**REVISION QUESTIONS**

**Computer Systems**

1. **What is a computer system?**

* *A computer system is a collection of 3 entities namely; hardware, software and liveware that work together to receive, process, manage and present information in a meaningful format.*

1. **Differentiate between a computer and a computer system?**

* *A computer is an electronic device capable of accepting data as input, process it and give out information as output while A computer system is a collection of 3 entities namely; hardware, software and liveware that work together to receive, process, manage and present information in a meaningful format.*

1. A scanner used at points of sale terminals in supermarkets is an example of *Optical Bar Recognition (OBR)* scanner.
2. The automated input technique where keying of input data is eliminated is sometimes referred to as *Typing*.
3. The type of scanner used to grade multiple choice examination is called *Optical Mark Recognition(OMR)* Scanner.
4. **Name three factors one would consider when selecting data entry method, and give a reason why each is important.**

* *Type of data to be inserted into the computer*
* *Target group of the data*
* *User friendliness of the input device*
* *Number of audience*
* *Amount of data*

*When choosing a data input device one has to put in place the above factors and many more. For example, one may go for a Braille keyboard if his/her audience is the blind, equally if one is a regular typist it will be advisable to go an ergonomic keyboard so as to alleviate wrist strain n provide comfort because of the bulky typing tasks*

1. **Explain how banks use MICR scanners for cheque processing**

* *The document characters are typed or printed Using ink particles of iron(II) Oxide that gives them magnetic property. After forming the characters on the document, the magnetic ink encoded characters are magnetized by passing the document through a strong magnetic field. Reading is done by the MICR.*

1. **Describe two situations in which speech recognition devices may be useful as a method of data entry**

* *When addressing more audience*
* *Suitable for physically challenged people i.e. the blind*

1. **Optical scanning of universal product code is now widely used as input method. Give an example of a place where it is used and explain how it is used.**

* *Used in supermarkets/chemists, wholesale shops.*

*The Optical Bar Recognition (OBR) scanner is used to capture data as lines of varying lengths known as barcodes or UPC (universal product code). Barcodes hold manufacturer’s details and the product’s code but not the price details because prices vary from one place to another.*

1. **Describe three different optical and two magnetic scanning techniques used for input. Give an example of the use of each.**

***Optical Barcode Recognition(OBR):*** *Used to capture data coded as varied lines of varying thickness known as barcodes or Universal Product Code*

***Uses***

* *Marketing manufactured products and published materials*
* *In supermarkets, libraries and other retail market outlets.*
* *Keeping sales records for the purpose of accounting, taking stock, restocking and identifying slow moving products.*

***Optical Mark Recognition(OMR):*** *Detects marks made on a piece of paper using ink or a soft pencil, by passing an infrared beam over them.*

***Uses***

* *To mark multiple choices questions*
* *Analyzing responses to structured questionnaires*
* *Selecting correct number combinations from lottery tickets.*
* *Reading order forms*
* *Reading time sheets*
* *Reading insurance payments*

***Optical Character Recognition(OCR);*** *Used to read typewritten, computer-printed or handwritten characters and transforms the images into a soft copy that can be manipulated using a word processor.*

***Uses***

* *Handling sales orders*
* *Clearing cheques*

***Badge Readers****: is are devices used to read data from rectangular plastic cards. the data is both in machine-readable and human-readable form.*

***Uses***

* *Recording employees’ check in and check out times in factories*
* *Adjusting the speed of conveyer belts in manufacturing industries*
* *Obtaining job details of employees when needed.*

***Magnetic Readers****.*

*A magnetic reader is a scanning device that reads data made using magnetic ink.*

*Magnetic Ink Character Recognition(MICR): Uses the principle of magnetism to convey its data inputs.*

***Uses***

* *Used in banks for cheques processing. The details of the cheques, for example, serial number, bank branch number, and account holder’s number among others.*

***Application.***

*The document characters (e. g cheque) are typed or printed using ink with particles of iron (II) Oxide that gives them magnetic property. After forming the characters on to the document, the magnetic ink encoded characters are magnetized by passing the document through a strong magnetic field. Reading is done by the MICR.*

*Through the reader, the magnetized characters cause current to flow through the reading head depending on the magnetized surface area occupied by the individual characters. The characters are discriminated depending on the magnetic pattern that induces the different amount of current. The MICR recognizes this patterns and sends them into the computer system as input in form of electric signals.*

***Magnetic Stripe Readers(MSR):*** *A magnetic stripe is a layer of magnetic material on the surface of a plastic card. The magnetic stripe is read using a magnetic stripe Reader.*

***Uses***

* *Reading plastic cards in banks*
* *Reading telephone calling cards.*