


13th July 2023

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|---|--------------------------------------|--|--|--|--|-----------|----------|----------|
|  | AVE MARIA CONVENT NEGOMBO | | | | ICT | 20 | E | I |
| | Term Evaluation June 2023 | | | | Grade 13 | | | |
| | | | | | 2 hours | | | |
| Information & Communication Technology I | | | | | Admission No: Name: Class: | | | |

Instructions:

Answer all the questions. (50 x 2 = 100 marks)

In each of the questions 1-50, pick one of the alternative form (1), (2), (3), (4), (5) which is correct or most appropriate and underline it.

1. Study the following expressions
 - A. There are three busses called; Data bus, Address Bus and control bus to establish the connection between CPU and peripheral devices
 - B. The clock speed of the processor is measured in the units of megahertz(MHz) or gigahertz(GHz)
 - C. Conductor technology is used for constructing Chips

Which can be considered as acceptable statements.

(i) A only (ii) B only (iii) A and B only (iv) B and C only (v) A, B and C only
2. Enforcing the validity of data by including same type data in a one particular field is known as What is the most suitable word for the blank?

(i) Digit check (ii) Range check (iii) Presence Check (iv) Type Check (v) Sign check
3. Which of the following technologies is/are used for Processor Cache memory?

(i) SRAM (ii) DRAM (iii) EEPROM (iv) RDRAM (v) DDR SDRAM
4. Select the correct statement/ statements regarding the Von Neumann computer architecture
 - (A) The major weakness of it, is the delay of fetching instructions from memory
 - (B) The architecture was made as the computer is operated with a stored program
 - (C) By this architecture the computer system was separated for main four subsystems

(i) Only A (ii) Only C (iii) Only A and C (iv) Only B and C (v) A, B, C all
5. Select the true statement/ statements regarding SRAM and DRAM
 - (A) The electricity used form from memory storage of SRAM is comparatively lower
 - (B) The memory density of DRAM is not as same as SRAM
 - (C) Memory refreshing should be done in SRAM
 - (D) The cost of SRAM is higher than DRAM

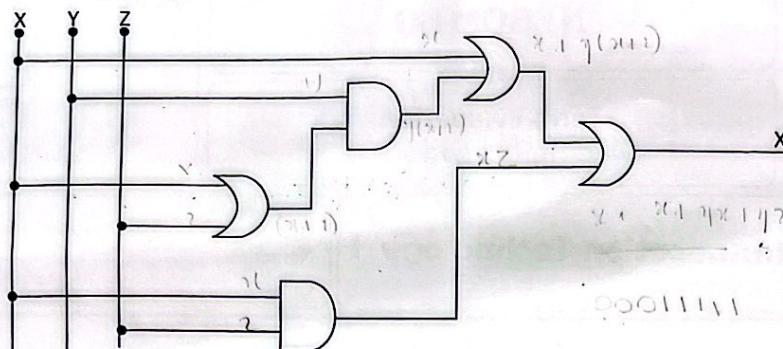
(i) Only A (ii) Only D (iii) Only and C (iv) Only A and D (v) Only A, B, D
6. Equal value for $423_8 + 111011_2$

(i) 334_{10} (ii) 101100101_2 (iii) 444_{16} (iv) 160_{16} (v) 1613_8
7. Melan has a video file of 10189 bits. What should be the minimum capacity of the portable flash drive to store the file?

(i) 1MB (ii) 1KB (iii) 256bite (iv) 1GB (v) 10.25MB
8. What is the answer when the sum of the decimal numbers 12 and 17 is represented in Binary Coded Decimal(BCD) format?

(i) 00010000 (ii) 10010000 (iii) 00101001 (iv) 10010111 (v) 01100001
9. What are the input values of the Boolean variables A and B in the expression $(AB)(A'B)+(A'B')$ when the output value is 1
 - (i) When the value A is 0 and the value B is 1
 - (ii) When the value A is 1 and the value B is 1
 - (iii) None of the above is correct
 - (iv) When the value A is 1 and the value B is 0
 - (v) When the value A is 0 and the value B is 0

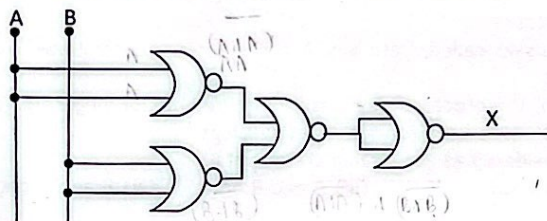
10. Study the following logic gate circuit



Select the Boolean expression, which is equal to the output of this circuit

- (i) $XY + YZ + XZ$ (ii) $X + YZ$ (iii) $X(Y + Z) + XY$ (iv) $X + Y(X + Z)$ (v) $X + YZ + XZ$

11. What is the logic gate that can be used to represent the given logic circuit, which uses only four NOR gates.



- (i) XOR (ii) AND (iii) NAND (iv) XNOR (v) OR

12. The answer obtained by simplifying $\overline{X + \overline{Y}} + \overline{X}$, will be

- (i) XY (ii) 1 (iii) 0 (iv) X (v) \overline{X}

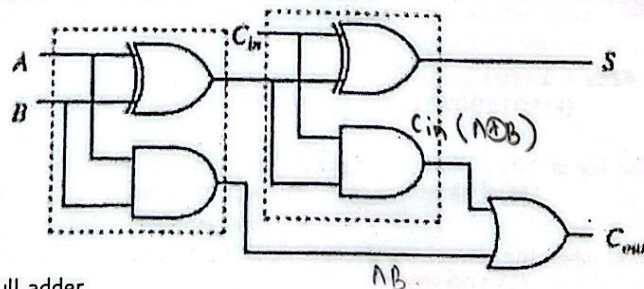
13. Select the simplified expression of the Boolean expression represented in the Karnaugh map

| AB | 00 | 01 | 11 | 10 |
|----|----|----|----|----|
| CD | | | | |
| 00 | 1 | 0 | 0 | 1 |
| 01 | 1 | 1 | 0 | 0 |
| 11 | 1 | 1 | 0 | 0 |
| 10 | 1 | 0 | 0 | 1 |

- (i) $\overline{A}\overline{B} + \overline{A}D + \overline{B}\overline{D}$ (ii) $\overline{B}\overline{D} + \overline{B}C\overline{D} + \overline{B}C$ (iii) $\overline{B}\overline{D} + \overline{A}C\overline{D} + \overline{A}D$ (iv) $\overline{B}\overline{D} + \overline{A}D$ (v) $\overline{A}D + \overline{A}\overline{B}$

14. Consider the following logic diagram.

Which of the following statements is/are correct about the above circuit?



- A. It implements a full adder
 B. The logic function of S can be stated as $S = A \oplus B \oplus C_{in}$
 C. The logic function of C_{out} can be stated as $C_{out} = AB + BC_{in} + AC_{in}$
 D. Part of the circuit within the area surrounded by the dotted line implements a half adder
- (i) A and D only (ii) A, B and D only (iii) A and B only (iv) A, B and C only (v) All A, B and C

15. Concurrent execution of several processes of a running program is called..... andis the required mechanism for executing several processes by a single processor
 (i) Multi-Threading , Scheduling (iii) Multi-programming, Scheduling (v) Real Time , Multi Tasking
 (ii) Multi level , Multi tasking (iv) Multi user , Multiplexing
16. A process is staying in the main memory in waiting state. When it is needed to allocate memory space to a process, which requires immediate execution.
 (i) The state of swapped out and blocked is assigned to the previous process
 (ii) The state of swapped out and ready is assigned to the previous process
 (iii) The state of swapped out and waiting is assigned to the previous process
 (iv) The state of swapped out and deleted is assigned to the previous process
 (v) The state of swapped out and stopped is assigned to the previous process
17. The processor time required for finishing a process is named as.....
 (i) Arrival Time (ii) Turnaround time (iii) Waiting time (iv) Response time (v) Burst Time
18. Where does the memory references of the next instructions to be executed are contained in a currently running process. .
 (i) CPU register (iii) Program Counter(PC) (v) Context switching
 (ii) Page Table (iv) Process Control Block (PCB)
19. The block size of a disk is 6KB. A portion of its File Allocation Table (FAT) at a particular time is shown below. The portion shown indicates the block of the test.txt file as well.
- | FAT | |
|-----|-----|
| 200 | 202 |
| 201 | 200 |
| 202 | -1 |
| 203 | 201 |
| 204 | 205 |
- Note : I - The last block of a file is indicated by -1
 II - The directory entry of a file contains the block number of the first block of the file.
- Which of the following gives the directory entry for the text.txt file and the disk space allocated for the text.txt file respectively?
 (i) 200, 12KB (ii) 203, 20 KB (iii) 200, 20 KB (iv) 203, 16 KB (v) 203, 24 KB
20. What is the correct statements given from the following about the protocols used when email message are exchange between two computer?
 (i) Email host uses SMTP to receive emails form email server
 (ii) The computer that sends the message uses POP to direct the message to the email server
 (iii) Here POP and SMTP do a similar task
 (iv) SMTP is used to send a message from one email server to another email server
 (v) When exchanging message IMAP and SMTP do a similar task.
21. What is the suitable subnet mask to construct 5 subnets and to establish at least 16 hosts in a subnet?
 (i) 255.255.255.252 (ii) 255.255.255.192 (iii) 255.255.255.248 (iv) 255.255.255.224 (v) 255.255.255.240
22. Internet Control Message Protocol (ICMP) is a protocol of theLayer and changing data into data models, data encryption and data decryption occur in thelayer of the OSI seven layer reference model.
 (i) Presentation Layer, Session Layer (iii) Application Layer, Transport Layer (v) Session Layer, Application Layer
 (ii) Transport Layer, Physical Layer (iv) Network Layer, Presentation Layer
23. Select the correct statement/ statements from followings
 A. Multiplexing is a method of transmitting multiple signals together using a single medium
 B. Frequency Division Multiplexing is widely used in digital signal transmission
 C. Time Division Multiplexing is mostly used in Analog signal transmission
 (i) Only A (ii) Only B (iii) Only And B (iv) Only B and C (v) A, B, C all
24. The command used to verify that a device connected to a network can communicate with another device of the network without any issue is And the command that used to obtain DNS, DHCP details and IP address in a computer network is
 (i) Tracert command, ipconfig /all command (iv) telnet command, ping command
 (ii) Ping command , ipconfig /all command (v) Ipconfig /all command, ping command
 (iii) cmd command, tracert command

25. What is incorrect statement about ICMP protocol
- (i) ICMP is used to transfer error and control data in TCP/IP
 - (ii) Tracert command is created by using ICMP protocol
 - (iii) Ping command is created by using ICMP protocol
 - (iv) ICMP operates in Application Layer
 - (v) ICMP operates in Internet Layer of TCP/IP
26. Two Ethernets can be interconnected by the following device, which operates on the data link layer.
- (i) Hub
 - (ii) Switch
 - (iii) Router
 - (iv) Layer 7 Firewall
 - (v) Gateway
27. The correct order of the corresponding OSI layers for Router, Bridge, Hub and SMTP is
- (i) Data Link, Presentation, Physical, Transport
 - (ii) Physical, Data Link, Session, Transport
 - (iii) Presentation, Network, Transport, Application
 - (iv) Network, Data Link, Application, Physical
 - (v) Network, Data Link, Physical, Application
28. Study following facts mentioned
- The tester inputs essential data and tests the accuracy of the outputs
 - If the results obtained are different from the results expected, such errors are reported
- These tasks are done in,
- (i) Unit Testing
 - (ii) Black box testing
 - (iii) White box testing
 - (iv) System Testing
 - (v) Acceptance Testing
29. Select true statement
- ✓(i) Implementation of both of the old system and new system is called Direct Implementation.
 - (ii) Implementation of the system only in several branches and testing is called phased implementation
 - ✓(iii) Terminating the old system and implementation of the new system is done in Parallel implementation
 - (iv) Implementation of newly developed system only in selected branches of a department is called pilot implementation
 - ✓(v) Implementation of whole system of the old system in the newly developed system is called a phased Implementation
30. What is a major functional requirement of an online train seats reservation system?
- (i) User shall reserve a train seat online
 - (ii) User shall make a reservation over the phone
 - (iii) User shall get the information on interest places at the destination
 - (iv) User shall check the train time table
 - (v) User shall only pay online
31. There are two statements on launching a new system are given below
- Statement 1 : Both old and new systems will function simultaneously
- Statement 2 : New system will deployed at a one department of the organization and observe the functionality of new system
- Which answer represents the corresponding deployment methods of above statements respectively?
- ✓(i) Direct and Parallel deployment
 - (ii) Pilot and Parallel deployment
 - (iii) Parallel and pilot deployment
 - (iv) Parallel and stepwise deployment
 - (v) Parallel and direct deployment
32. What is the correct statement regarding Compiler and Interpreter?
- (i) The compiler translates the program in statement by statement into machine instructions during the program execution.
 - ✓(ii) The interpreter translates the program in statement by statement during the execution of program
 - ✓(iii) The Interpreter translates again the codes translated by the compiler for executing the program.
 - (iv) The interpreter translates all the statements into machine language instructions at once before executing the program
 - (v) The compiler translates the program in statement by statement into machine language instructions before the execution of the program.
33. Software process model is based on risk driven and iterative fashion?
- (i) Spiral
 - (ii) Rapid application model
 - (iii) Waterfall model
 - (iv) Object oriented model
 - (v) Prototype model
34. Consider the following statement regarding an Automated Teller Machine (ATM) of a bank :
- "System shall dispense cash in less than 10 seconds"
- (i) This is an essential non-functional requirement
 - (ii) This is an essential functional requirement
 - (iii) This is not a requirement of the system
 - (iv) This is a nice to have non-functional requirement
 - (v) This is a nice to have functional requirement
35. The output of the following python statement is
- ```
z = [34, 16, 16, 7, 5] [::-2]
print(z)
```
- (i) [34, 16, 5]
  - (ii) [16, 7]
  - (iii) 5, 16, 34
  - (iv) [5, 16, 34]
  - (v) [7,16]



36. Study the python statement given below

`x = ['Kamal', 'Nimal', 'Sunil', 'Anil', 'Ranil']`

What is the Python code that can be used to insert the word 'Wimal' into this list

- (i) Insert Wimal' to x. List (iii) list. x.Insert ('Wimal') (v) x.append('wimal')  
 (ii) List(x.append)= 'Wimal' (iv) List. append (x)= 'Wimal'

37. Following is a python program which can be used to input texts into a text file. But there is an error of the Python statement underlined. Select the answer which includes the debugged Python statement.

```
F=open("H:namelist.txt", "a")
Data=input("Enter Names:")
while (data!=""):
 f.write(data+"\n")
 data=input("Enter Names:")
f.close()
```

- (i) f.input(data+"\n") (iii) f=input(data+"\n") (v) f=write(data+"\n")  
 (ii) f.write(data+"\n") (iv) f.insert(data+"/n")

38. Which one carries correct Python syntax?

- (i) If not (age>0 and age <=120):  
     print ("invalid age")  
 (ii) If !(age >0 and age <=120)  
     Print("invalid age")  
 (iii) If I (age>0) and I (age <=120)  
     Print ("invalid age")  
 (iv) If not(age>0 & age <=120):  
     Print("invalid age")  
 (v) If !(age>0 && age <=120):  
     Print("invalid age")

39. Consider the following Python programs prepared to get the total of all the odd numbers less than 10.

| A                            | B                            | C                                  | D                                    |
|------------------------------|------------------------------|------------------------------------|--------------------------------------|
| <code>total = 0</code>       | <code>total=0</code>         | <code>total=0</code>               | <code>total=0</code>                 |
| <code>x = 1</code>           | <code>x=1</code>             | <code>for x in (1,3,5,7,9):</code> | <code>for x in range(1,10,2):</code> |
| <code>while(x&lt;10):</code> | <code>while(x&lt;10):</code> | <code>total+=x</code>              | <code>total+=x</code>                |
| <code>total +=x</code>       | <code>total+=x</code>        | <code>print(total)</code>          | <code>print(total)</code>            |
| <code>x+=2</code>            | <code>x+=2</code>            |                                    |                                      |
| <code>print(total)</code>    | <code>print (total)</code>   |                                    |                                      |

Which of the above programs is correct?

- (i) A and B only (ii) B and C only (iii) A, C and D only (iv) B, C and D only (v) All

40. Consider the pseudo code given below

```
X=10
While X>1
 X=X-1
End while
Print x
```

What is equivalence pseudo code for above pseudo code from the below given answers?

- (i) for x=10 to 1 step -1  
     next x  
     print x  
 (ii) for x =10 to 1 step -1  
     print x  
     next x  
 (iii) for x = 1 to 1 step +1  
     next x  
     print x  
 (iv) for x =10 to 1 step +1  
     x=x-1  
     next x  
     print x  
 (v) for x =10 to 1 step -1  
     x = x-1  
     print x  
     next x

41. When these python statements are executed, the result will be,

```
d = (25, "Sri Lanka", 65.5, 40)
D[1]="India"
```

- (i) "India" is inserted in the beginning of the tuple (iv) India is entered after 25  
 (ii) No change occurs in the tuple (v) Display an error message  
 (iii) "India" is inserted replacing "Sri Lanka"

42. Study the given python code

```
for i in range (1,10):
 if i % 3==0 or i % 4==0:
 continue
 print(i, end =",")
```

The output of this python code is

- (i) 1, 2, 5, 7      (ii) 1, 2, 5, 7, 10      (iii) {1,3,5,7}      (iv) 3,4,6,8,9      (v) 2,5,7

43. Which of the following code will create the following lists on the web browser?

1. Boys
  - I. MSC
  - II. SMC
  - III. JVC
2. Girls
  - c. AMC
  - d. HFC
  - e. SBC

- (i) `<ol>`  
`<li> Boys</li>`  
`<ol start="1" type="I"> <li>MSC </li> <li> SMC </li> <li>JVC</li> </ol>`  
`<li> Girls</li>`  
`<ol start="3" type="a"> <li>AMC</li> <li> HFC </li> <li>SBC</li> </ol>`  
`</ol>`
- ✓ (ii) `<ol>`  
`<li> Boys</li>`  
`<ol start="1" type="I"> <li>MSC </li> <li> SMC </li> <li>JVC</li> </ol>`  
`<li> Girls</li>`  
`<ol start="1" type="a"> <li>AMC </li> <li> HFC </li> <li>SBC</li> </ol>`  
`</ol>`
- × (iii) `<ol>`  
`<li> Boys</li>`  
`<ol start="1" type="I"> <li>MSC </li> <li> SMC</li> <li>JVC</li> </ol>`  
`<li> Girls</li>`  
`<ol start="3" type="c"> <li>AMC</li> <li> HFC </li> <li>SBC</li> </ol>`  
`</ol>`
- × (iv) `<ol>`  
`<li> Boys</li>`  
`<ol start="1" type="a"> <li>MSC </li> <li> SMC</li> <li>JVC</li> </ol>`  
`<li> Girls</li>`  
`<ol start="3" type="a"> <li>AMC </li> <li> HFC </li> <li>SBC</li> </ol>`  
`</ol>`
- + (v) `<ol>`  
`<li> Boys</li>`  
`<ol start="a" type="I"> <li>MSC </li> <li> SMC </li> <li>JVC</li> </ol>`  
`<li> Girls</li>`  
`<ol start="3" type="a"> <li>AMC </li> <li> HFC </li> <li>SBC</li> </ol>`  
`</ol>`

44. What is the output of the following php code segment?

```
$v1=5;
$v2=2;
$v3=8;
Echo ($v3) * $v1--;
Echo ++$v1 + $v3;
Echo $v2;
```

- (i) 40132      (ii) 40142      (iii) 40122      (iv) 32122      (v) error

45. Which of the following figures correctly display the form in the following HTML code?

```
<html>
<head> <title> Learn FORMS</title></head>
<H2> Welcome to ABC College</H2>
<form>
Student Name <input type="text" name="stname" >

Index Number <input type="text" name="IndexNo" >
</form>
<form><input type="radio" name="Gender" value="male" > Male
<input type="radio" name="Gender" value="female"
/> Female</form>
<input type="submit" value="OK">
<input type="Reset" value="Reset">
</body>
</HTML>
```

(I)

**Welcome to ABC College**

Student Name  Index Number

☐ Male  
☐ Female

(II)

**Welcome to ABC College**

Student Name  Index Number

☐ Male ☐ Female

(III)

**Welcome to ABC College**

Student Name  Index Number

☐ Male ☐ Female

(IV)

**Welcome to ABC College**

Student Name   
Index Number

☐ Male ☐ Female

(V)

**Welcome to ABC College**

Student Name   
Index Number

☐ Male  
☐ Female



- Use the following HTML code to answer the question numbers 46 and 47

```
<html>
<head>
<title> ABC Zone </title>
<style>
h1{color:pink}
p{color:orange}
</style>
</head>
<body>
<h1 style="color:blue;" class="h1"> This is a heading </h1>
<p style ="color:red;" id="p"> This is a paragraph </p>
</body>
</html>
```

abcZone.css

```
h1{color : yellow;}
p{color : green;}
```

46. The correct instruction code to insert the CSS file abcZone.css into this web page is,
- `<link href="abcZone" rel="stylesheet" type="text/css"/>`
  - `<link href="abcZone.css" rel="stylesheet" type="text/css"/>`
  - `<link href="abcZone.css" type="text/css"/>`
  - `<link href="stylesheet" rel="abcZone.css" type="text/css"/>`
  - `<href link="stylesheet" rel=" abcZone.css" type="text/css"/>`
47. The method how the sentences "This is a heading" and "This is a paragraph" are display in the web browser after inserting the CSS file abcZone.css is,
- The sentence "this is a heading" is displayed in blue and the sentence "This is a paragraph" is displayed in red
  - The sentence "this is a heading" is displayed in blue and the sentence "This is a paragraph" is displayed in orange
  - The sentence "this is a heading" is displayed in pink and the sentence "This is a paragraph" is displayed in orange
  - The sentence "this is a heading" is displayed in yellow and the sentence "This is a paragraph" is displayed in green
  - The sentence "this is a heading" is displayed in red and the sentence "This is a paragraph" is displayed in blue
48. Examine the expressions mentioned about Reverse Auction
- The seller can sell the product at the highest price
  - Buyer can purchase the product at the highest price
  - Increasing the product price considerably, since competitive process declared among sellers
  - Decreasing the product price considerably, since competitive prices declared among sellers
- What will be correct from the statements?
- Only A
  - Only B
  - Only C
  - Only D
  - Only A and C
49. Government bill payments can be made using online methods nowadays. What is the e-business type related to this service
- G2C - Government to Citizen
  - G2B - Government to Business
  - G2H - Government to Households
  - G2E - Government to Employee
  - G2G - Government to Government
50. Which of the following is True?
- It could be a part of e-business.
  - It consists of front-end and back-end online processes.
  - Any e-commerce application is an e-business application.
  - Pure-click business has the presence only on the Internet.
- A and D only
  - A, B and D only
  - A, C and D only
  - B, C and D only
  - All A, B, C, D





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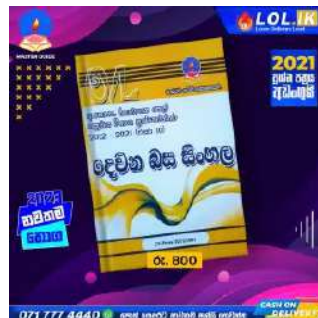
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