Mid Term Examination
Spring 2020

Course Name: Introduction to computer studies
Course Code : CSE 101
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Answer to the Question no. 1

a) $(1100000)_2 - (1011111)_2$

$\Rightarrow$ 1100000
$\quad$ 1011111
$\quad$ _____
$\quad$ 0000001

$\therefore$ Answer : 1

b) $(10111)_2 \div (101)_2$

Now,

$\begin{array}{r} 101) \overline{10111} (00100 \\ -01 \\ \hline 10 \\ -0 \\ \hline 101 \\ -101 \\ \hline 01 \\ -0 \\ \hline 11 \\ -0 \\ \hline 11 \end{array}$

$\therefore$ Answer : 00100

c) $(1100)_2 \times (1101)_2$

Now,

```
      1 1 0 0
   ×  1 1 0 1
   _____
      1 1 0 0
   0 0 0 0
   1 1 0 0
 1 1 0 0
_____
1 0 0 1 1 1 0 0
```

Answer to the Question no. 2

a) **①** Egocentric environment:

Egocentric environment is a virtual environment in which the user is fully engaged in the virtual virtual Reality (VR). Head-mounted display (HMD) and Virtual Retina Display (VRD) is used in this environment where the user experiences computer generated events in a realistic way.

⊞ Exocentric environment :

Here, The user gets a window view where
the computer generated environment can only be
witnessed on screen. User cannot interact with
the environment like Egocentric. We can say
watching television or movies in theaters can be
Exocentric environments where user cannot interact.

b) Quick Response (QR) code :

Quick Response codes or QR codes are specific codes
which are readable by machines consisting of an
array of black and white squares. A lot information
and URLs can be stored in a QR code which can
be scanned by smart polphones or QR scanners.
It's generally small and dust and dirt resistant.

Example : QR codes are used to give coupons of
discount or wifi passwords for many
restaurants.

c) Ergonomics :

Ergonomics is basically the scientific disciplined concerned with the understanding of the interaction among humans and others elements of system. It is about the well being of the user according to the set up of the computer so that working daily doesn't cause any severe joint or muscle pain. It should maintain the stress level of the user to minimum. There are designed chairs and desks to reduce stress level on the body.

Answer to Question no. 3:

a) Facebook: Facebook is the biggest social media platform in the world created by Mark Zuckerberg

⊞ **Software:** Facebook APP is needed to use facebook on any browser to log in to it's server/webpage.

⊞ **Hardware:** A computer or a smart phone or tablet can be used to access Facebook.

⊞ **User:** Anyone who has a facebook account can login to facebook using their email and password.

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b) **Retail Software:** Retail softwares are certain softwares used for e-commerce or business.

▣ Software: On-premise

⊞ Hardware: A computer or a server where on-premise can be installed as an e-commerce software.

⊞ User: Someone or a group who handles manual updates and fixes issues.

Answer to Question no. 4 :

The impacts and applications of computers in education and health care :

❖ Education : Computers have revolutionized the whole world including the sector of education. We can gain knowledge easier and anytime because of it. The current situation is an example. Because of the Novel Coronavirus, all classes have and intitutia have been closed and ~~wine~~ we are attending online classes.

❖ Health care : Because of computers, many ~~research~~ research and invention can be done in the sector of health care. And because of computer we can gain knowledge about health as well. We are maintaining safety now from COVID-19 now gaining knowledge from it. So, we can say computers in healthcare are revolutionary as well.