1) Abacus   (2) UNIVAC   (3) Pascaline   (4) Apple II   (5) Pentium III

9. Which of the following is correct when considering John von Neumann
    (1) First computer Programmer
    (2) Introduced Stored Programming Concept
    (3) Introduced Adding Machine
    (4) Introduced first computer
    (5) Father of the Computer.

10. Which of the following is true considering Multi – core processors?
    A. Able to execute parts of a single program at the same time.
    B. Allow parallel processing.
    C. Computer have single processing unit and it execute one instruction at a time
    D. Able to gain maximum performance from a single computer system

(1)   A,C and D   (2) B,C and D   (3) A,B ශ and D   (4) A,B and C   (5) A,B,C and D

11. Which of the followings is not considered as a Read Only Memory
    (1) PPROM   (4) PROM
    (2) FLASH ROM   (5) EEPROM
    (3) EPROM

12. What is the relevant order of computer memories, considering the speed and cost per bit
    (1) Optical disk, Cache Memory ,Magnetic disk, Main memory, Registers
    (2) Optical disk, Magnetic disk, Cache Memory, Main memory, Registers
    (3) Registers, Cache Memory, Main memory, Optical disk, Magnetic tape
    (4) Registers, Cache Memory, Main memory, Magnetic disk ,Optical disk
    (5) Registers , Magnetic disk ,Main memory, Cache Memory ,Optical disk

13. Which of the following statement is correct
    (1) Plagiarism is copying, distributing and using software illegally.
    (2) Stealing sensitive information like user name and password is called Plagiarism.
    (3) Phishing is copying, distributing and using software without permission.
    (4) Plagiarism is the stealing of someone else's thoughts, ideas, expressions or works and the representing them
        as one's own original work.
    (5) Plagiarism act for protecting the rights of those who create original work.

14. Which of the followings decode the fetched instructions
    - (1) Registers
    - (2) Main Memory
    - (3) Control Unit
    - (4) Program counter
    - (5) Arithmetic and Logical Unit
15. What are the decimal numbers equivalent to the below binary, octal and hexadecimal numbers respectively?
    11010101_2, 77_8, 889_{16}
    - (1) 213, 2185, 63
    - (2) 2185, 213, 63
    - (3) 2188, 212, 62
    - (4) 213, 63, 2185
    - (5) 212, 62, 2085

16. What is the value for 10101011_2 AND 11010101_2
    - (1) 01111110_2
    - (2) 10101010_2
    - (3) 00101010_2
    - (4) 11010101_2
    - (5) 10000001_2
17. What is the 2's compliment of -25_{10} and 15_{10} respectively?
    - (1) 11100111, 00001111
    - (2) 00011000, 11110000
    - (3) 11000, 1111
    - (4) 11100, 1111
    - (5) 1111, 11000
18. What is the hexadecimal value of the 0.25_{10}?
    - (1) 0.10
    - (2) 0.20
    - (3) 0.4
    - (4) 0.5
    - (5) 0.54
19. How to represent 62_{10} using BCD code.
    - (1) 110010
    - (2) 01100010
    - (3) 0000011000000010
    - (4) 00001100000010
    - (5) None of the above
20. What is the value of -74 according to the signed magnitude representation?
    - (1) 01001010
    - (2) 11001010
    - (3) 1001010
    - (4) 0110101
    - (5) 0110110
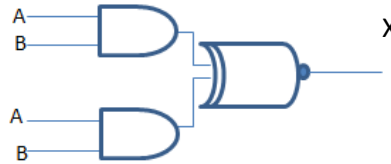21. Which is the equivalent for the following universal gate?

    - (1) NAND
    - (2) NOR
    - (3) OR
    - (4) AND
    - (5) NOT

22. $\overline{(\overline{AB.C}).(\overline{AB+C})}$ Simplify the Boolean expression

(1) 0   (2) $\overline{AB}$ (3) AB   (4) AB+C   (5) 1

23. What is the correct Boolean expression for "X"?
   (1) $(A + B) \odot (A + B)$
   (2) $\overline{(A.B) \oplus (A.B)}$
   (3) $(A + B).(A + B)$
   (4) $(A.B) + (A.B)$
   (5) $\overline{(A + B) \oplus (A + B)}$

24. If A, B and C are the inputs of a full adder then the carry is given by _____
   (1) A AND B OR (A OR B) AND C
   (2) A OR B OR (A AND B) C
   (3) (A AND B) OR (A AND B)C
   (4) A XOR B XOR (A XOR B) AND C
   (5) None of the above

25. A switching function $f(A,B,C,D) = A'B'CD + A'BC'D + A'BCD + A'B'C'D + A'BCD'$
   (1) $\sum(1,3,5,7,9)$ (4) $\sum(5,7,9,11,13)$
   (2) $\sum(3,5,7,1,6)$ (5) $\sum(3,9,11,13)$
   (3) $\sum(3,5,9,11,13)$

26. Suppose you have the following IP address 193.18.5.153/29 .what are the number of bits needed to identify the network, and the number of bits needed to identify the host
   (1) 29 bits and 3 bits   (4) 4 bits and 28 bits
   (2) 5 bits and 29 bits   (5) 5 bits and 29 bits
   (3) 28 bits and 4 bits

27. In a communication network ,when a message arrives at its destination ,in order to deliver it to the correct application program running at the application layer, which of the following address must be consulted
   (1) MAC Address   (4) DNS Address
   (2) IP Address   (5) Application Address
   (3) Port Address

28. Which of the followings is correct about TCP?
        A. Reliable Data Transmission.
        B. Connection Oriented
        C. Guaranteed Delivery
   (1) A only.   (4) A and B only
   (2) B only   (5) All A , B and C
   (3) C only

29. Which one is most appropriate about the task of DNS?
   (1) Translating IP address into MAC address.
   (2) Translating Domain name in to IP address
   (3) If the IP address is known, it is used to find the MAC address

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(4) If the MAC address is known, it is used to find the IP address

(5) None of the above.

30. Which of the followings is correct regarding the MAC address?
   (1) Every device connected to the network has unique MAC address
   (2) Every host connected to the network has unique MAC address
   (3) Every network interface has unique MAC address
   (4) It is assigned for a device at the time of installation
   (5) It is used for routing

31. Which of the followings is correct when the network address is 198.100.10.0 and subnet mask is 255.255.255.192?
   (1) Address belongs to Class B
   (2) Has six subnets
   (3) Has 62 usable host addresses
   (4) All of the above are true
   (5) None of the above are true

32. It is needed to design a network with 3 subnets. 200.175.14.0. is assigned to that network. What is the most suitable subnet mask
   (1) 255.255.255.0   (4) 255.255.255.254
   (2) 255.255.255.224   (5) 255.255.255.252
   (3) 255.255.255.192

33.   Which of the followings is considered as Transport protocol data unit in TCP/IP computer network
   (1) Packets   (4) Window
   (2) Frames   (5) Massage
   (3) Segments

34. Which protocol is used to access the remote computer through a network?

   (1) FTP   (2) HTTP   (3) Telnet   (4) DHCP   (5) UDP

35. Which Server computer assigns IP addresses dynamically when a computer communicate through the internet
   (1) Web server   (4) Proxy server
   (2) Mail server   (5) None of the above
   (3) DHCP server

36. The main goal of a time-sharing operating system is,
   (1) Hold multiple tasks in memory at the same time.
   (2) Minimization of response time
   (3) Process the task in a memory according to a plan
   (4) Implementation of several programs simultaneously at the same time
   (5) Maximize usage of the processor

37. It is not a function of an Operating system,
   (1) Computer memory management
   (2) Access control for storage devices.
   (3) When a problem occurs in a hardware event, the message is displayed to the user.
   (4) When a data entry error occurs, it prompt to the user.
   (5) Handling devices.

38. Running process terminates due to the fulfillment of the following condition?
    (1) The time has passed
    (2) Due to the lack of input
    (3) Input / output interruptions
    (4) Due to complete the   processes
    (5) Another a primary task needed to run.

39. Which statement of the following is better explained by the result of the "fragmentation" of the hard disk?
    (1) Some data is deleted from the hard disk.
    (2) Missing files on the hard disk.
    (3) The access to the hard disk is completely lost.
    (4) The access speed of the hard disk is slow down
    (5) The number of indispensable areas is decreasing.

40. Separating logic memory into equal parts in computer memory management is known as …………………….and Physical memory allocation to equal parts is also known as ... …..
    (1) Mapping & Framing
    (2) Paging & Framing
    (3) Paging & Mapping
    (4) Framing & Mapping
    (5) Framing & Paging

41. Temporarily storing the remaining data when the device is slowed down when sending large amounts of data to a terminal device such as the printer is,
    (1) Multi Programming
    (2) Spool
    (3) Virtual Programming
    (4) multi Process
    (5) Caching

42. What is the Correct statements about process and program
    (1) A combination of several programs is a process.
    (2) There is no interconnection between a program and a process
    (3) A running program is a process.
    (4) A program is another name for process.
    (5) Always a program and action is identical.

43. Which of the following statement/s are **true** of a system?
    A. A set of components that interacts together to achieve a specific task
    B. Some systems may consist of subsystems.
    C. The main elements of a system are input, process and output.
    (1) A only.
    (2) B only.
    (3) A and B Only
    (4) A and C only
    (5) All A, B and.C

44. Which of the following statement/s are **incorrect** about a management information system?
    A. These systems operate at the operational level of a business.
    B. Summarized Reports, Analytical Reports, Chapters, etc are outputs of this system.
    C. Information obtained from the outputs (results) is used for decision making purposes.

D. Increases the efficiency of the operational level.

(1) A and B only   (4) A and D only

(2) B and C only   (5) B and D only

(3) C and D Only

45. What is **not** an **advantage** of a computerized information system?
    (1) The ability to store more data in less space.
    (2) A high cost is needed to start a computerized information system.
    (3) The accuracy of high.
    (4) The ability to generate information in a lesser time, even if the number of data has increased.
    (5) The ability to run an information system at a lower cost than a manual information system.

46. What is the **most appropriate** software design model (model), if they said that you need to end the project very soon and have no problem with the cost involved?

    (1) Spiral Model
    (2) Unified Development Model
    (3) Waterfall model
    (4) Rapid Application Development Model
    (5) None of the above.

47. Which of the following are **true** about feasibility studies?
    A. The economic feasibility study analyzes the overall cost and benefits of the proposed system.
    B. Technical feasibility study for system developers' technical knowledge, the convenience of getting the hardware etc.
    C. Determining whether it is appropriate to develop the proposed system is done at the end of the feasibility study.

    (1) A only.   (4) A and C only

    (2) B only.   (5) All A, B and.C

    (3) A and B Only

48. Which of the following shows the **correct order** of the steps in the Systems Development Life cycle?
    (1) System Analysis, System Designing, System Development, System Testing, System Implementation, Problem Definition, System Maintenance
    (2) Problem Definition, system analysis, system Designing, system development, System Testing, system Implementation, system maintenance
    (3) Problem Definition, system development, system testing, system Implementation, system maintenance, system analysis, system Designing
    (4) System Designing, problem Definition, system analysis, system development, system testing, system Implementation, system maintenance
    (5) Problem Definition, system analysis, system Designing, system testing, system development, system Implementation, system maintenance

49. The Test Cases are used to check whether the system gets the relevant outputs with the sample data, before system implementation. In which stage of the SDLC the Test Cases are created?

    (1) System Analysis   (4) System testing

    (2) System Designing   (5) System Implementation

    (3) System development

50. In an Employee payroll software, employee's attendance was entered into the program using the keyboard, after two years of the installation a fingerprint machine is added to the system instead of keyboard according to the user's requirement. In which step of SDLC includes these types of features?

(1) System Analysis

(2) System Designing

(3) System development

(4) System testing

(5) System Maintenance