



COMSATS UNIVERSITY ISLAMABAD
DEPARTMENT OF COMPUTER SCIENCE
TERMINAL EXAMINATION, SPRING 2022

Class/Section: - 16

Subject: - Introduction to ICT

Instructor: - Saif-ur-Rehman

Marks: - 50

Time: - 90 minutes

Dated: -

PART-I(CLO-1): [5 Marks]

1. Differentiate between tracks, sectors, clusters and cylinder of a hard disk with the help of a diagram.
2. Describe pipelining and its purpose.
3. What is E-Commerce? How is it different from Traditional Commerce methods?
4. What is bus in computer system? Discuss different types of buses
5. Differentiate between Register and Cache Memory.

PART-II(CLO-2): [5 Marks]

1. Convert (FAC)₁₆ to binary and decimal.

Handwritten: FAC
 11110101100
 15012/10

PART-III(CLO-3): [5 Marks]

1. Differentiate between Database and Database Management System.
2. Differentiate between flat file and relational database
3. Differentiate between Campus Area Network and Metropolitan Area Network, Intranet and Extranet, Client Server and Peer to Peer, Bus Topology and Star Topology
4. Define E-commerce and differentiate between B2C and B2B type of e-commerce.
5. Differentiate between primary key and foreign key.

PART-IV(CLO-4): [10 Marks]

1. A perfect number is a number for which the sum of its proper divisors is exactly equal to the number. For example, the sum of the proper divisors of 28 would be $1 + 2 + 4 + 7 + 14 = 28$, which means that 28 is a perfect number.

Draw the flowchart of a program that asks user to input a number and then prints if the user has entered a perfect number or not.

2. Draw a flow chart to guess a random number between 1-20 based on the following. User is prompted to enter a guess. If the user guesses wrong then the prompt appears again until the guess is correct, on successful guess, user will get a "Well guessed!" message, and the program will exit.

Sample Output

Enter a number: 19
 Your guess is too high
 Enter another number: 9
 you guess is too low
 Enter another number: 12

Handwritten hex to decimal conversion:
 0000 = 0
 0001 = 1
 0010 = 2
 0011 = 3
 0100 = 4
 0101 = 5
 0110 = 6
 0111 = 7
 1000 = 8
 1001 = 9
 1010 = A
 1011 = B
 1100 = C
 1101 = D
 1110 = E
 1111 = F
 A = 10
 B = 11
 C = 12
 D = 13
 E = 14
 F = 15

You are too close
Enter another number: 11
You guessed the right number

PART-V (CLO-5): [25 Marks]

1. Write a program that gives simple math quizzes. The program should display two random numbers that are to be added, such as:

247
+ 129

The program should allow the student to enter the answer. If the answer is correct, a message of congratulations should be displayed. If the answer is incorrect, a message showing the correct answer should be displayed. [7.5 Marks]

2. Write a Python program which iterates the integers from 1 to 50. For multiples of three print "Hello" instead of the number and for the multiples of five print "World". For numbers which are multiples of both three and five print "HelloWorld". [7.5 Marks]

Sample Output :

HelloWorld

1

2

Hello

4

World

3. What will be the output of the following Program segment
n=5;

```
for i in range(n):  
    for j in range(i):  
        print('*', end='')  
    print('')
```

```
for i in range(5,0,-1):  
    for j in range(i):  
        print('*', end='')  
    print('')
```

4. Point out errors in the following statements/program segment (if any) and write the correct code (wherever required).

i)

```
sum = 0  
i = 1  
while i < 10:  
    sum = sum + i  
i = i + 1
```

ii)

```
1=y  
x=5*(3/2)+3*2  
x=y+1  
area = radius * radius * 3.14159  
radius = 1.0
```


Assign the addition of z and 2 to x