University of Liberal Arts Bangladesh (ULAB)

FINAL EXAMINATION
Spring 2020

Course No:	CSE 101 (Sec: 6)
Course Title:	Introduction to Computer Studies

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Obtained	19
Total	25

**Signature of the
Examiner**

TASK 1: –

A Computers are used actively in education and business to improve the quality and learning outcomes.

A computer is important to use in business to automate the manufacturing and, distribution process. With application of computers, business organizations can utilize the application of different types of software, computer is used in business

For:
- Business communication
- Payroll system
- Sales analysis, etc.

One of the most ap important applications in education today involves the ongoing use of educational software and programs that faciliade perp personalized online instruction for students. The computer provides a tool in the education system known as CBE (Computer Based Education).

It involves control, delivery, and evaluation of learning

Example: ULAB Moodle.

TASK 2:—

The abacus is a calculating tool used to teach arithmetic to children; it is also known as counting frame. Abacus is made up of wooden frame which consists of beads or disks that can be moved up and down on a series of strings. The abacus was invented in China, around 1300 BC. It was popularized during the Ming Dynasty (1368 AD to 1644 AD). The standard abacus can be used to perform addition, subtraction, division and multiplication; the abacus can also be used to extract square roots and cubic roots.

The Altair 8800 had an huge impact on people and computers. The Altair gave ideas to make better and advance computers. It was nothing like the computers today; was able to use tape for storage and computer users were able to flip switches on the panels, writing their own programs in machine language. Altair 8800 was a micro computer by Ed Roberts, the owner and president of MITS, who designed and built it.

Task 3:-

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

E	B	A	B
↓	↓	↓	↓
1110	1011	1010	1011

$(EBAB)_{16} = (\underset{1}{\underbrace{001}} \ \underset{6}{\underbrace{110}} \ \underset{5}{\underbrace{101}} \ \underset{6}{\underbrace{110}} \ \underset{5}{\underbrace{101}} \ \underset{3}{\underbrace{011}})$

$= (165653)_8$

b) $(12.345)_{10} = (??)_2$

$$
\begin{array}{r|l}
2 & 12 \\
2 & 6 \rightarrow 0 \\
2 & 3 \rightarrow 0 \\
2 & 1 \Rightarrow 1 \\
& 0 \rightarrow 1
\end{array} \uparrow
$$

$\therefore (12)_{10} = (1100)_2$

	.345
	×2
0	.69
	×2
1	.380
	×2
0	.76
	×2
1	.52

$\therefore (0.345)_{10} = (0.0101)_2$

$\therefore (0.345)_{10} = (0.0101)_2$

$\therefore (12.345)_{10} = (1100.0101\ldots)_2$

TASK 4:-

a) $(1001)_2 \times (1011)_2$

```
   1001
 × 1011
 ------
   1001
  1001×
 0000××
1001×××
--------
1100011
```

(with the worked intermediate steps also shown on the left:)
```
   1001
 × 1011
 ------
   1001
 10010×
 0000××
1001×××
```

Ans: 1100011

b) $(11000)_2 \div (101)_2$

```
101) 11000 (00100
     (-)101
     ------
       100
```

Reminder : 100

TASK 5:-

Ergonomics is the the process of designing or arranging workplaces, products and systems so that they fit the people who use them. Computer ergonomics are important because working at a computer for prolonged period of time can actually be harmful to overall health. It can result from be harmful to overall an health and in result can happen :-

1) Blurred vision / Head ache.

2) Carpal tunnel syndrome

3) Neck and back strain

4) Posture

To avoid all these problems we must be careful and we can prevent to them by adjusting the brightness of computer, a taking regular walk break and using a good chair that supports your back.

A per repetitive strain injury (RSI) is a gradual build up of damage to muscles, tendons and nerves from repetitive motions. RSIs are common and may be caused by many different types of activities including using a computer mouse, typing, grasping, etc. If you sit at a desk, follow so advice from experts: sit up straight and don't slouch. Good posture is the key to avoiding unnecessary stress on you muscles. And so using these way be a steps it may be useful to prevent RSI.

TASK 6:-

a) In the field of user Interfaces, an exocentric environment refers to a virtual reality of some other immersive environment which completely encompasses the uses. For example: by placing the viewer in a room made up entirely of rear projection screens.

· systems which merely display a virtual reality directly to he user do not qualify. they are called endocentric environment. Example: using a head-mounted display.

Il····s your back. ···ing

b) software as a service (saas) is a software distribution model in which a third-party provider hosts applications and makes them available to customers over the internet.
Example: Big comerce, Google Apples etc.

c) Push Technology refers to a client that requests information from a server. It delivers content to users automatically at set intervals.
Example: A web browser requests web pages from web servers.

Pull technology refers to a server that initiates information updates to a client. Entering a URL in a web browser to go to a certain website.
Example: An email server transmits an email to an email client.

d) Virtual Reality (VR) is the use of computer technology to create a stimulated environment.
Example: Samp. Samsung cream, VR, etc.