

# Phy 155 assignment

[Science](#), [Physics](#)



Physics 155 Assignment Physics 155 Assignment Question1 The earliest notable form of GUI was the Augmentation of Human Intellect project developed by Doug Engelbert in the 1960s. This included a mouse driven cursor and several windows, working on hypertext. In 1973, Xerox PARC was developed as the first computer window which demonstrated the graphical user interface characteristics (Nielsen, 1993). This product was however not marketed as a computer interface because it had not been registered commercially and was private property. The usage of the product remained limited to personal computers although many units were manufactured and heavily used in the company offices and several universities. Another factor was the market monopoly for large computers held by IBM, which made the product only applicable to private computers.

#### Question 2

CISCO is a multinational corporation specializing in designing, manufacturing and selling network equipment. The company was started by a married couple, Sandy Lerner and Leonard Bosack , who both worked at Stanford University in computer operations (Schneider, 2010). The company managed to develop high standard routers although it faced lawsuits as some of their software were said to have been stolen from the university. The founding couple worked out of the company in 1990, when the company went public. The company went public and became the most valued companies at more than \$500 billion. The company has extensively utilized acquisitions in achieving the tremendous growth it currently enjoys. Despite the acquisitions, the company captured the internet wave through production of modem access shelves and core GSR routers.

1. Refer to the diagram below

a)

$$E = hv$$

Where  $h$  = Planck's constant ( $4.136 \times 10^{-15}$ )

$V$  = energy level(12)

$$E = 6.948 \times 10^{-16} \text{eV}$$

b)

The electron will absorb the energy and become excited, and move to energy level 9. The photon will also not be absorbed into the atom.

c)

The photon will be absorbed and the electron ejected from the atom

Question 3

Large capacity - fibre optics can transmit a large number of conversations simultaneously compared to other cables, fibre optics (up to 1million), coaxial cables (10, 000 conversations, microwave radio (2000 conversations.

Size and weight - they are lighter and smaller compared to copper wires.

This makes them take less space and become easy to install.

Electrical interference - they do not generate electrical interference; hence cannot be affected by EMI or RFI.

Security - lost data can be easily tracked through the received ray

Reliability and maintenance - they can last up to 30 years because they are immune to temperature changes and moisture, making them suitable for underwater use

Question 4

There are approximately over 5 billion internet connection devices in the world today. The current world population is said to be about 7.2 billion people. The number of internet connection devices is expected to surpass the total world population as internet connections continue to increase. The effects of increased internet usage are expected to enhance communication and information transferring between the increased population. The increased usage and increased population is expected to increase the pressure on internet connections necessitating upgrades within short periods.

#### References

Nielsen, J. (1993). Usability Engineering. Burlington, Massachusetts: Morgan Kaufmann.

Schneider, L. (2010). Cisco Systems - Company Profile. Retrieved from <http://jobsearchtech.about.com/od/companyprofiles/p/CiscoCo.htm>