PRISM WORLD

Std.: 9 (English) **Science 2**

Chapter: 10:

Q.1 **Fill in the blank and rewrite the completed statements** **5**

1 To draw graphs based on the quantitative information obtained in an experiment, one uses .....

Ans To draw graphs based on the quantitative information obtained in an experiment, one uses **Microsoft Excel.**

2 While presenting pictures and videos about the works of scientists, we can use .....

Ans While presenting pictures and videos about the works of scientists, we can use **Microsoft Powerpoint.**

3 While working with a computer we can read the information stored in its memory and perform other actions in ..... memory.

Ans While working with a computer we can read the information stored in its memory and perform other actions in **the internal** memory.

4 The first generation computers used to shut down because of .....

Ans The first generation computers used to shut down because of **the valves.**

5 A computer will not work unless ..... is supplied to it.

Ans A computer will not work unless **electricity** is supplied to it.

Q.2 **Give scientific reasons** **2**

1 The first generation computers used to shut down because of the valves.

Ans i. The valves used in the first generation computers were very large.
ii. They consumed a lot of electricity and generated a lot of heat.
iii. Hence, the first generation computers used to shut down because of the valves.

Q.3 **Give examples** **2**

1 Give any 4 device use to share the information with others.

Ans Compact Discs (CDs), USB drives, External hard drives, pen drive

Q.4 **Suggest remedies / measures** **3**

1 What precaution should be taken while using various types of software on the computer?

Ans i. Security updates should always be installed whenever they become available for your operating system.
ii. Installed applications should be kept up-to-date.
iii. Anti-virus software should be installed and updated.
iv. Use of pirated software should be avoided.
v. Always read the End User License Agreement (EULA) while installing any software so as to know the risks beforehand.
vi. Provide the data/input to the software in the required format.

Q.5 **Answer the following** **9**

1 What are the various devices used in information communication? How are they used in the context of science?

Ans i. **Mobile phones :**
It allows transfer of information through voice and written messages as well as through photos, videos etc.
ii. **Laptops/Computers :**
It allows access of information stored on internet as well as processing of that information.

iii. **Digital TV :**
It is similar to analogue TV but has the capacity to deliver rich multimedia learning experiences. It enables interactivity.

2 How does a computer work?

Ans i. The working of a computer includes the following stages :
a. Data input
b. Processing of data
c. Getting the output
d. Storing of the data
ii. The data and the instructions are fed into the computer, which is known as the input.
iii. Later, the series of operations are performed on the data based on the instructions given to it which is known as processing.
iv. Once the data is processed, the final result is given by the computer, which is known as the output.
v. The data which is fed into the computer and the result generated by the computer is stored in the memory of the computer, which is known as the storage.

3 Explain the role and importance of information communication in science and technology.

Ans i. The advancement in science and technology has led to a tremendous increase in the available information.
ii. It is necessary to store this information properly so that it can be made available to the different streams of sciences and for improvement of public life in general.
iii. Information communication technology (ICT) can be used for this purpose. It includes the use of communication devices and services like storage of information, making platforms available for easy access of information, etc. provided with the help of the communication devices.
iv. Thus, information communication ensure that the knowledge provided by the science and technology is properly stored and that it does not become outdated.

Q.6 **Answer the following in detail** **5**

1 Explain the differences between the different generations of computer. How did science contribute to these developments?

Ans The computer of the present day is considered to have gone through five generations, since it was created. The different changes which have taken place through the five generations are as follows :

a. Development in the technology :
i. The technology went on developing leading to evolution of different generations of computers.
ii. Initially, vacuum tubes were used for running the computers, which generated a lot of heat and caused frequent shutdowns.
iii. Later, they got replaced with transistors, which further got replaced by Integrated circuits (ICs) and later with Microprocessors.

b. Electricity consumption and Heat Generation :
i. The first generation of computers consumed a lot of electricity and also generated lot of heat.
ii. However, the improvement in the technology resulted in lesser consumption of electricity and also led to the reduction of the generated heat in the further generations.

c. Size, efficiency and reliability :
i. Also, the improvements in technology led to the reduction in size of the computers while increasing its efficiency and reliability.

d. Input / Output method :
i. The input and output methods have developed as follows :

Generation of computers	Input method	Output method
1st & 2nd generation	Punched cards, paper tapes	Printer
3rd generation	Keyboard	Monitor, printer
4th & 5th generation	Keyboard, mouse & scanner	Monitor, printer

The improvement in science made the improvement in technology possible.
The earlier bulky and less efficient devices of the computers got evolved into compact, more efficient and faster devices.
Thus, it was only due to scientific advancements that the generations of computers evolved.