

# CUET (UG) Exam Paper 2023

National Testing Agency

Held on 16<sup>th</sup> June 2023

## COMPUTER SCIENCE

### Solved

(This includes Questions pertaining to Domain Specific Subject only)

Max. Marks : 200

Time allowed : 45 Minutes

#### General Instructions:

- (i) This paper consists of 25 MCQs, attempt any 20 out of 25.
- (ii) Correct answer or the most appropriate answer: Four marks (+4).
- (iii) Any incorrect option marked will be given minus One mark (-1).
- (iv) Unanswered/Marked for Review will be given No mark (0).
- (v) If more than one option is found to be correct then Four marks (+4) will be awarded to only those who have marked any of the correct options.
- (vi) If all options are found to be correct then Four marks (+4) will be awarded to all those who have attempted the question.
- (vii) If none of the options is found correct or a Question is found to be wrong or a Question is dropped then all candidates who have appeared will be given Four marks (+4).
- (viii) Calculator / any electronic gadgets are not permitted.

#### Section : Compulsory

1. Which one of the following statement is not true in context of relational data model?
  - (1) Foreign Key can take NULL Value
  - (2) A database schema is the design of a database
  - (3) A tuple is a unique entity whereas attribute values can be duplicate in the table
  - (4) If no single attribute in a relation is able to uniquely distinguish the tuples, then it is not possible to form a Primary Key

Ans. Option (4) is correct.

**Explanation:** A primary key that made up of more than one attribute is known as a composite key. Below shows an example of a composite primary key.

2. The statement in SQL which allows to change the definition of a table is ..... :
  - (1) ALTER
  - (2) UPDATE
  - (3) CREATE
  - (4) SELECT

Ans. Option (1) is correct.

**Explanation:** The SQL ALTER TABLE command is used to modify a table's structure by adding, deleting columns in an existing table. You can also use the ALTER TABLE command to add and drop various constraints on an existing table.

3. Which of the following block always execute regardless of exception occurrence?
  - (1) try block
  - (2) finally block
  - (3) else block
  - (4) except block

Ans. Option (2) is correct.

**Explanation:** The try statement defines the code block to run (to try). The catch statement defines a code block to handle any error. The finally statement defines a code block to run regardless of the result.

4. NULL is ..... :

- (1) the same as 0 for integer
- (2) the same as blank for character
- (3) the same as 0 for integer and blank for character
- (4) Unknown value

Ans. Option (4) is correct.

**Explanation:** The null keyword is a literal that represents a null reference, one that does not refer to any object. null is the default value of reference-type variables. Ordinary value types cannot be null, except for nullable value types.

5. What will be the output when applying following MySQL command?

```
SELECT LEFT("UNIVERSITY", 5);
```

- (1) UNIVY
- (2) UNIVE
- (3) RSITY
- (4) UVYNIV

Ans. Option (2) is correct.

**Explanation:** The LEFT ( ) function extracts a number of characters from a string (starting from left).

6. When pickle.load ( ) function is used. it generates exception of EOF (End of File). In which two ways this exception could be handled?

- A. with statement
- B. try and except
- C. avoid EOF exception
- D. assert
- E. reload

Choose the correct answer from the options given below:

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

Ans. Option (3) is correct.

**Explanation:** When pickle.load( ) function is used it generates exception of EOF which can be resolve using two different ways first one is- with statement and second one is - try and except block.

7. Identify the error/errors in the following code:

- A. Line 1- import pickle
- B. Line 2 - data=['one', 2, [3,4,5]]
- C. Line 3 - with open('data2.dat, 'rb') as f
- D. Line 4 - pickle.dump(data, f)

Choose the correct answer from the options given below:

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

Ans. Option (3) is correct.

**Explanation:**  
correct option -3. C and D only  
import pickle  
data=['one', 2, [3,4,5]]  
with open('data2.dat', 'wb') as f:  
    pickle.dump(data,f)  
    f.close()  
in C wb(write mode ) and : missing  
in D wrong indentation

8. Match List I with List II:

	List -I		List - II
(A)	char (n)	(I)	for numbers
(B)	Int	(II)	fixed numbers of characters
(C)	varchar (n)	(III)	variable numbers of characters
(D)	float	(IV)	for fractional numbers

Choose the correct answer from the options given below:

- (1) (A)-(II), (B)-(I), (C)-(III), (D)-(IV)
- (2) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)
- (3) (A)-(I), (B)-(IV), (C)-(II), (D)-(III)
- (4) (A)-(III), (B)-(II), (C)-(IV), (D)-(I)

Ans. Option (1) is correct.

**Explanation:** char (n)- can store fixed length characters.  
varchar (n)-can store variable length characters.  
int - can store numbers or integers  
float - can store real numbers or fractional numbers.

9. Meta-data is also known as:

- (1) Database Instance
- (2) Data Constraint
- (3) Database Schema
- (4) Data Dictionary

Ans. Option (4) is correct.

**Explanation:** Metadata is "the data about the data." Anything that describes the database—as opposed to being the contents of the database—is metadata.

10. Match List I with List II:

	List -I		List - II
(A)	IP Address	(I)	198.20.2.18
(B)	MAC Address	(II)	12:CD:3E:56:5F:C3
(C)	Network topology requires central controller or hub	(III)	Star
(D)	Internet an example of this topology	(IV)	Mesh

Choose the correct answer from the options given below:

- (1) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)
- (2) (A)-(IV), (B)-(III), (C)-(II), (D)-(I)
- (3) (A)-(I), (B)-(III), (C)-(II), (D)-(IV)
- (4) (A)-(III), (B)-(I), (C)-(II), (D)-(IV)

Ans. Option (1) is correct.

**Explanation:** An Internet Protocol (IP) address is the unique identifying number assigned to every device connected to the internet. An IP address is a string of numbers separated by periods. IP addresses are expressed as a set of four numbers — an example address might be 192.158.1.38

A MAC address is a 48-bit hexadecimal address. It's usually six sets of two digits or characters, separated by colons. An example MAC address would be 00:00:5e:00:53:af.

Star topology is a network topology in which each network component is physically connected to a central node such as a router, hub or switch. In a star topology, the central hub acts like a server and the connecting nodes act like clients.

Internet is an example of mesh topology.

11. Arrange the following steps in sequential order of handling exception:

- A. Exception is raised
- B. Create an exception object
- C. Executes the code
- D. Runtime system searches for exception handler
- E. Program terminates

Choose the correct answer from the options given below:

- (1) A, B, D, C, E
- (2) B, A, D, C, E
- (3) A, D, B, C, E
- (4) A, B, C, E, D

Ans. Option (2) is correct.

**Explanation:** Create an exception object -> exception is raised -> runtime system searches for exception Handler -> execute the code-> program terminate.

12. Which of the following can be handled by a gateway?

- (1) Protocol conversion
- (2) Packet resizing
- (3) Data encapsulation
- (4) regeneration of weakened signals



Choose the correct answer from the options given below:

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

Ans. Option (3) is correct.

**Explanation:** Foreign key need not to be unique. Primary key, candidate key & composite primary key all are unique in nature.

4. What is time complexity for  $n$  elements in an insertion sort:

- (1)  $n$  (2)  $n^2$   
 (3)  $\log_2 n$  (4) 1

Ans. Option (2) is correct.

**Explanation:** Insertion Sort is an easy-to-implement, stable sorting algorithm with time complexity of  $O(n^2)$  in the average and worst case, and  $O(n)$  in the best case. For very small  $n$ , Insertion Sort is faster than more efficient algorithms such as Quicksort or Merge Sort.

5. How many total number of swaps will be done while sorting the given list using insertion sort list

9	6	12	1	-7	3
---	---	----	---	----	---

- (1) 13 (2) 5  
 (3) 11 (4) 9

Ans. Option (3) is correct.

**Explanation:** Total 11 times swaping will be done.

6. It is easy to identify and isolate the fault in which of the following topology

- (1) Mesh (2) Bus  
 (3) Ring (4) Hybrid

Ans. Option (1) is correct.

**Explanation:** Mesh topology has many benefits, including high speed, scalability, security, and fault isolation. It does, however, have some drawbacks, such as high expense, complexity, bandwidth problems, constrained scalability, and redundancy.

7. Which of the following elements would cause collision in hashing if we apply the hash function  $List[i] \% 10$ , for the list  $[2, 4, 18, 24, 30, 45, 54]$

- A. 2, 4 B. 24, 54  
 C. 4, 24 D. 24, 30  
 E. 45, 54

Choose the correct answer from the options given below:

- (1) A and B only (2) B and C only  
 (3) A, D and E only (4) A, B and C only

Ans. Option (2) is correct.

**Explanation:** Since  $24 \% 10 = 4$  and  $54 \% 10 = 4$  so, the collision will occur for the elements 24 and 54 and  $4 \% 10 = 4$  and  $24 \% 10 = 4$  so collision will occur for the elements 4, 24 also.

8. Which elements will remain in the stack after performing following operations

PUSH (4)  
 POP ()  
 PUSH (6)  
 PUSH (2)  
 PUSH (8)  
 POP ()

(1) 

8
2
6
4

(2) 

4
8
2
6

(3) 

2
6

(4) 

2
4

Ans. Option (3) is correct.

**Explanation:** Since the first operation is push and we are inserting course so that means 4 will be stored at the last cell. Then pop operation delete the element 4 so the array will become empty. Operation will insert 6 at the bottom of the array then again push to operation will insert 2 at the second last position of the array then push 8 will insert the element a at the third last element from the bottom in the array. At last pop operation will delete the top most element which is 8 from the array. So, the remaining elements will be fixed at the bottom and 2 as a second last element.

9. The number of attributes in a relation is called

- (1) cardinality (2) Domain  
 (3) Tuple (4) Degree

Ans. Option (4) is correct.

**Explanation:** The number of attributes in a relation is called degree of that relation.

10. What will front and rear of quene contain after execution of following statements, the Queue already had the given elements in FIFO order

1 → 8 → 7 → 9  
 ↑            ↑  
 F            R  
 enqueue (11)  
 enqueue (3)  
 enqueue (6)  
 dequeue ()  
 dequeue ()  
 enqueue (9)  
 enqueue (8)  
 dequeue ()

- (1) Front-1 Rear-8 (2) Front- 8 Rear-1  
 (3) Front-9 Rear-8 (4) Front- 8 Rear-9

Ans. Option (3) is correct.

**Explanation:** Enqueue will enter the elements at the last so, 11,3,6 will be added at the end and R moves to 6. then dequeue( ) will delete the elements from the first. So, 1,8 will be deleted and F moves to 7. again 8 and 9 will be inserted at the end and R moves to 9 at the end. Dequeue( ) deletes the first element 7 and F moves to the next block at 9. So, F points to 9 and R points to 8.

11. Which of the following is not a SQL Data Definition Language (DDL) statement?

- (1) CREATE TABLE
- (2) ALTER TABLE
- (3) DROP TABLE
- (4) SELECT

Ans. Option (4) is correct.

**Explanation:** Create, Alter and Drop all are belongs to DDL (data definition language) but select belongs to DML which is data manipulation language.

12. Which of the following statement is correct to insert a new record in the table student with given table structure:

Student

Name, Class, rollno, section
------------------------------

- (1) insert into student ('Abhay', 'X', 1, 'A');
- (2) insert into student(name, class) values ('Abhay', 'X');
- (3) insert into table student values ('Abhay', 'X', 1, 'A');
- (4) insert values into student, ('Abhay', 'X', 1, 'A');

Ans. Option (2) is correct.

**Explanation:** When inserting a single row into the MySQL table, the syntax is as follows: INSERT INTO table name(column\_1,column\_2 ,column\_3) VALUES (value\_1,value\_2,value\_3); In the INSERT INTO query, you should specify the following information: table\_name : A MySQL table to which you want to add a new row.

13. Evaluate the given postfix expression:

6 4 1 \* 2 / +

- (1) 10
- (2) 8
- (3) 6
- (4) 7

Ans. Option (2) is correct.

**Explanation:** Evaluated :  $(6 + ((4 * 1) / 2)) = 8$

14. Name the command when we want to use the database, dl:-

- (1) create database d1;
- (2) modify database d1;
- (3) update database d1;
- (4) use dl;

Ans. Option (4) is correct.

**Explanation:** The USE statement tells MySQL to use the named database as the default (current) database for subsequent statements.

15. Match List I with List II:

	List - I		List - II
(A)	Stack	(I)	Insert at end and deletion from end
(B)	Deque	(II)	Insert at end and deletion from front
(C)	Binary File	(III)	Insertion and deletion from any end
(D)	Queue	(IV)	Stored in terms of bytes

Choose the correct answer from the options given below:

- (1) (A)-(II), (B)-(I), (C)-(IV), (D)-(III)
- (2) (A)-(II), (B)-(I), (C)-(III), (D)-(IV)
- (3) (A)-(I), (B)-(III), (C)-(IV), (D)-(II)
- (4) (A)-(I), (B)-(III), (C)-(II), (D)-(IV)

Ans. Option (3) is correct.

**Explanation:** Stack is a linear data structure that follows a particular order in which the operations are performed. The order may be LIFO (Last In First Out) or FILO (First In Last Out).

Deque or Double Ended Queue is a type of queue in which insertion and removal of elements can either be performed from the front or the rear. Thus, it does not follow FIFO rule (First In First Out).

A binary file is a file whose content is in a binary format consisting of a series of sequential bytes, each of which is eight bits in length.

A Queue is defined as a linear data structure that is open at both ends and the operations are performed in First In First Out (FIFO) order.

16. In Binary search at each iteration a mid index is computed by taking average of first and last index of the part of list under consideration, What will be values at mid index if element 2 is to be searched from given list:

$L = [2, 3, 5, 7, 10, 11, 12, 17, 19, 23, 29, 31, 37, 41, 43]$

- (1) 19, 10, 3, 2
- (2) 17, 7, 3, 2
- (3) 12, 3, 2
- (4) 23, 10, 2

Ans. Option (2) is correct.

**Explanation:** In the first step the middle element is 17, then in the second step the middle element will be 7 because the right half of the array will be discarded.

then in the 3rd step the middle element will be 3 because the right half of the array will be discarded. Now, in the 4th step only one element remains in the array, which is 2 it will become the middle index.

17. Which one of the following represent a valid combination for the measurement of the efficiency of an algorithm?

- (1) Processor and Memory
- (2) Complexity and Capacity
- (3) Time and Space
- (4) Data and Space

Ans. Option (3) is correct.

**Explanation:** Time and Space are the two main factor which are required to calculate the efficiency.

18. Match List I with List II:

	List - I		List - II
(A)	Hub/Switch	(I)	When one LAN is connected to the other LAN
(B)	Router	(II)	Large number of computers in the building
(C)	Modem	(III)	In the server room
(D)	Server	(IV)	Each building

Choose the correct answer from the options given below:

- (1) (A)-(IV), (B)-(III), (C)-(II), (D)-(I)
- (2) (A)-(IV), (B)-(I), (C)-(III), (D)-(II)
- (3) (A)-(IV), (B)-(I), (C)-(II), (D)-(III)
- (4) (A)-(II), (B)-(III), (C)-(IV), (D)-(I)

Ans. Option (2) is correct.

**Explanation:** Hub/Switch required in each building  
Router required when one LAN is connected to another LAN.  
Modem required in the server room  
Server required in large number of computers in a building.

19. The minimum and maximum number of comparisons done by linear search algorithm are:

- (1) 0 and n (where n is the total number of elements)
- (2) 1 and n-1 (where n is the total number of elements)
- (3) 0 and n-1 (where n is the total number of elements)
- (4) 1 and n (where n is the total number of elements)

Ans. Option (4) is correct.

**Explanation:** Linear search runs in linear time and makes a maximum of n comparisons, where n is the length of the list. Hence, the computational complexity for linear search is  $O(N)$ . The running time increases, at most, linearly with the size of the items present in the list.

20. For a list with n elements bubble sort takes ..... passes to sort the elements in the list

- (1) n+1
- (2) n
- (3) n-1
- (4) can't be determined

Ans. Option (3) is correct.

**Explanation:** To understand the bubble sort, keep in mind that a list of size n will be sorted in n-1 passes, regardless of how the items are arranged in the initial list. In the first iteration, the total number of elements is n so the number of comparisons will n-1.

21. Data refers to unorganised facts that can be processed to generate meaningful result or information. Data are stored in computer in the electronic form in some storage devices such as HDD, SSD, Pen Drive, CD/DVD and memory card. There are two types of data, structured and unstructured. Structured data is where data stored in some format. Unstructured data are not stored in an organised format. There are some statistical technique to process the data. ICT technologies helps in the generation of large volume of data.

Based on the above paragraph, answer the following questions:

What ICT stands for -

- (1) Information and Communication Technology
- (2) Information and Computing Technology
- (3) Internet and Computer Technology
- (4) Internet and Communication Technology

Ans. Option (1) is correct.

**Explanation:** Information and communication technology, or ICT, is defined as the combination of informatics technology with other, related technologies, specifically communication technology.

22. Data refers to unorganised facts that can be processed to generate meaningful result or information. Data are stored in computer in the electronic form in some storage devices such as HDD, SSD, Pen Drive, CD/DVD and memory card. There are two types of data, structured and unstructured. Structured data is where data stored in some format. Unstructured data are not stored in an organised format. There are some statistical technique to process the data. ICT technologies helps in the generation of large volume of data.

Based on the above paragraph. answer the following questions:

Which of the following is not a Data storage device?

- (1) CD/DVD
- (2) HDD
- (3) SSD
- (4) CPU

Ans. Option (4) is correct.

**Explanation:** CPU is not a storage device.

23. Data refers to unorganised facts that can be processed to generate meaningful result or information. Data are stored in computer in the electronic form in some storage devices such as HDD, SSD, Pen Drive, CD/DVD and memory card. There are two types of data, structured and unstructured. Structured data is where data stored in some format. Unstructured data are not stored in an organised format. There are some statistical technique to process the data. ICT technologies helps in the generation of large volume of data.

Based on the above paragraph. answer the following questions:

Which of the following is an unstructured data?

- (1) Books data at shop
- (2) Business reports
- (3) Tabular data
- (4) Kitchen inventory data

Ans. Option (2) is correct.

**Explanation:** Business Reports are unstructured data.

24. Data refers to unorganised facts that can be processed to generate meaningful result or information. Data are stored in computer in the electronic form in some storage devices such as HDD, SSD, Pen Drive, CD/DVD and memory card. There are two types of data, structured and unstructured. Structured data is where data stored in some format. Unstructured data are not stored in an organised format. There are some statistical technique to process the data. ICT technologies helps in the generation of large volume of data.

Based on the above paragraph. answer the following questions:

Which of the following is a structure data?

- (1) Writing tweets
- (2) Recording a video
- (3) Marking attendance by teacher
- (4) Text document

Ans. Option (3) is correct.

**Explanation:** Marking attendance by teacher is an example of structure data.

25. Data refers to unorganised facts that can be processed to generate meaningful result or information. Data are stored in computer in the electronic form in some storage devices such as HDD, SSD, Pen Drive, CD/DVD and memory card. There are two types of data, structured and unstructured. Structured data is where data stored in some format. Unstructured data are not stored in an organised format. There are some statistical technique to process the data. ICT technologies helps in the generation of large volume of data.

Based on the above paragraph. answer the following questions:

Which of the following is a data processing/data summarisation techniques?

- (1) Mean squared error, max, min
- (2) mean, median, mode, standard deviation
- (3) sum, average, max
- (4) count, left, right, power

Ans. Option (2) is correct.

**Explanation:** mean, mode, median and standard deviation belongs to data processing /data summarization techniques.

26. Rohan has written a python code where he has created a function, searchword() to read a text file "notes.txt" and display words having length 4 or less than 4 characters. In writing code some parts are missing.

Based on that answer questions.

```
def searchword():
    count =0
    file = open("notes.txt", '_') # statement1
    line = file. _____ # statement2
    word = _____ # statement3
```

for c in word:

```
if _____ : # statement4
    print ( c )
    _____ # statement5
```

Mode of opening the file in #statement1 is:

- (1) a
- (2) w
- (3) r
- (4) ab

Ans. Option (3) is correct.

**Explanation:** 'r' mode can be use to read the data from a file.

27. Rohan has written a python code where he has created a function, searchword() to read a text file "notes.txt" and display words having length 4 or less than 4 characters. In writing code some parts are missing.

Based on that answer questions.

```
def searchword():
    count =0
    file = open("notes.txt", '_') # statement1
    line = file. _____ # statement2
    word = _____ # statement3
    for c in word:
    if _____ : # statement4
    print ( c )
    _____ # statement5
```

Fill in the blank in #statement2 to read the data from the file.

- (1) read()
- (2) Read()
- (3) readlines()
- (4) read.lines()

Ans. Option (1) is correct.

**Explanation:** read() function required to read the file

28. Rohan has written a python code where he has created a function, searchword() to read a text file "notes.txt" and display words having length 4 or less than 4 characters. In writing code some parts are missing.

Based on that answer questions.

```
def searchword():
    count =0
    file = open("notes.txt", '_') # statement1
    line = file. _____ # statement2
    word = _____ # statement3
    for c in word:
    if _____ : # statement4
    print ( c )
    _____ # statement5
```

Fill in the blanks with #statement3 to read the data word by word

- (1) line.split
- (2) line.word()
- (3) split.word()
- (4) line.split()

Ans. Option (4) is correct.

**Explanation:** split() function is use to separate the string into word wise list.

29. Rohan has written a python code where he has created a function, searchword() to read a text file

"notes.txt" and display words having length 4 or less than 4 characters. In writing code some parts are missing.

Based on that answer questions.

```
def searchword():
    count = 0
    file = open("notes.txt", '_') # statement1
    line = file. _____ # statement2
    word = _____ # statement3
    for c in word:
        if _____ : # statement4
            print ( c )
            _____ # statement5
```

Fill in the blank in # statement 4 which display the word having lesser than or equal to 4 characters.

- (1) len(c)=4                      (2) len(ec)<=4  
(3) len(c)<4                      (4) len() <=4

**Ans. Option (1) is correct.**

**Explanation:** len(c)<=4 will check the length of word is less than and equal to 4 or not.

**30.** Rohan has written a python code where he has created a function. searchword() to read a text file "notes.txt" and display words having length 4 or less than 4 characters. In writing code some parts are missing.

Based on that answer questions.

```
def searchword():
    count = 0
    file = open("notes.txt", '_') # statement1
    line = file. _____ # statement2
    word = _____ # statement3
    for c in word:
        if _____ : # statement4
            print ( c )
            _____ # statement5
```

Fill in the blank in # statement5 to close the file

- (1) close()                      (2) File.close()  
(3) close( File)                (4) file.close()

**Ans. Option (4) is correct.**

**Explanation:** close() function is use to close the file reader.

**31.** Some operating system are required to handle multiple tasks called .....

- (1) Process                      (2) Task  
(3) Jobs                          (4) Queue

**Ans. Option (3) is correct.**

**Explanation:** Some operating system are required to handle multiple task called job.

**32.** Write the output of the given code snippet -

```
L=["One", "Two", "Three"]
L.append("Four")
L.append("Five")
X=L.pop()
Y=L.pop()
Z=L.pop()
print (L, X, Y, Z)
```

- (1) ["one", "Two", "Three", "Four", "Five"]  
(2) [] "Five", "Four", "Three"  
(3) ["One", "Two"] Five, Four, Three  
(4) ["One", "Two"], Three, Four, Five

**Ans. Option (3) is correct.**

**Explanation:** append() function will add the value at the end of the list.

So, "Four" and "Five" will be added at the end of the list.

and pop() function will remove and return the last element from the list.

So, last three elements will be stored in x,y,z accordingly. So, the output will be option 3.

**33. Match List I with List II:**

	List - I		List - II
(A)	Computer Network	(I)	Used to set up a wired network
(B)	Networking devices	(II)	Used for conversion between electric signals and digital bats
(C)	Network Interface Card	(III)	Used to connect multiple computers in different settings
(D)	Modulator Demodulator	(IV)	Allows computer to share data and resources among each other

**Choose the correct answer from the options given below:**

- (1) (A)-(I), (B)-(II), (C)-(IV), (D)-(III)  
(2) (A)-(IV), (B)-(III), (C)-(II), (D)-(I)  
(3) (A)-(III), (B)-(IV), (C)-(II), (D)-(I)  
(4) (A)-(II), (B)-(I), (C)-(III), (D)-(IV)

**Ans. Option (2) is correct.**

**Explanation:** Computer network allows computer to share data and resources among each other.

Networking devices are use to connect multiple computers in different settings.

Modulator Demodulator is used for conversion between electric signals and digital bits.

Network Interface Card is used to set up a wired network

**34.** Which is the correct expanded form of FOSS:

- (1) First Open Source Software  
(2) Free and Open Source Software  
(3) Fine and Open Source Services  
(4) Free and Open Source Services

**Ans. Option (2) is correct.**

**Explanation:** The Free and Open Source Software (FOSS) model provides interesting tools and processes with which women and men can create, exchange, share and exploit software and knowledge efficiently and effectively.



35. Which of the following is not an advantage of RDBMS.

- (1) Reduced Data Redundancy
- (2) Data Isolation
- (3) Reduced Data Inconsistency
- (4) Controlled Data Sharing

Ans. Option (2) is correct.

*Explanation:* Data Isolation is not an advantage of RDBMS.

**Section : Informatics Practices**

1. Which one is not an example of web browser?

- (1) Mozilla Firefox
- (2) Apple Safarn
- (3) Opera
- (4) Yahoo

Ans. Option (4) is correct.

*Explanation:* Yahoo is a search engine ,it is not a web browser.



# Writing Your Notes

**Just in case you have forgotten today, takedown your notes!**

**But why is it so important?**

Tools for the hands are tools for the brain writes Hetty Roessingh.

Handwritten notes are a powerful tool for encrypting embodied cognition and in turn supporting the brain's capacity for recuperation of information. If that sounds so scientific then in simple words:

Writing notes by hand help you in:

- ◆ Increasing your comprehension
- ◆ Strengthening your memory
- ◆ Igniting your creativity
- ◆ Engaging your mind
- ◆ Increasing your attention span

Are these reasons enough to get you started?

1. ....
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