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Information and Communication

Grade 13

Third term Evaluation - 2020

Time – 02 hrs

1. A memory device that can be directly accessed by a computer processor

1) Register memory 2) Magnetic strip 3) Flash memory 4) Memory cards 5) None of the above

2. It temporarily stores data and instructions for programs that are currently running on a computer. It also has a limited capacity and the data in it is erased when the computer shuts down or no electricity. "Which memory device does this describe?

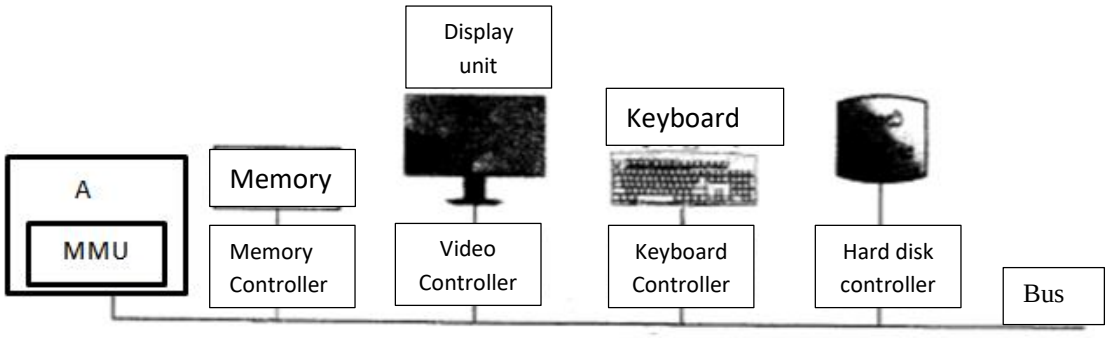
A – Cache memory B- Register memory C- Main memory

1) A only 2) B only 3) C only 4) A B only 5) A, B, C all

3. Which of the following led to the development of very large computers in the early days?

1) Use of Very Large Scale Integrated Circuits 2) Use of Large Scale Integrated Circuits
3) Use of microprocessors 4) Use of transistors 5) Use of vacuum tubes

4. Consider the following diagram showing some hardware component connections on a computer system.



The MMU in 'A' in the diagram above has a collection of registers with memory transition images of the currently running processor. When a virtual address is input to an existing function, it returns the relevant physical address (if any)

The 'A' in the above diagram denotes the

1) Page table 2) Control Unit 3) Central Processing Unit
4) Memory Management Unit (5 L1 cache memory

5.What is the value of X XNOR Y if X = 10101111 and Y = 11001010 ?

1) 10011010 2) 11101111 3) 01100101 4) 10011010 5) 10001011

6. What is the two's complement of decimal-56 ?

1) 11001000 2) 1011 1101 3) 11001110 4) 10110010 5) 1111 1100

7. Which of the following statement is true about one's complement?

A - An extra bit is used to represent the mark

B - There are two positives for zero, positive and negative

C - The most suitable method for representing negative numbers is the complementary method of one

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

8. Consider the below table 1 and table 2 which show some texts.

Table 1

j	**k**	**l**	**m**
91	92	93	94

Table 2

அ	ஆ	இ	ஈ
0B85	0B86	0B87	0B87

The characters in Table 1 and Table 2 above are presented from which of the following character encoding systems?

1) Tables 1 and 2 are both ASCII coded 2) Both Tables 1 and 2 are not Unicode coded.

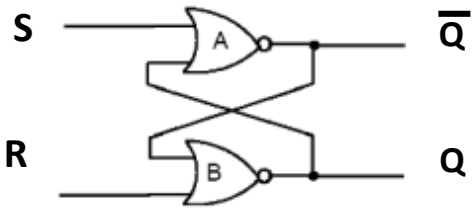
3) Table 1 Unicode codes Table 2 ASCII codes 4) Table 1 EBCDIC or ASCII codes and Table 2 Unicode codes

5) None of the above.

9. Which of the following is the most simplified expression equivalent to $A'BC + AC + ABC$?

1) C(A'+B) 2) C(A' + B') 3) C(A + B) 4) AC + AB 5) A + B

10.



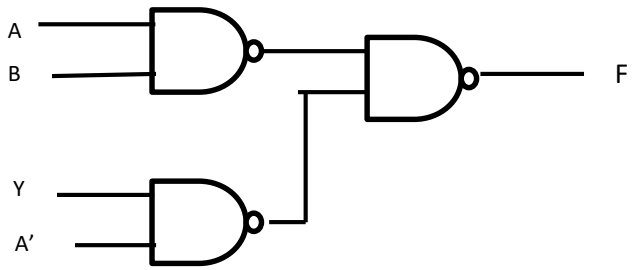
Which of the following statements is true according to the above circuit?

A - The above is a combination circuit B - Above is a sequential circuit

C - The above is an integer

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

11. If the expected output of the above circuit is AB + A'B, what should be the input for Y?



1) Y = A 2) Y = A' 3) Y = B 4) Y = B' 5) Y = 1

12) Which of the following is responsible for memory management, file management and input output management

1) Utility software 2) Application software 3) Operating system 4) Computer system

5) Compiler

13) When a user a computer with multi-core processor what happens to operating system response time and memory management related tasks compared to a computer with a processor respectively?

1) Increases both response time and memory management related tasks.
2) Response time is reduced and memory management related tasks are increased.
3) Response time increases and memory management related tasks decrease
4) Reduces both response time and memory management related tasks
5) There is no difference between the two.

14) Which of the following statements is correct about operating systems?

A - Process is another name for a program
B - Activities in the main memory to bring another function to main memory in an operating system Secondary memory is swapping.
C - The operating system performs the functional exchange between the physical memory and the hard disk.

1) A only 2) B only 3) C only 4) B and C only 5) A, B, C all

15) It is possible to manage limited physical memory space using pages, frames and page tables

1) because of random access memory 2) because of virtual memory 3) Because of cache memory
4) because of registered memory 5) because of memory management unit

16) Which of the following is true regarding compilers?

A - Utility software
B – It converts an entire program written in a high-level language into machine language
C - Compiled codes run faster than code interpreters

1) A only 2) B only 3) C only 4) B and C only 5) A, B, C all

17) Which of the following statement is true regarding data communication?

1) How much data can be communicated in a communication channel is decided by the bandwidth?

2) A gradual decrease in the energy of a wave and then decreasing the frequency in it when travels through an electronic medium is called attenuation

3) Changes in the amplitude of the waves due to induction and capacitance in the transmission medium and different delays at different frequencies are called wave distortion.

4) The change caused by external signals or influences on the main signal required to transmit is called noise.

5) All of the above

18) …… A …… is the technology used to send information by attaching an electromagnetic signal to a high frequency signal, adjusting the frequency, amplitude and phase of the signal to suit the transmitting medium.

The most appropriate term for A in the description above is

1) Encoding 2) Modulation 3) Translation 4) Demodulation 5) Decoding

19) The correct statement / statement regarding the star topology is,

A - All computers and network devices are connected to a centralized network device.

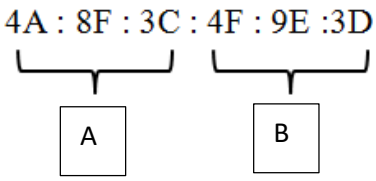
B - All computers and network devices are connected to a single cable.

C - The inactivity of one computer affects the data communication of the entire network.

1) A only 2) B only 3) C only 4) B and C only 5) A, B, C all

20) MAC addresses are unique addresses assigned to the network interface on every communication device.

Which of the following statements is true in respect of the two sections named in the given MAC address?



1) Part A is used to identify the manufacturer of the network interface.
2) Part A is used to identify the network interface as unique.
3) Part B is used to identify the manufacturer of the network interface.
4) Part B is used to identify the network interface as unique.
5) above 1 and 4 are correct

21) You need to create 8 sub-networks with class B . Which of the following subnet mask is suitable for above requirement?

1) 255.255.192.0 2) 255.255.224.0 3) 255.255.128.0
4) 255.255.0.0 5) 255.255.255.224

22) Which of the following phase determines the requirements of a new system during the system development life cycle?

1. System development 2. System testing 3. System analysis 4. System implementation 5. System Review

23) Which of the following is a functional requirement?

A - The customer should be able to check the bank balance at the ATM
B - ATM withdrawals per day is Rs. 60,000
C - It should not allow the ATM user to enter the wrong password more than three times

1) A only 2) B only 3) C only 4) B and C only 5) A, B, C all

24) The following details are given regarding a software project.

A - User requirements change frequently. B - Risk analysis requires trained personnel
C - Costs relatively high.

What is the most suitable software development model for this project?

1) Agile 2) Prototype 3) Rapid Application Development 4) Spiral 5) Waterfall

25. What is the correct SQL expression to use to access the TestDB database?

1) create TestDB; 2) use TestDB; 3) delete TestDB;
4) drop TestDB 5) insert TestDB;

26. Which of the following statements about a relationship in Third Normalization (3NF) is true?

A. It exists in the first Normal Form.
B. Transitional dependencies can be seen in that relationship.
C. It exists in the second Normal Form.

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

27. Which of the following statements about the conceptual database is true?

A. Logically files the elements needed to build a database from a real-world event.
B. Creates Entity Relationship diagrams.
C. Creates tables.

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

28. Consider the following SQL statement.

ALTER TABLE Person ADD COLUMN address VARCHAR(250);

Which of the following is correct regarding these statements?

1) It adds an address attribute as the primary key to the currently created Person table
2) Creates a table named Person and add the address attribute to it.
3) Adds a primary key constraint to the Person table.
4) It adds an attribute called address to the currently created Person table
5) Inserts a data called address to The Person table.

- *Consider the following scenario of vehicles and projects to answer questions 5 and 6.*

There is a unique number and type for a vehicle. One or more vehicles are employed for each project. The project has a unique project number, name and address. One vehicle serves several projects. It records the date and time the vehicle was used for the project.

29. If you draw a relationship diagram for the above case, the correct phrases are:

A. The cardinality of this relationship is one-many.
B. There are descriptive attributes of this relationship.
C. The cardinality of this relationship is many-many.

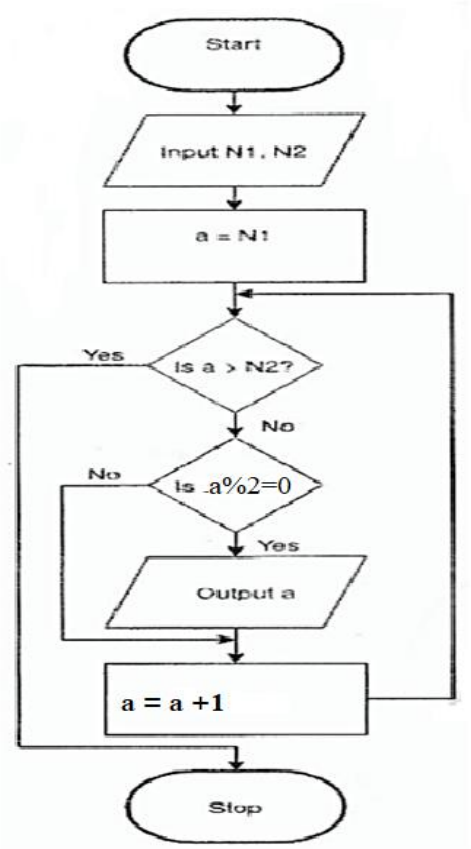
1) A only 2) B only 3) A and B only 4) B and C only 5) A and C only

30. How many tables can be generated initially to represent a relational scheme for the above entity relationship diagram?

1) 1 2) 2 3) 3 4) 4 5) 5

- Answer questions 7,8,9 from the flow chart below. In this program N1, N2 are positive integers.

31. Choose the correct phrases regarding this flow chart.



A. The number of times this program is run is not known.

(A)	(B)
N1= int(input("enter N1:"))	N1= int(input("enter N1:"))
N2=int(input("enter N2 :"))	N2=int(input("enter N2 :"))
a=N1	a=N1
while a<=N2:	for i in range(N2-N1+1):
if a%2==0:	if a%2==0:
print(a)	print(a)
a=a+1	a=a+1

B. There is a selection and a repetition in this program.

C. This program displays odd numbers.

D. This program displays even numbers.

1) A ,B 2) B,C 3) B,D

4) A,B,C 5) A,B,D

32. If N1 and N2 are given as inputs 20 and 30 respectively, what is the number of outputs given?

1) 3 2) 4 3) 5 4) 6 5) 7

33. Which of the following Python programs / s correctly represents this algorithm?

1) A 2) B 3) C 4) A,B 5)B,C

34. What is the output when 2 is given as the input for the following Python code?

```
n=input()
f=n*3+('n+8')
print(f)
```

1) 8 2) 18 3) 333 4) 333n 5) 333n+8

35. Which of the following is a mutable data type?

1). 'Covid ' 2) [1,2,3,4] 3) (1,2,3,4) 4) " Privent form Covid 19 " 5) 123.45

36. What will be the output when the following Python program is executed

```
s=['covid','covid pandamic','2021','covid19','covid',]
chek='covid'
c=0
for i in s:
    if i in chek:
        c=c+1
print(c)
```

1) 1 2) 2 3) 3 4) 4 5) 5

37. What is the output of the following Python code?

```
x= 10
def myfunc():
  global x
  x = x+20
myfunc()
x=5
print(x)
```

1) 5 2) 10 3) 15 4) 20 5) 30

38. Which of the following should be entered as y in order to get the output of the following Python code as "good"?

```
y=int(input())
if (y>0):
```

```
x="positive"
if (y>10):
    if(y>100):
        x="pos"
    elif(y<50):
        x="neg"
    else:
        x="ok"
else:
    x="good"
else:
    x="try"
print(x)
```

1) 100 2) 50 3) 10 4) 45 5) 0

39 . What is the output of the following Python code?

```
i = 1
x=0
while i < 6:
    if (i == 3):
    break
  x=x+i*10
  i += 1
print (x)
```

1) 2 2) 10 3) 20 4) 30 5) error

40. Consider the Python program below.

```
nic=    {"brand": "Ford", "model": "Mustang","year": 1964}
for x in nic:
  print(nic[x])
```

Which of the following statements about this program is correct?

1) This program prints the components of the set 'nic' above.
2) brand, model, year is displayed as output.
3) Ford, Mustang, 1964 ලැබුණි Received here Ford, Mustang, 1964..
4) {"brand": "Ford", "model": "Mustang","year": 1964} is displayed as output.
5) An error message is displayed as output.

41. In which of the following cases does the following Python program give the output as False?

(A) >>> bool ("") (B) >>>bool(()) (C) >>>bool([]) (D) >>>bool({})

1) A,B 2) B,C 3) C,D 4)A,B,C 5) A,B,C,D

42. Which of the following tag is used to apply a title to an HTML table?

1) <caption> 2) <Head> 3) <label> 4) <legend> 5) <title>

43. Which of the following formatting methods has the highest priority?

1) Inine style sheets 2) Internal style sheets 3) External style sheets
4) Web browser Default 5) Inine style sheets and Internal style sheets

44. What is the output of the following PHP code section?

```
<?php
$txt2 = "covid 19";
echo "Bye " . $txt2 . "<br>";
?>
```

1) Bye.$txt2 2) Bye.covid 19; 3) Bye.covid.19; 4) Bye;covid 19; 5) Bye covid 19

45. Which of the following is a correct statement about the code?

```
<?php
        $x = 100;
        $z = "100";
        if($x===$z)
        {echo "x is identical to z";}
         Else
        {echo "x is not equal to the z";}
?>
```

A. Here, the output x is identical to z.
B. Here, the output x is not equal to the z.
C. Here, the === sign represents the inequality..
D. Here,For the condition to be true, the values as well as the data type must be the same..

1) A 2) A,C 3) B,C 4) A,D 5) B,D

- Use the word list below to answer questions 21 and 22 below.

A. Swarm intelligence B.Membrane computing C. Nature Inspired computing
D. Ubiquitous computing E.Kansei systems

46. Creations are based on the concept that emerges in units involving living groups such as observable ant colonies, hive hives and flocks of birds,

1) A 2) B 3) C 4) D 5) E

47. Japan builds a high-speed train and has run into problems. That is, the train began to shake and tremble. The shape of a kingfisher was used to prevent it. What is the most consistent with the above statement?

1) A 2) B 3) C 4) D 5) E

48. Processes that belong to the back-end process of an e-marketplace is,

1) Electronic inventry 2) Shopping cart 3) Search engines

4) Inventory Management 5) Payment gateways

49. This is another new commercial method introduced by the digital economy to increase consumer power.
1) Reverse auction 2) Group purchasing 3) Electronic marketplace
4) Forward auction 5) Supply chain management

50. Entrepreneurs make money by selling goods and services to consumers through an e-commerce website called ……..

1) Sales revenue model 2) Transaction fee revenue model 3) Subscription revenue model
4) Advertising revenue model 5) Freemium revenue model