University of Liberal Arts Bangladesh (ULAB)

FINAL EXAMINATION
Spring 2020

Course No:	CSE 101 (Sec: 4)
Course Title:	Introduction to Computer Studies

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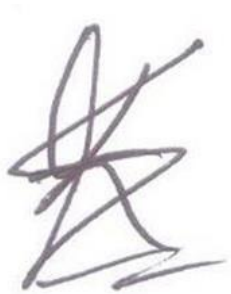
Date of examination:	22.04.2020

Obtained	**22**
Total	**25**



Signature of the Examiner

TASK 1

Computers in communications helps us to communicate to a large number of people around the world. Also helps us to create friend from different country.

The computers in military have been designed to do a lot more ~~me~~ complex or hard calculations or work. In intelligence, super computers much needed so that it ~~cah~~ can handle smart or complex works such as weapons management or other military works.

TASK 2

* **Abacus:** Abacus is known as the first mechanical calculating device. Addition and subtraction can easily be done by this. It's also called as counting frame. It used to be in use ~~in~~ mostly in Europe, China and Russia. The exact origin of Abacus is still unknown.

* **AltAir 8800:** AltAir 8800 was the beginning of personal computers. It was a micro-computer designed in 1974

* **The Macintosh:** ~~first~~ The Macintosh was the first personal computer teaching with a mouse and a graphical user interface (GUI). It also introduced us to icons.

TASK 3

(a) $(DEAD)_{16} = (????)_8$

A = 10
B = 11
C = 12
D = 13
E = 14

$13 \times 16^3 = 53248$
$14 \times 16^2 = 3584$
$10 \times 16^1 = 16$
$13 \times 16^0 = 13$

TASK 3

(a) $(DEAD)_{16} = (????)_8$

A = 10
B = 11
C = 12
D = 13
E = 14

D → 1101
E → 1110
A → 1010
D → 1101

001 101 111 010 101 101

1 5 7 2 5 5

15 7255

$\therefore (DEAD)_{16} = (157255)_8$ Ans.

(b) $(12.34)_{10} = (??)_2$

$(12)_{10}$ =

2 | 12	— 0
2 | 6	— 0
2 | 3	— 1
1	

$(0.34)_{10}$:

$0.34 \times 2 = 0.68$ — 0
$0.68 \times 2 = 1.36$ — 1
$0.36 \times 2 = 0.72$ — 0
$0.72 \times 2 = 1.44$ — 1
$0.44 \times 2 = 0.88$ — 0
$0.88 \times 2 = 1.76$ — 1
$0.76 \times 2 = 1.52$ — 1
$0.52 \times 2 = 1.04$ — 1
$0.04 \times 2 = 0.08$ — 0
$0.08 \times 2 = 0.16$ — 0
$0.16 \times 2 = 0.32$ — 0
$0.32 \times 2 = 0.64$ — 0 →

$\therefore (12.34)_{10} = (1100.01010111)_2$

TASK-4

(a) $(1001)_2 + (1011)_2 \longrightarrow (10100)_2$ Ans

```
  1 1 0 0 1
    1 0 1 1
-------------
  1 0 1 0 0
```

(b) $(11000)_2 - (10111)_2 \longrightarrow (1)_2$

```
  1 1  0 0 0
  1 0  1 1 1
-------------
  0 0  0 0 1
```

TASK-5

* Ergonomics: Ergonomics is a field of study that attempts to reduce strain, fatigue, and injuries by improving product design and workespace arrangement. Many people spends hours in front of a computer without thinking about the impact of their bodies. They physically stress their bodies daily without realizing it. It can cause back pain as well as serious backbone pain. I would suggest people to take regular break and ergonomics excersize to prevent Repetitive Strain Injury (RSI).

TASK 6

(a) Egocentric Environment: First person vision where the user is immersed in the visual seeniario

Example: Using a VR Headset

Exocentric: ~~When~~ User is placed in the room with giant screen

Example: Projectors or cinema hall.

(b) * Pull technology refers to clients that make request to servers.

Example: A web browse request a web page

* Push technology refers to servers that initial information updates to clients.

Example: Mobile APP Notifications or instant messages that typically pushed to clients.

© Software as a Service (SaaS):

Software as a Service (SaaS) allows users to connect to and us cloud -based apps over the internet. SaaS provide complete software solution which you purchase on a pay-as-you-go basis from a Cloud servie provider.

Example: Microsof office 365, Avast Antivirus.

(d) Virtual Reality: Virtual Reality is a simulated experience that can be similar to or completely different from real world.

Example: Taking real world simulation ganing through VR headset.