Answer all questions

1. Who is considered as father of computer?
   (1) Von Neumann
   (2) Blaise Pascal
   (3) Charles Babbage
   (4) Adam Vogue
   (5) Alan Turin

2. The first generation computer were based on
   (1) Very Large Integration (VLSI)Technology
   (2) Large Scale Integration (LSI) Technology
   (3) Integrated Circuits (ICs)
   (4) Transistor
   (5) Vacuum tubes

3. The decimal number equivalent to 110110_2 is
   (1) 39   (3) 54   (5) 108
   (2) 48   (4) 55

4. Consider the following list rendered by web browser.
   1. Pineapple
   2. Mango
   3. Banana

   Which of the following HTML tags can be used to create the above list?
   (1) <dd>   (3)   (5)
   (2) <dl>   (4)

5. Which of the following is/are memory registers
   A. Condition Code
   B. Stack Pointer
   C. Program Counter
   (1) A only   (4) B and C
   (2) B only   (5) All
   (3) A and B

6. Which of the following is/are not executable memory?
   A. Cache memory
   B. Primary memory
   C. Rotating Memory
   D. Optical Memory
   E. Sequential Memory
   (1) A, B and C
   (2) B,C and D
   (3) C,D and E
   (4) D,E and A
   (5) E,A and B

1

7. Which of the following is/are correct HTML hyperlink code

   (1) <A HERF="HTTP://WWW.W3SCHOOLS.COM">THIS IS A LINK</A>
   (2) <HERF="HTTP://WWW.W3SCHOOLS.COM">THIS IS A LINK</HERF>
   (3) <A HREF=HTTP://WWW.W3SCHOOLS.COM THIS IS A LINK>
   (4) <A HREF="HTTP://WWW.W3SCHOOLS.COM">THIS IS A LINK</A>
   (5) <HREF="HTTP://WWW.W3SCHOOLS.COM">THIS IS A LINK</HREF>

8. Which of the following is/are correct HTML code of inserting a music
   (1) <embed sc>"music1.mp3" autostart="false" loop="true"</embed sc>
   (2) <embed src>"music1.mp3" autostart="false" loop="false"</embed src>
   (3) <embed sc>"music1.mp3" autostart="false" loop="false"</embed sc>
   (4) <embe src="music1.mp3" autostart="false" loop="false">
   (5) <embed sc="music1.mp3" autostart="false" loop="false">

9. Which of the following is/are correct HTMLcode/s of inserting image
   (1) <a img src="w3schools.jpg" alt="W3Schools.com" width="104" height="142">
   (2) <a img ="w3schools.jpg" alt="W3Schools.com" width="104" height="142">
   (3) <img sc="w3schools.jpg" alt="W3Schools.com" width="104" height="142">
   (4) <img src="w3schools.jpg" alt="W3Schools.com" width="104" height="142">
   (5) <img> src="w3schools.jpg" alt="W3Schools.com" width="104" height="142"</img>

10. Which of the following is/are correct html codesof animating text and image
    (1) <MARQUEE="Hi animating text" <IMG SRC="bell.gif" HEIGHT=100WIDTH=82
        ALT="animating image">>
    (2) <MARQUEE>Hi animating text <IMG SC="bell.gif" HEIGHT=100WIDTH=82
        ALT="animating image"></MARQUEE>
    (3) <MARQUEE>Hi animating text <IMG SRC="bell.gif" HEIGHT=100WIDTH=82
        ALT="animating image"></IMG></MARQUEE>
    (4) <MARQUEE>Hi animating text <IMG SC="bell.gif" HEIGHT=100WIDTH=82
        ALT="animating image"></IMG></MARQUEE>
    (5) <MARQUEE>Hi animating text <IMG SRC="bell.gif" HEIGHT=100WIDTH=82
        ALT="animating image"></MARQUEE>

11. Which of the following html codes are correct according to the given output
    Output➔

    o A part
    o B part
    o C part

(A)	(B)	(C)
<HTM>	<HTM>	<HTM>
<body>	<body>	<body>
<ul type="square">	<ul type="circle">	<ul type="DISC">
A part	A part	A part
B part	B part	B part
C part	C part	C part
</body>	</body>	</body>
</html>	</html>	</html>

2

(1) A –only

(2) B-only

(3) C-only

(4) A and B

(5) B and C

12. Which of the following html codes are correct according to the given output

Output→

  xx. A part

  xxi. B part

  xxii. C part

(A)	(B)	(C)
<HTM> <body> <ol start=20 type="A"> A part <li> B part <li> C part </Ol> </body> </html>	<HTM> <body> <ol start=20 type="1"> A part <li> B part <li> C part </Ol> </body> </html>	<HTM> <body> <ol start=20 type="i"> A part <li> B part <li> C part </Ol> </body> </html>

(1) A-only
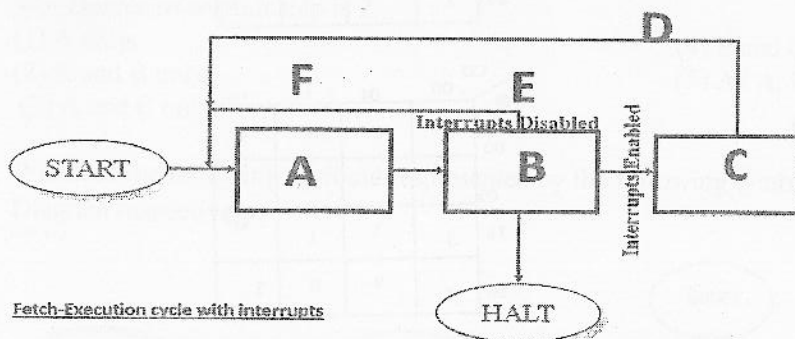
(2) B-only

(3) C-only

(4) A and B only

(5) B and C only

13. Consider the following fetch – execution cycle in interrupt handling, select correct order of labeling.

Fetch-Execution cycle with interrupts

(1) B-Fetch next instruction, A-Execute instruction, C-Check and process instruction, D-interrupt cycle, E-Fetch cycle

(2) C-Fetch next instruction, B-Execute instruction, D-Check and process instruction, C-interrupt cycle, E-Fetch cycle

(3) D-Fetch next instruction, B-Execute instruction, C-Check and process instruction, D-interrupt cycle, E-Fetch cycle

(4) D-Fetch next instruction, B-Execute instruction, D-Check and process instruction, C-interrupt cycle, E-Fetch cycle

(5) A-Fetch next instruction, B-Execute instruction, C-Check and process instruction, D-interrupt cycle, E-Fetch cycle

14. Which of the following memory uses the "flip flop logic gates"
    (1) DRAM
    (2) SRAM
    (3) DIMM
    (4) RIMM
    (5) SIMM

15. -78 in 2's complement,
    (1) $0100\ 1110_2$
    (2) $0100\ 1111_2$
    (3) $1011\ 0001_2$
    (4) $1011\ 0010_2$
    (5) $1001\ 0010_2$

16. Simplify the following K-map

    (1) B'D'+BC
    (2) BC B'D'+BD
    (3) B'D'+BD
    (4) B'D'+CB
    (5) B'D'+CB

CD \ AB	00	01	11	10
00	1	0	0	1
01	0	1	1	0
11	0	1	1	0
10	1	0	0	1

17. Simplify the following K-map

    (1) B'D'+BC+A'BC
    (2) BC B'D'+BD+ A'BC
    (3) B'D'+BD+ A'BC
    (4) B'D'+CB+ A'BC
    (5) B'D'+CB +A'BC

CD \ AB	00	01	11	10
00	1	0	0	1
01	0	1	1	1
11	0	1	1	0
10	1	0	0	1

18. Simplify the following
    (1) B'D'+BC'D+A'BD
    (2) B'D'+BC'D+ABD
    (3) B'D'+BD+ABD
    (4) B'D+BC'D+ABD'
    (5) BD+BC'D+ABD

CD \ AB	00	01	11	10
00	1	0	0	1
01	0	1	0	0
11	0	1	1	0
10	1	0	0	1

19. The binary number equivalent to the $0.CAD_{16}$ is
   (1) $0.1101\ 1010\ 1101_2$
    (2) $0.1100\ 1011\ 1101_2$
    (3) $0.1100\ 1010\ 1100_2$
    (4) $0.1100\ 1010\ 1111_2$
    (5) $0.1100\ 1010\ 1101_2$

20. The binary number equivalent to the BAD_{16} is
    (1) $1001\ 1010\ 1101_2$
    (2) $1011.1110\ 1101_2$
    (3) $1011\ 1011\ 1101_2$
    (4) $1011\ 1010\ 1001_2$
    (5) $1011\ 1010\ 1101_2$

4

21. The octal number equivalent to the BAD.CAD$_{16}$ is
    (1) 5655.6355$_8$
    (2) 5655.6555$_8$
    (3) 5565.6255$_8$
    (4) 5565.6655$_8$
    (5) 5655.6255$_8$

22. F(X,Y,Z)={0,1,3,4,6} what will be the correct answer after simplifying using the K-map
    (1) X'Y'+X'Z+X'Z'
    (2) X'Y'+X'Z
    (3) X'Z+XZ'
    (4) X'Y'+X'Z'+XZ'
    (5) X'Y'+X'Z+XZ'

23. Select the class D IP address among following IP address
    (1) 126.0.0.2
    (2) 190.12.4.1
    (3) 222.44.54.2
    (4) 239.33.4.3
    (5) 254.222.2.1

24. Select the class E IP address among following IP address
    (1) 126.0.0.2
    (2) 190.12.4.1
    (3) 222.44.54.2
    (4) 239.33.4.3
    (5) 254.222.2.1

25. Consider the following ER Diagram and Statements.
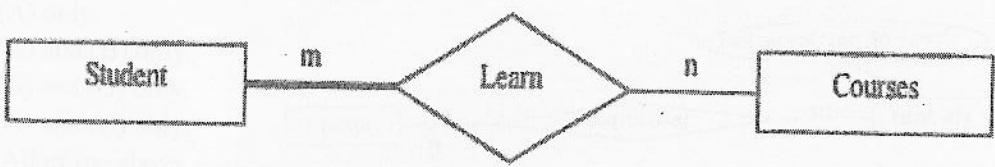
A –Student have full depended relationship and courses have partial dependent.
B – Many to Many relationships exist between students and courses.
C – Degree of relationship is 2.
    (1) A only.
    (2) A and B only.
    (3) A and C only.
    (4) B and C only.
    (5) All A, B and C.

26. Which of the following attributes represented by the following symbols (A, B, and C) in a ER Diagram respectively.
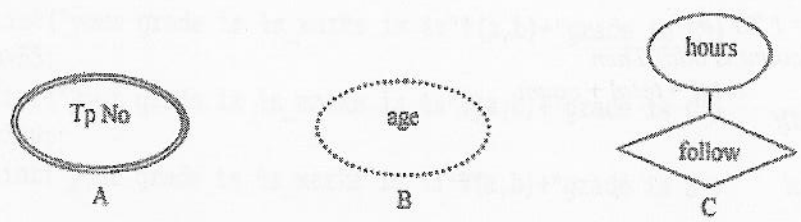
    (1) Simple attribute, Multivalued attribute and Derived attribute
    (2) Multivalued attribute, Derived attribute and Descriptive attribute
    (3) Multivalued attribute, Derived attribute and Composite attribute
    (4) Composite attribute, Multivalved attribute and Derived attribute
    (5) Derived attribute, Stored attribute and Derived attribute

27. Which of the following is the most appropriate Entity Relationship(ER) diagram to represent student's participation indifferent sports in school?

(1)

(2)

(3)

(4)

(5)
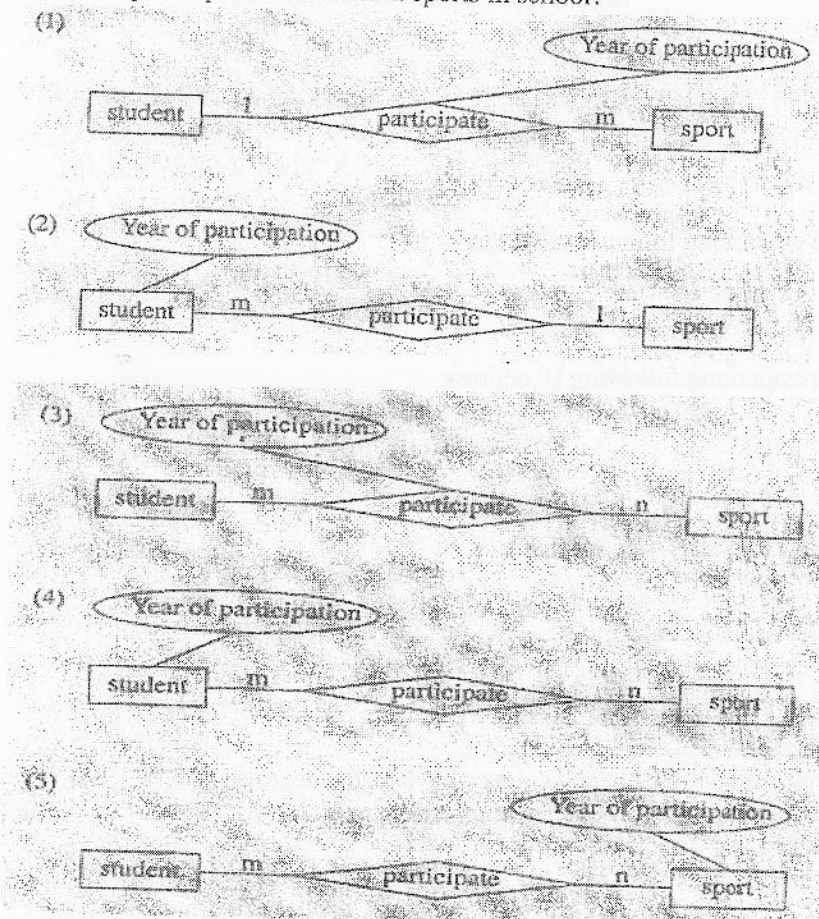
28. Consider the following pseudo code:

```
Begin
        total = 0
        For count = 1 To 10
                If (count is odd) Then
                        total = total + count
                EndIf
        Next count
        Display total
End
```
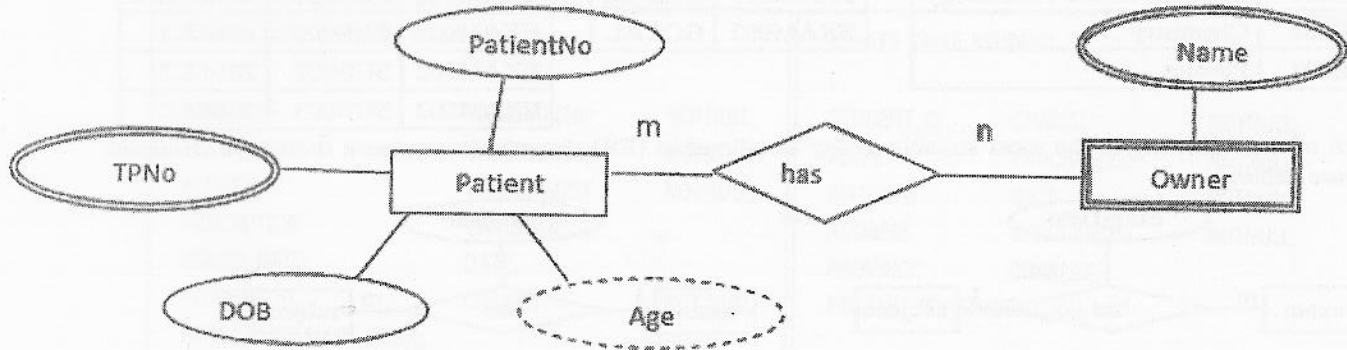
What is the output of the above pseudo code?

(1) 10   (3) 20   (5) 55

(2) 15   (4) 25

29. Consider the following ER diagram

Which of the following statement/s is /are true.

A. Owner is an Weak entity.

B. m: n is the cardinality coefficient of above relationship.

C. DOB is a "stored attribute" while "Age" is a derived attribute.

    (1) (A) only.

    (2) (A) and (B) only.

    (3) (B) and (C) only.

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

    (5) All of the above.

30.

```
a=input("enter your name")
b=int(input("enter marks"))
if b>75:
    print("your grade is %s marks is %s"%(a,b)+"grade is A")
elif b>65:
    print("your grade is %s marks is %s"%(a,b)+"grade is B")
elif b>55:
    print("your grade is %s marks is %s"%(a,b)+"grade is C")
elif b>40:
    print("your grade is %s marks is %s"%(a,b)+"grade is S")
else:
    print("your grade is %s marks is %s"%(a,b)+"You are FAIL,TRY AGAIN")
```

Which of the following is correct?

    (1) Error

    (2) Program will run up to input marks and end up with error

    (3) Instead of %s can use %d

    (4) Instead of %s can use %(a,b)

    (5) Program will run without any error

• Consider the following three tables in a relational database to answer questions 31 to 34. Assume that a subject has only one paper for an examination.

subject

subjectId	title
SUB001	Information and Technology
SUB002	Chemistry
SUB003	Physics

exam

examId	name
EXAM001	GCE OL
EXAM002	GCE AL

examSubject

examId	subjectId	examDate
EXAM001	SUB001	2014.12.12
EXAM002	SUB001	2014.8.21
EXAM002	SUB002	2014.8.21
EXAM002	SUB003	2014.8.21

31 Which of the following is the most suitable Entity Relationship (ER) diagram to represent the above relational database tables?

(1)

(2)

(3)

(4)

(5)

32. Which of the following is the correct primary key for examSubject table?
   (1) examId
   (2) examId, subjectId
   (3) examId, examDate
   (4) subjectId, examDate
   (5) examId, subjectId, name

33. Which of the following is the correct SQL statement to retrieve examId, name, and examDate of all examinations?
   (1) select examSubject.examId, name, examDate from exam, examSubject where
       exam.examId=examSubject.examId
   (2) select examId, name, examDate from exam and examSubject where
       exam.examId=examSubject.examId
   (3) select examId and name and examDate from exam and examSubject where
       exam.examId=examSubject.examId
   (4) select * from exam and examSubject where exam.examId=examSubject.examId
   (5) select * from exam, examSubject where exam.examId=examSubject.examId

34. Which of the following SQL statements changes only the date of examination of Physics paper of GCE AL examination to 2014.08.25?
   (1) update examSubject set examDate='2014.08.25' where subjectId='SUB003' or 'sub003'
   (2) update examSubject set examDate='2014.08.25' where examId='EXAM002' or subjectId='SUB003'
   (3) update examSubject set examDate='2014.08.25' where examId='EXAM002' and subjectId='SUB003'
   (4) update examSubject set examDate='2014.08.25' where examDate='2014.08.21'
   (5) update examSubject set examDate='2014.08.25' where examId='EXAM002' or subjectId='SUB003' or
       examDate='2014.08.23'

8

35. Consider the given SQL statement to create "STUDENT" and "LENDING_BOOK" tables. And answer question 35 and 36.

CREATE TABLE LENDING_BOOK (				CREATE TABLE STUDENT (		
ACCT_REG	VARCHAR(10)	NOTNULL,		STUDENT_ID	CHAR(5)	NOTNULL,
BOOK_NAME	VARCHAR(20)	NOTNULL,		NAME	VARCHAR(25)	NOTNULL,
AUTHOR	VARCHAR(25)	NOTNULL,		BIRTHDAY	DATE	NOTNULL,
DESCRIPTION	VARCHAR(75),			ADDRESS	VARCHAR(25)	NOTNULL,
ISSUED_DATE	DATE,			PROVINCE	CHAR(10),	
STUDENT_ID	CHAR(5)	NOT NULL,		PRIMARY KEY (STUDENT_ID));		
PRIMARY KEY (ACCT_REG));						

Consider the following statements.

    A. "STUDENT_ID field can be used to connect STUDENT and LENDING_BOOK tables.

    B. It is compulsory to input data in to DATE data type fields of both the tables.

    C. A comma " , " can be used instead of " ; " in PRIMARY KEY(STUDENT_ID));

    D. It is compulsory to place a comma " , " between two fields.

Which of the following statements are true.

    (1)(A)and (B) only.

    (2)(A) and (C) only.

    (3)(A) and (D) only.

    (4)(A), (B) and (C) only.

    (5)All of the above.

36. Consider the following statements.

    A. STUDENT_ID is the FOREIGN KEY of LENDING_ BOOK table

    B. It is not compulsory to input data to the STUDENT_ID field

    C. CHAR data type can be included in BIRTHDAY field of STUDENT table.

   D. It is compulsory to input data to PROVINCE field.

Which of the above statement/s is/are true.

    (1) A only.

    (2) B and C only.

    (3) C and D only.

    (4) A, B and C only.

    (5) A, B and D only.

37. Meaning of software piracy is ......

    (1) Stealing of software at home.

    (2) Coping software.

    (3) Stealing of software from manufacturing company.

    (4) Coping from purchased software.

    (5) Making of illegal copies of software on which the user has no copy right .

38. Consider the following Karnaugh map.
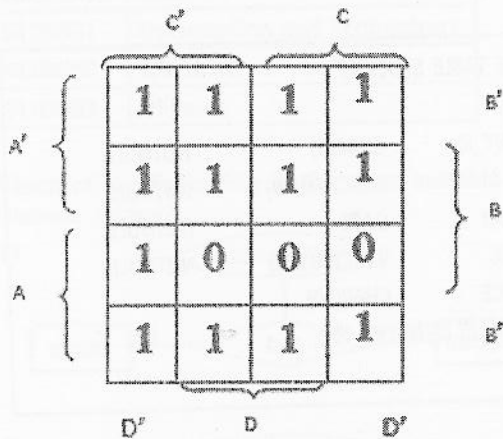
Which is the correct logic expression when you simplify it using given values.
(1) A' + AB' + C'D'
(2) A' + B' + AD'C'
(3) A' + B' + C'D'
(4) C'D' + A'C'+ A'C' + B'
(5) B'C + B'C' + A'C + C'D'

39. Which of the followings is the correct statement regarding IP addresses and subnet masks.
(1) 192.156.6.3 is an example of class "B" IP address.
(2) 6(six) host computers can be connected to a network with a subnet mask of 255.255.255.148 .
(3) IPV4 addresses contain 8 bits.
(4) 220.32.1.5 is an example of class "C" IP address.
(5) 255.255.0.0 is an example of class "C" IP address.

40. Consider the following URL:
http://www.schools.org/2012/lessons/index.html
Which of the following indicates the protocols of above URL?
(1)http   (3)www   (5)www.school.org
(2)html   (4)org

41. Some provinces in Sri Lanka currently issue revenue licenses for motor vehicles online. Which of the following is the correct business type for this service?
(1)B2C   (3)C2B   (5)G2C
(2)B2B   (4)B2E

42. Which of the following "Python" statement is acceptable?

A -   a, b = 2+5, 2*5
B -   X, Y = Y, X
C -   X, Y = 5, 'Saman'

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

43. Select the output of the following "Python" program.

```
a = 3
def max (a,b):
        if a>b:
                return a
        else:
                return b
print max (7,6).
print (a)
```

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

44. Which of the following statement is incorrect? V
(1) XML is not an alternative to HTML.
(2) XML is not depend on hardware or software.
(3) XML is a markup language.
(4) XML tags are case sensitive.
(5) XML is introduced for data storing and transferring.

45. Consider the following memory types.
   A - Dynamic Random Access Memory
   B - Static Random Access Memory
   C - Read Only Memory
   D - Cache Memory
   E - Register memory
Which of the above memory /memories is/are non volatile?
(1) A only.
(2) B only.
(3) C only.
(4) A and D only.
(5) C and E only.

46. Which of the following is not considered as e-business?
(1) B2B
(2) B2C
(3) C2C
(4) A2C
(5) B2E

47. "An agent who buys and sells for free" in an e - Business is called as,
(1) Content provider
(2) Information broker
(3) Customer
(4) Online services provider
(5) Store keeper

48. Consider the following terms.
   A - Waterfall
   B - Spiral
   C - Structured
   D - Unified development
   E - Object oriented

Which of the above represents the system development model?

    (1) A, B and C only.

    (2) A, B and D only.

    (3) A, C and E only.

    (4) B, C and D only.

    (5) A, B and E only.

49. A flat file system is created with admission number (Ad_No), student name (St_Name), national identity card number (NIC), class (ClassID), name of the class teacher (Class_Teacher) and number of students in the class (No_Stu). Which of the following displays the correct relation the second normal form?

    A - Student (Ad_ No, St_Name,NIC,ClassID)
        Classdetail (ClassID,Class_Teacher,No_Stu)

    B - Student (Ad_No,St_Name,NIC,ClassID,Class_Teacher)
        Classdetail (ClassID,Location)

    C - Student (Ad_No,St_Name,NIC)
        Classdetail (ClassID,Class_Teacher,No_Stu)

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

50. Which of the following is/are examples for artificial intelligence techniques?
    A- Neural Networks
    B-Genetic Algorithms
    C-Ubiquitous Computing

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

***