

victoria University  
of  
Bangladesh

Course code: CSE-333

Course title: Computer peripherals  
and Interfacing

Submitted BY

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Ans to the Q. NO. 1 (A)

Definal keyboard: A keyboard is a peripherals device that enables a user to input text in to a computer or any other electronic machinery. A keyboard is an input device and is the most basic way for the user to communicate with a computer. This device is patterned after its predecessor the typewriter. From which the keyboard inherits its layout although the keys or letters are arranged to function as electronic switches. The keys include punctuation alphanumeric and special keys like the windows key and various multitasking keys, which have specific functions assigned to them.

Contact type keyboard

⇒ widely used switches

⇒ pressing the keyboard plunger causes the contacts to touch and to produce a voltage

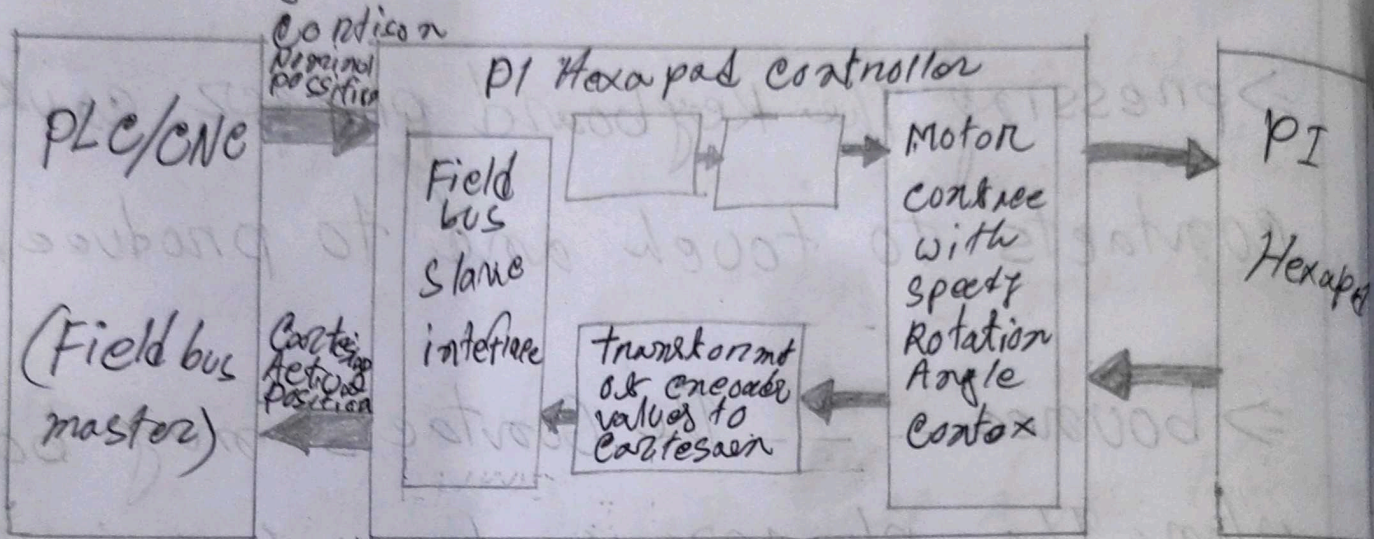
⇒ bounce - - - The contacts may bounce when the plunger is depressed giving the appearance of several rapid key depressions

This effect is known as key bounce.

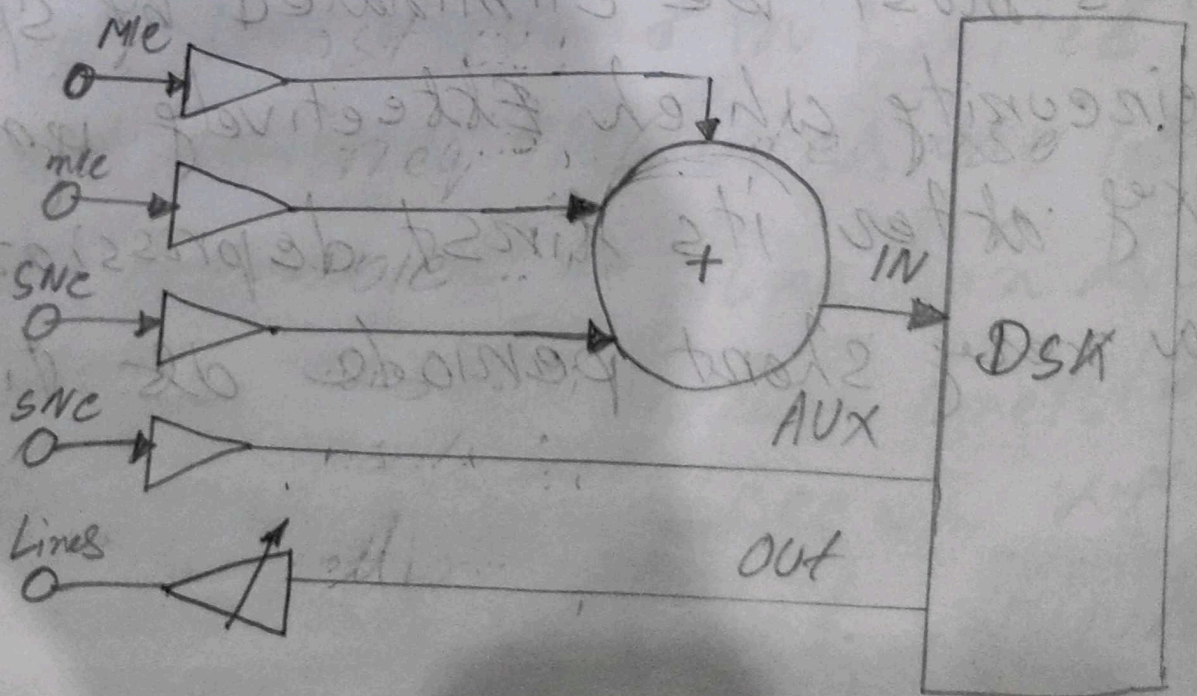
This must be eliminated by special circuitry which effectively ignores the key after its first depression for a very short period of time

# Ans to The Q. NO. 1 (B)

Analog interfaces Draw!



⇒ An Analog interface is point to point with no exact requirement with regard to cable type and cable. The signal from sensor that measures surrounding natural factors such as temperature.



Analog interfacing

Ans to the q. NO. 2(a)

A Sensor is a device which converts the physical parameter or quantity into corresponding electrical output. A transducer is a device that transforms energy from one form to another, such as speed into electrical signal. A sensor does not have any other component except itself.

List The Sensors and Transducers

Sensors are : temperature sensor, photo sensor, proximity sensor,

transducers are : strain gauge, microphone, loud speaker, piezoelectric element etc.

(A) Ans To the Q. NO. 2(b)

List The advantage and disadvantage of Thermocouple sensors.

The advantages of Thermocouple Sen

Simple  
inexpensive

large variety

large

Temperature

range Rugged

<< Self-powered

>>

in terms of design, These sensors are simple yet tough

wide temperature Range

The disadvantages of thermocouple :

Non linear low  
voltage

Require

reference less

Stable

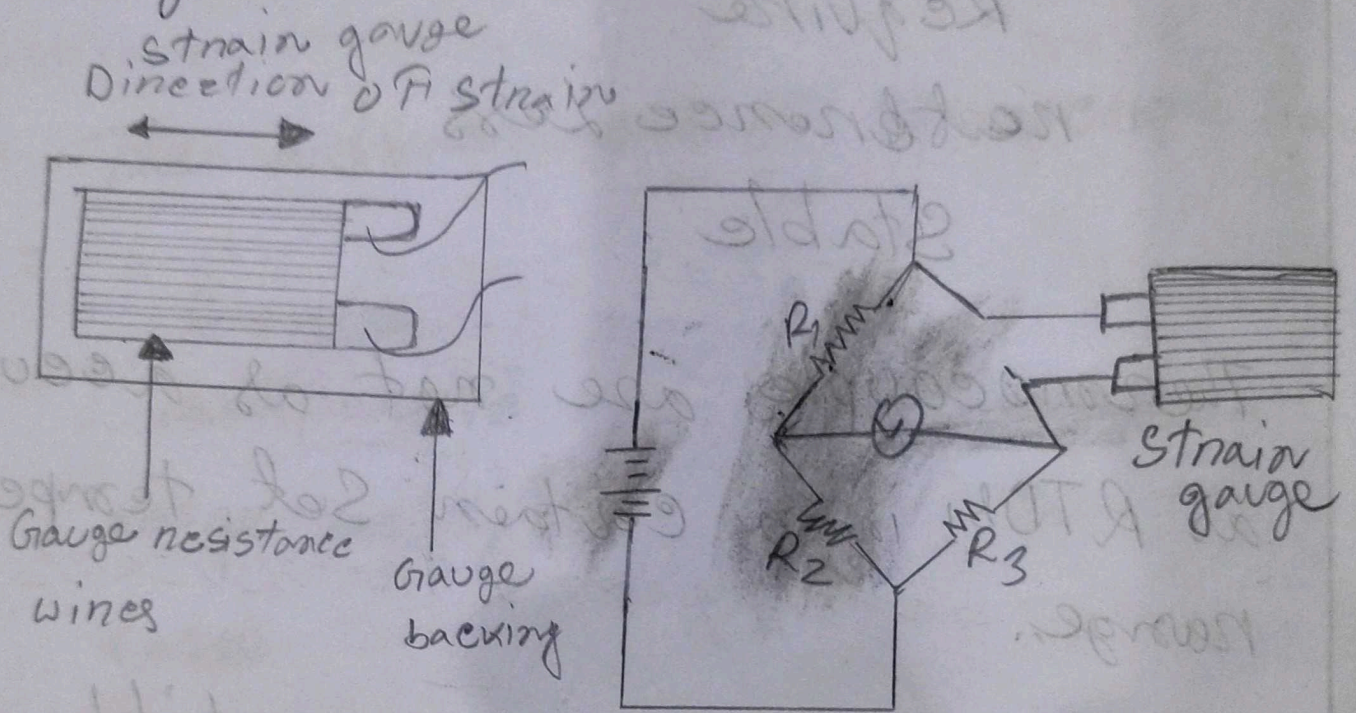
Thermocouples are not as accurate as RTDs in a certain set temperature range.

Thermocouples are susceptible to drift over time.

Thermocouple signals are not perfect linear.

Ans TO The Q. NO. 3(a)

Describe with Figure of strain gauges.





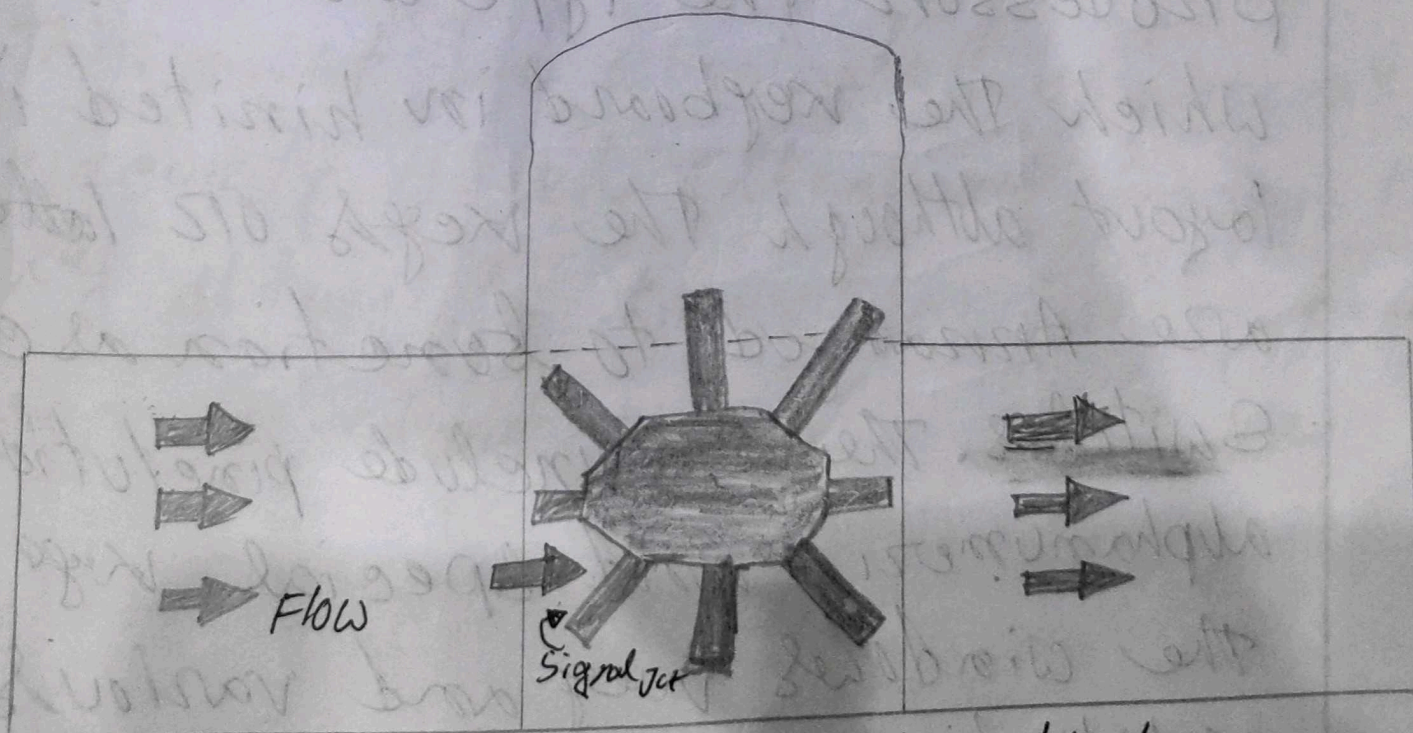
A strain gauge is a resistor used to measure strain on an object. When an external force is applied on an object due to which there is a deformation occurs in the shape of the object. This deformation in the shape is both compressive or tensile is called strain and it is measured by the strain gauge and it is measured by the strain gauge. When an object deforms within the limit of elasticity either it becomes narrower and longer or it becomes shorter and broader. As a result of it, there is a change in resistance end-to-end.

Ans To The Q. NO. 3(b)

Describe the paddle wheel Method  
As the magnets in the blades spin past the sensor the paddle wheel meter generates a frequency and voltage signal which is proportional to the flow rate. The faster the flow the higher the frequency and the voltage output. Working principle of paddle wheel flow meter.

The paddle wheel method is designed to be inserted into a pipe fitting either in-line or insertion style. These are available with wide range of fitting styles, connection methods and materials such as PVDF, polypropylene and stainless steel similar to turbine

meters, the paddle wheel meter. Require a minimum run of straight pipe before and after the sensor. Flow display and controllers are used to receive the signal from the paddle wheel meter convert it into actual flow rate or total flow. Below the processed signal can be used to control the process parameter send signal to external etc.



paddle wheel Method

Ans to the Q. NO. 4(B)

### Typical Computer System:

Excluding CPU and memory all other Input output devices connected with the computer system are altogether referred to as peripheral devices.

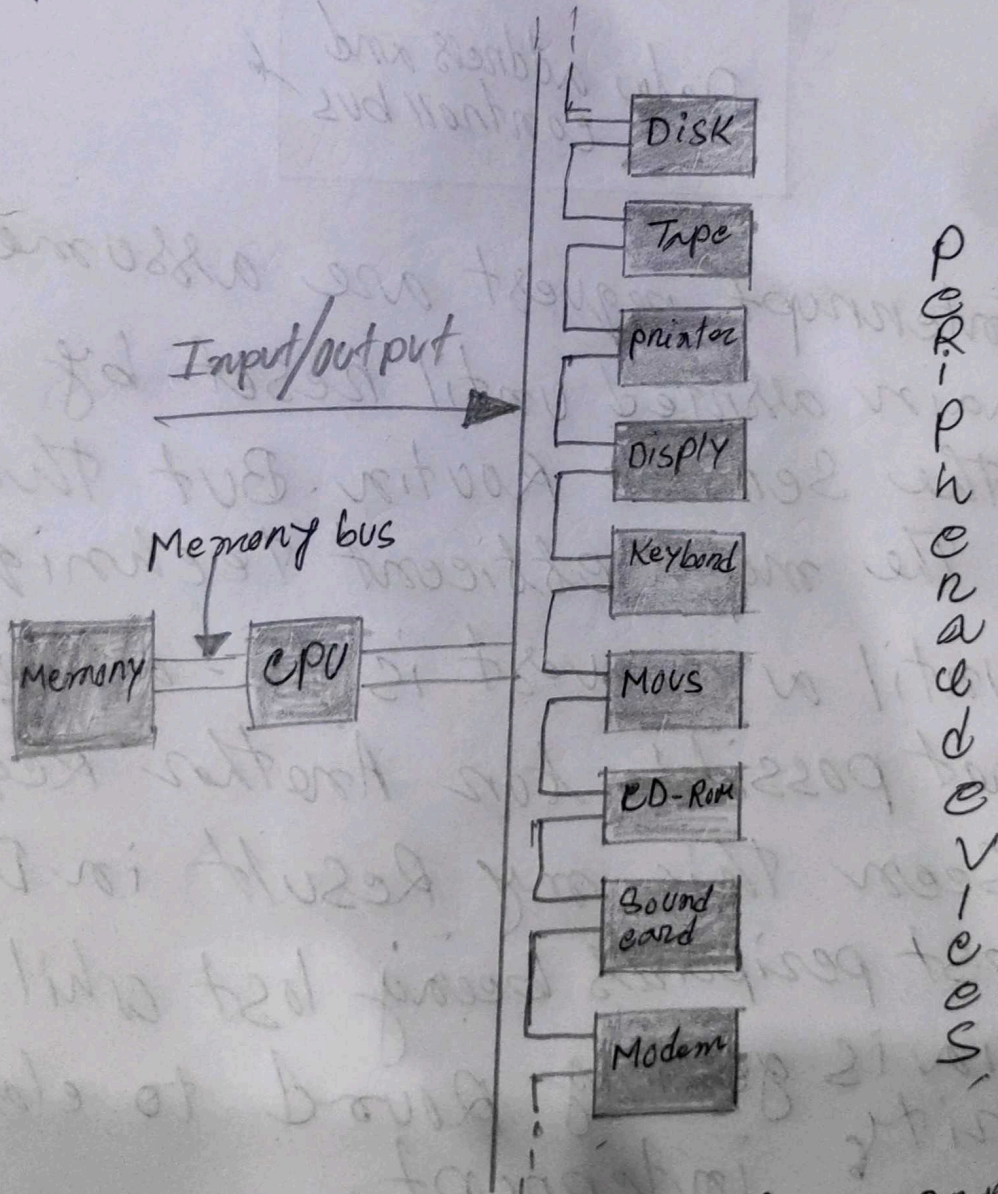
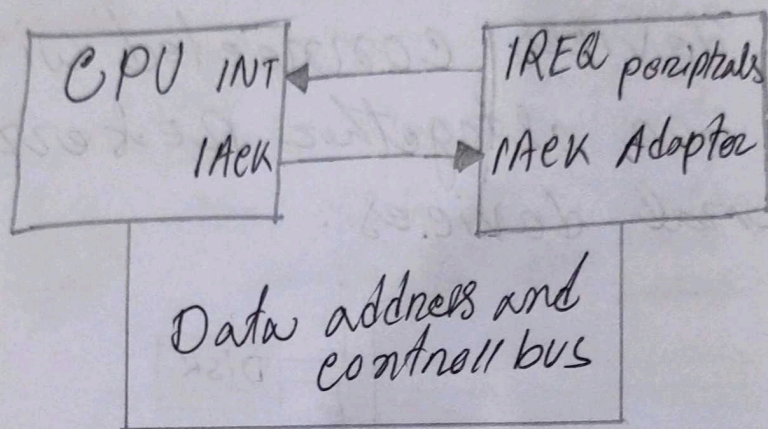


Figure : Typical computer system

Ans to the Q. NO. 4(c)  
The Interrupt Acknowledgement



⇒ Interrupt request are assumed to remain asserted until reset by instruction in the Service Routine. But this is not the most efficient technique

⇒ until a request is de-asserted it is not possible for another request to be seen this may result in Data from a first peripherals being lost while Service routine is getting round to clearing above priority interrupt.

⇒ It could be better if the request could be cleared quickly after the request is noticed.