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Provincial Department of Education - NWP

20 E I

Third Term Test - Grade 13 - 2016

Index No : ....

Information and Communication Technology I

Two - Hours

Instructions :

- Answer all the questions
- Write your Index Number in the space provided in the answer sheet
- Read the instructions carefully and follow them
- In each of the questions 1 to 50, pick one of the alternatives from (1), (2), (3), (4), (5) which is correct or most appropriate.

1. The invention of the "Electronic Valve", laid the foundation for the modern computer technology. The person who is honored for this is,
   (1) John Presper Eckert (2) Lee De Forest (3) John V Atanasoff
   (4) Gottfried Wilhelm Von Leibniz (5) Howard Aiken

2. The first Automated Sequence Controlled Calculator and the first digital computer that used stored programs are,
   (1) Abacus and EDVAC. (2) Mark - I and EDVAC. (3) ABC and UNIVAC.
   (4) Mark - I and UNIVAC. (5) Mark - I and ENIAC.

3. The octal equivalent for 135_{16} is,
   (1) 465_8 (2) 475_8 (3) 575_8 (4) 635_8 (5) 665_8

4. What is true regarding the computer memory from the following statements?
   (1) Static Random Access Memory (SRAM) consumes more electricity than Dynamic Random Access Memory (DRAM) while the computer is switch on, although the memory is not used.
   (2) Data in SRAM must be refreshed frequently while data in DRAM need not to be refreshed so.
   (3) Density of SRAM is lower than the density of DRAM.
   (4) The Access Time of SRAM is lower than the Access Time of DRAM.
   (5) The cost of SRAM is lower than the cost of DRAM.

5. What is a valid Python identifier from the following?
   (1) mark 01 (2) mark#2 (3) _mark 6 (4) 5_mark (5) _mark4

6. The 8-bit two's complement representations of 7_{10} and -7_{10} in respectively are,
   (1) 0000111and 11111000 (2) 00000111and 11111001 (3) 11111000 and 00000111
   (4) 11111001and 00000111 (5) 11111001and 00000110

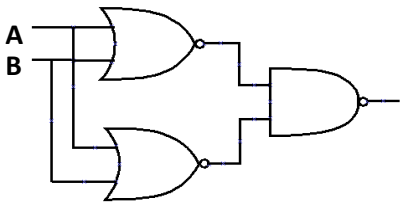
7. What is the modern data communication technology, that used in telephone lines for a fast data transmission using the wavelengths, those are not used in normal telephone conversations?
(1) ADSL (Asymmetric Digital Subscriber Line) (2) CDMA (Code Division Multiple Access)
(3) GPRS (General Packet Radio Services) (4) GSM (Global System for Mobile Communication)
(5) ISDN (Integrated Services for Digital Network)

8. Using ideas and thoughts of another person as one's own original copy is against the computer ethics. What is the answer that best implies this idea?
(1) Copyright (2) Piracy (3) Privacy (4) Piracy and Privacy (5) Plagiarism

9. What is the characteristic of quality information that shows in the statement, "A student achieving highest marks for ICT in a term test **is not** sufficient to decide his rank in his class"?
(1) Relevancy (2) Timeliness (3) Low cost (4) Accuracy (5) Completeness

10. $137_8 + 137_{16} =$
(1) 274_{10} (2) 626_8 (3) $1A6_{16}$ (4) 274_8 (5) 626_{10}

11. Consider the following logic circuit diagram:



What is the equivalent gate for the above circuit diagram?
(1) NOR gate. (2) OR gate (3) AND gate (4) NOT gate (5) NAND gate

12. What is the answer to the Boolean expression when $F = \overline{(X.Y)(X+Y)}$ is simplified?
(1) 0 (2) 1 (3) $\overline{X}.\overline{Y}$ (4) $\overline{(X+Y)}$ (5) $\overline{(X.Y)}$

13. Choose the correct answers for the spaces given below.
Breaking physical memory into equal parts is …….. and breaking logical memory into equal parts is ……..
(1) Framing, Synchronization (2) Mapping , Synchronization (3) Paging, Mapping
(4) Framing, Paging (5) Paging, Framing

14. What is the scheduler that decides which is the most suitable process to be sent to the CPU, among the processes in the main memory after the process that is in running state?
(1) Dispatcher (2) Mid term scheduler (3) Clock interrupt
(4) Input/output interrupt (5) Context switch

15. When sending high volume of data into a peripheral device, before they are being processed, storing them temporarily is known as,
(1) Multi-programming (2) Spooling (3) Caching
(4) Virtual programing (5) Multi-processing

16. Consider the following HTML element.

 ABC School

The place where the hyperlinked document **abcSchool.html** should be opened according to the target attribute value of the above code is,

(1) in a new tab or in a new window.
(2) in the same frame.
(3) in the earlier frame.
(4) in the frame named ‘_self’.
(5) in whole area of the current window

- Use the following HTML code to answer the question numbers 17 and 18.

```
<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; }
```

17. The correct instruction code to insert the CSS file **abcZone.css** into this web page is,

(1) <link href="abcZone" rel="stylesheet" type="text/css"/>
(2) <link href=" abcZone.css" rel="stylesheet" type="text/css"/>
(3) <link href=" abcZone.css" type="text/css" />
(4) <link href=" stylesheet " rel=" abcZone.css " type="text/css"/>
(5) <href link =" stylesheet " rel=" abcZone.css " type="text/css"/>

18. The method how the sentences “This is a heading” and “This is a paragraph” are displayed in the web browser after inserting the CSS file **abcZone.css** is,

(1) the sentence “This is a heading” is displayed in blue and the sentence “This is a paragraph” is displayed in red.
(2) the sentence “This is a heading” is displayed in blue and the sentence “This is a paragraph” is displayed in orange.
(3) the sentence “This is a heading” is displayed in pink and the sentence “This is a paragraph” is displayed in orange.
(4) the sentence “This is a heading” is displayed in yellow and the sentence “This is a paragraph” is displayed in green.
(5) the sentence “This is a heading” is displayed in red and the sentence “This is a paragraph” is displayed in blue.

19. Consider the following list displayed by a web browser.

Android
- Kit Kat
- Jelly Beans
- Lolly Pop

What is the correct HTML code to get the above output?

(1)
```
<dd>
        <dt>Android</dt>
        <dl>KitKat</ dl >
        <dl>Jelly Beans</dl>
        <dl>Lolly Pop</dl>
</dd>
```

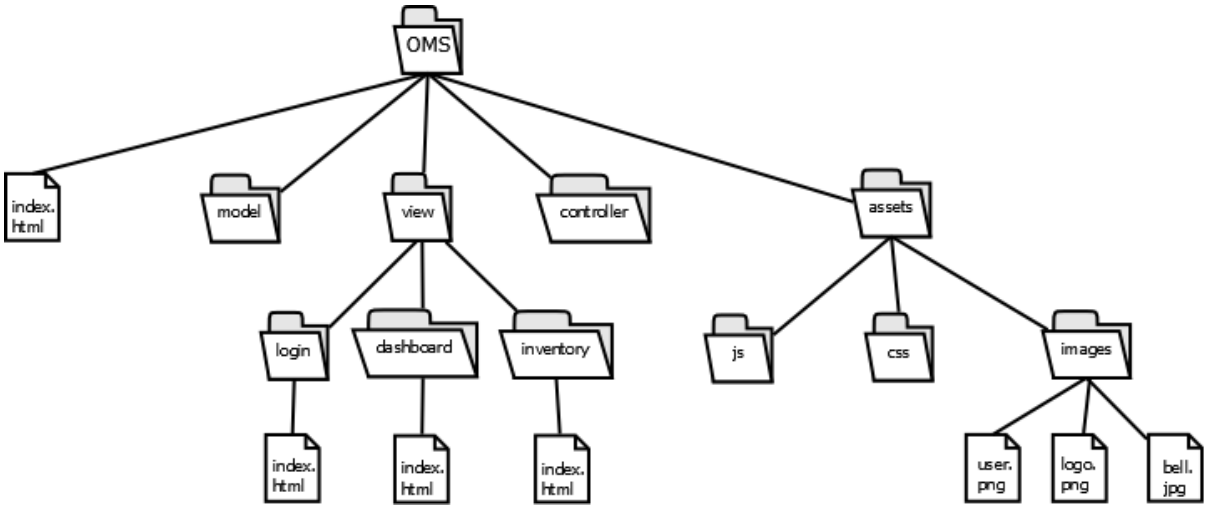
(2)
```
<dl>
        <dt>Android</dt>
        <dt>KitKat</ dt >
        <dt>Jelly Beans</dt >
        <dt>Lolly Pop</dt >
</dl>
```

(3)
```
<dl>
        <dd>Android</dd>
        <dt>KitKat</dt>
        <dt>Jelly Beans</dt>
        <dt>Lolly Pop</dt>
</dl>
```

(4)
```
<dt>
        <dl>Android</dl>
        <dd>KitKat</dd>
        <dd>Jelly Beans</dd>
        <dd>Lolly Pop</dd>
</dt>
```

(5)
```
<dl>
        <dt>Android</dt>
        <dd>KitKat</dd>
        <dd>Jelly Beans</dd>
        <dd>Lolly Pop</dd>
</dl>
```

20. Consider the following folder structure.



Which of the following contains the correct source code to insert **logo.png** file in the **inventory** folder into the web page **index.html**.

1. <img src =”../../assets/images/logo.png” alt =”OMS Logo”>
2. <img src =”../../../assets/images/logo.png” alt =”OMS Logo”>
3. <img src =”OMS/assets/images/logo.png” alt =”OMS Logo”>
4. <a href =”OMS/assets/images/logo.png” alt =”OMS Logo”>
5. <a href =”../../assets/images/logo.png” alt =”OMS Logo”>

21. It is found that 5% of data lost in a communication between two computers connected to the internet. What is the command used to find out this?
(1) ipconfig (2) ping (3) telnet (4) ssh (5) netstat

22. What is the protocol used, when first inserting a website into the web server after developing it,
(1) HTTP (2) ICMP (3) DHCP (4) FTP (5) SMTP

23. The protocols such as TCP and UDP maps with the ……. layer, in the OSI seven layer reference model.
(1) Application (2) Session (3) Transport (4) Network (5) Physical

24. When considering the IP address 192.168.57.70/22, what is the network address of this network?
(1) 192.168.56.0 (2) 192.168.56.255 (3) 192.168.57.0
(4) 192.168.57.70 (5) 192.168.57.255

25. What is not a valid subnet mask from the followings?
(1) 255.0.0.0 (2) 255.0.255.0 (3) 255.255.192.0 (4) 255.255.255.192 (5) 255.255.255.240

26. Which of the following statement is true in respect to routers?
(1) Routers are used to join similar topologies together and to divide network segments.
(2) Routers can be used to regenerate transmission signals between similar network segments.
(3) The disadvantage of using a router over a bridge is that router can not determine the best path that the data can take to reach the destination.
(4) Bridge can segment large networks and router can not.
(5) When a typical WAN is set up there should be at least two routers.

27. Consider the following IP addresses:
A 192.168.57.70 *B* 192.168.57.0 *C* 192.168.57.254 *D* 192.168.57.255

The IP address/addresses that cannot be assigned for the devices in the Local Area Network (LAN) 192.168.57.76/24, is/are
(1) *A* only. (2) *B* only. (3) *A* and *D* only. (4) *A* and *C* only. (5) *B* and *D* only.

28. Following are few main activities in some of the layers of the OSI seven layer reference model.
A Identifying the data transmitting address.
B Coding data into packets.
C Starting and ending the data communication sessions.
D Data encrypting and decrypting
What is the answer with most suitable order of the activities from the above, matching the layers, Presentation Layer, Session Layer, Network Layer and Data Link layer?

(1) *A B C D* (2) *A D C B* (3) *D A C B* (4) *D C A B* (5) *D C B A*

29. Consider the following statements about specialities of Python programming language:
A Ability of interactive mode programming.
B Availability of many numbers of Reserved Words.
C Portability.
Which of the above statement(s) is/are true?
(1) *A* only. (2) *B* only. (3) *A* and *B* only. (4) *A* and *C* only. (5) *B* and *C* only.

30. Consider the following statements about Digital Economy:

A Always the priority is for the seller in Digital Economy.

B Selling goods and services over internet can be considered as a main function of Digital Economy system.

C The terms such as Internet Economy, New Economy are also identifies the Digital Economy.

D Digital Economy is the economy based on the digital technology.

Which of the above statement(s) is/are correct?

(1) *C* only. (2) *D* only. (3) *A*, *B* and *C* only. (4) *B*, *C* and *D* only. (5) *A*, *B*, *C* and *D* all.

31. Consider the following statements regarding Reverse auction:

A Always the priority is on the buyer in Reverse auction.

B In Reverse auction, few people or few business organizations co-operatively purchase the products and services from the suppliers.

C When procuring internal processes in an organization, this method is used.

D Reverse Auction can be categorize into Consumer to Business (C2B) transaction type.

Which of the above statement(s) is/are correct?

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

32. Consider the following statements about the benefits of online games developed using Artificial Intelligent.

A Opportunities are arisen to develop social interrelationships among the youths.

B An effective education can be gained through educational computer games.

C Wasting time uselessly.

D Banking can be done easily through the internet.

Which of the above statement(s) is/are true?

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

33. Consider the following statements about a table in a database.

A. Number of records in a table can be zero.

B. Number of fields in a table can be zero

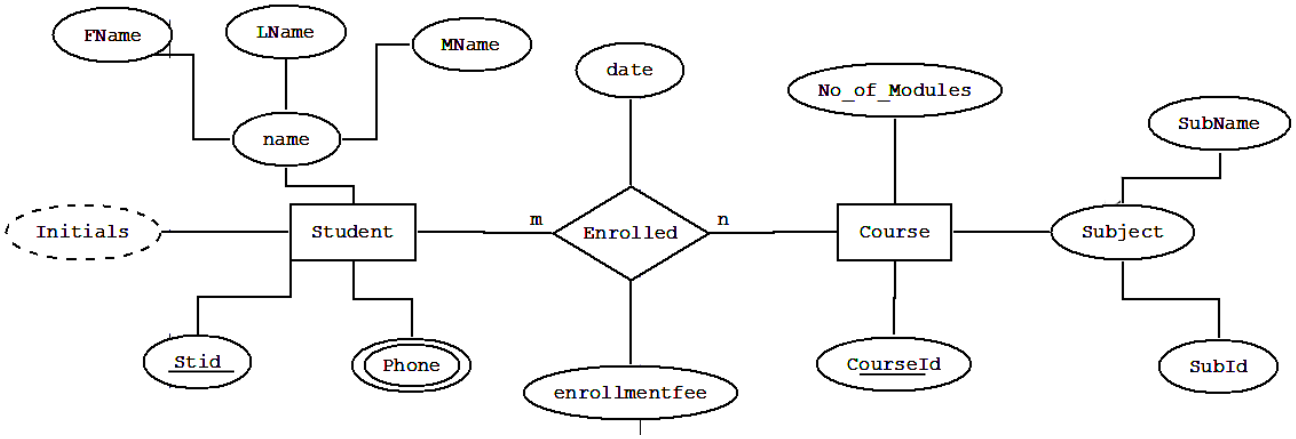
C. It is mandatory to arrange the fields of a table in order.

D. In a table at its First Normal Form (1NF) , duplication of fields cannot be seen.

Which of the above statement(s) is/are true?

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

- **Use the following ER diagram to answer the question numbers 34 and 35.**



34. Correct form of representing the Student table is,
    (1) Student (Stid , Phone , Initials, name)
    (2) Student (Stid , Phone , name , FName , Lname , Mname)
    (3) Student (Stid , Initials , name)
    (4) Student (Stid , Lname , Fname , Mname , Initials)
    (5) Students (Stid , FName , LName , MName)

35. Which is the correct representation of **Enrolled** and **Course** tables designed using the above ER diagram?
    (1) Enrolled (Stid, CourseId, enrollmentfee, date), Course (CourseId, Subject, No_Of_Modules)
    (2) Enrolled (Stid, CourseID, enrollmentfee, date), Course (CourseId, SubId, SubName, No_Of_Modules)
    (3) Course (CourseId, Subject, No_Of_Modules), Enrollment (enrollmentfee, date)
    (4) Course (CourseId, Subject, No_Of_Modules, SubId, SubName), Enrollment (enrollmentfee, date, CourseId, Stid)
    (5) Enollment (enrollmentfee, date, CourseId, Stid), Course (CourseId, SubId, SubName, enrollmentfee, date)

- **Use the following tables to answer question numbers 36 and 37.**

Employee

E_No	F_Name	D_No
120	Silva	3
128	Coorey	1
254	Dias	3

Department

D_No	D_Name
120	Silva
128	Coorey
254	Dias

Salary

E_No	Eff_Date	Amt
120	2/1/2005	15000
128	21/1/2008	23000
120	10/10/2006	18000
254	21/1/2008	23000

36. What is/are the suitable primary key field(s) for the table **Salary** from the following?
    (1) Eff_Date (2) E_No (3) Amt (4) E_No , Amt (5)E_No , Eff_Date

37. What is the correct My Sql statement from the following that gives the increment dates (Eff_Date) and salary amount (Amt) who the criteria F_Name ='Silva' in the above database.

(1) SELECT Eff_Date, Amt FROM Employee WHERE E_No = (SELECT E_No FROM Salary WHERE F_name = 'Silva');
(2) SELECT E_No FROM Employee WHERE F_name = 'Silva' AND (SELECT E_No FROM Employee WHERE F_name = 'Silva');
(3) SELECT E_No FROM Employee WHERE F_name = 'Silva' AND (SELECT Eff_Date, Amt FROM Salary);
(4) SELECT Eff_Date, Amt FROM Salary WHERE E_No = (SELECT E_No FROM Employee WHERE F_name = 'Silva');
(5) SELECT * From Employee Where E_No = 120 AND SELECT Eff_Date,Amt From Salary WHERE E_No = 120;

38. Structured System Analyzing and Design Methodology (SSADM) and Object Oriented Methodology are used in system development. The Object Oriented Methodology is mostly used,
(1) For the occasions where the user requirements are unstable and regular maintenance is needed.
(2) For the reliable systems that the user requirements are stable.
(3) To develop systems those run slowly.
(4) When system development is carried out according to a certain Frame Work.
(5) For the occasions where the regular maintenance is not needed and user requirements are stable.

39. …… are suitable for low cost, fast running systems and …… are suitable for high cost slow running system. Select the most suitable pair of answers for the blanks.
(1) Batch Processing Systems, Real Time Processing Systems
(2) Real Time Processing Systems, Batch Processing Systems
(3) Online Systems, Batch Processing Systems
(4) Batch Processing Systems, Decision Support Systems (DSS)
(5) Decision Support Systems (DSS), Real Time Processing Systems

40. What is the output when executing the following Python code?

```
str="Chathumini is reading a History Book"
print (str.replace("is", "was"))
```

1. Chathumini was reading a History Book
2. Chathumini wa reading a Hwatory Book
3. Chathumini was reading a Hwastory Book
4. Chathumini as reading a History Book
5. Chathumini is reading a History Book

41. What is the output from executing the following Python code?

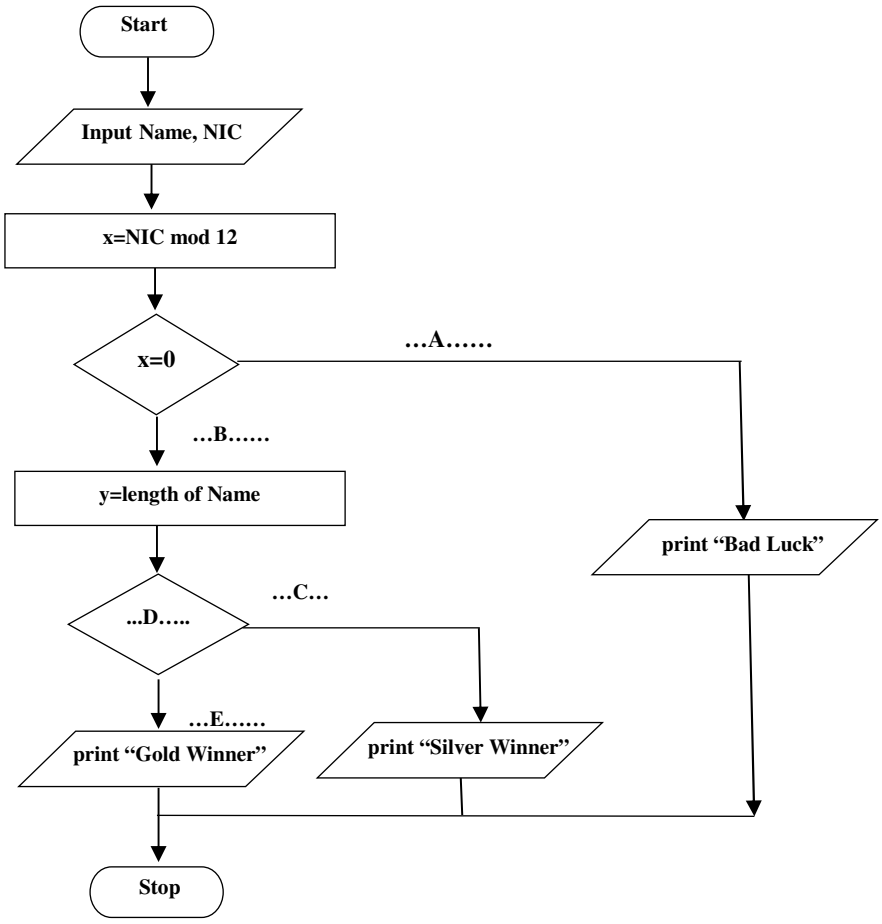
```
x={"months":12,"cricket":"T20", 5:"five",7:"Seven"}
y=len(x)
print(x,y,x[5])
```

(1) {'cricket': 'T20', 'months': 12, 5: 'five', 7: 'Seven'} 4 five
(2) {"months":12,"cricket":"T20", 5:"five",7:"Seven"} 8 five
(3) {"months":12,"cricket":"T20", 5:"five",7:"Seven"}
4
five
(4) {'cricket': 'T20', 'months': 12, 5: 'five', 7: 'Seven'}
4
5
(5) {'cricket': 'T20', 'months': 12, 5: 'five', 7: 'Seven'} 4 x[5]

- **Answer the questions from 42 to 44 using the following flowchart.**

Here is flowchart of a program that has been prepared to find the winner when a person's name and the National Identification Card number are entered. Following is the procedure of finding the winner.

- If the National Identification Card number is divisible by 12 without a remainder, the contestant is selected for the second round.
- In the second round, if the number of letters of his/her name is equal to the result received earlier by dividing 12, he or she is the winner, the "Gold Winner" and if not, he or she is titled as the "Silver Winner".



42. The correct order of A, B, C, D and E is,
(1) No, Yes, No, x=y, Yes (2) Yes, No, No, x>y, Yes (3) Yes, No, Yes, x=y, No
(4) Yes, No, No, x=y, Yes (5) No, Yes, Yes, x=y, No

43. If the following relevant inputs to the above flowchart are entered, what would be the output?
Name = Dhanushka NIC= 973013152
(1) Bad Luck (2) Glod Winner (3) Silver Winner (4) 67 (5) No

44. The correct Python code for the above flowchart is,

(1)
```
Name=input("Enter your Name : ")
NIC=int(input("Enter your NIC : "))
x=NIC%12
if (x!=0):
    y=len(Name)
    if (x=y):
        print("Gold Winner")
    else:
        print("Silver Winner")
else:
    print("Bad Luck")
```

(2)
```
Name=input("Enter your Name : ")
NIC=int(input("Enter your NIC : "))
x=NIC%12
if (x!=0):
    y=len(Name)
    if (x==y):
        print("Gold Winner")
    else:
        print("Silver Winner")
else:
    print("Bad Luck")
```

(3)
```
Name=input("Enter your Name : ")
NIC=int(input("Enter your NIC : "))
x=NIC%12
if (x<>0):
    y=len(Name)
    if (x==y):
        print("Gold Winner")
    else:
        print("Silver Winner")
else:
    print("Bad Luck")
```

(4)
```
Name=input("Enter your Name : ")
NIC=input(int("Enter your NIC : "))
x=NIC//12
if (x!=0):
    y=len(Name)
    if (x==y):
        print("Gold Winner")
    else:
        print("Silver Winner")
else:
    print("Bad Luck")
```

(5)
```
Name=input("Enter your Name : ")
NIC=input(int("Enter your NIC : "))
x=NIC%12
if (x!=0):
    y=len(Name)
    if (x==y):
        print("Gold Winner")
    else:
        print("Silver Winner")
else:
    print("Bad Luck")
```

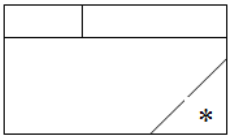
45. What will be the output from the following interactive mode Python code?

```
>>> ~(20)+5.2
```

(1) 25.2 (2) 25 (3) -15.8 (4) -15 (5) -14.8

46. The following diagram which contains Elementary processes (those cannot be further divided) of SSADM contains in,

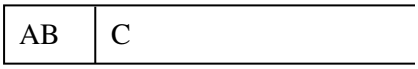
(1) Document Flow Diagram.
(2) Context Diagram.
(3) Level 1 Data Flow Diagram.
(4) Lower Level Data Flow Diagram.
(5) Logical Data Model.



47. What is the pair of diagrams those are **not** used in Structured System Analysis and Design Methodology (SSADM) ?

(1) Document Flow Diagram, Activity Diagram
(2) Context Diagram, Logical Data model
(3) UML Diagram, Use Case Diagram
(4) ER Diagram, Activity Diagram
(5) Context diagram, Activity Diagram

48. A, B and C in the following data store which is a part of Data Flow Diagram (DFD) demonstrate,



(1) A - ID	B - Type	C - Name
(2) A - Type	B - Name	C - ID
(3) A – Type	B - ID	C - Name
(4) A - Name	B - ID	C - Type
(5) A - Name	B – Type	C – ID

49. What is not a software agent type?

(1) Intelligent Agents
(2) Distributed Agents
(3) Ubiquitous Agents
(4) Multi Agents
(5) Mobile Agents

50. Consider the following Python source code.

```
x=["Darshana",('age',45),["Samagi Lane",'Ragama'],{"mob":711665544,"home":122255389}]
print(x[1::2])
```

The output of the above source code is,

(1) ("Samagi Lane",'Ragama'],{"mob":711665544,"home":122255389})
(2) [('age', 45), {'home': 122255389, 'mob': 711665544}]
(3) "Darshana",('age',45),["Samagi Lane",'Ragama']
(4) ['Darshana', ['Samagi Lane', 'Ragama']]
(5) Invalid Syntax

***