Victoria University of Bangladesh

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Bsc in CSE

batch : 22th (evening)

course code : CSE-333

course tittle : computer peripherals & interfacing

student ID : 22212200021
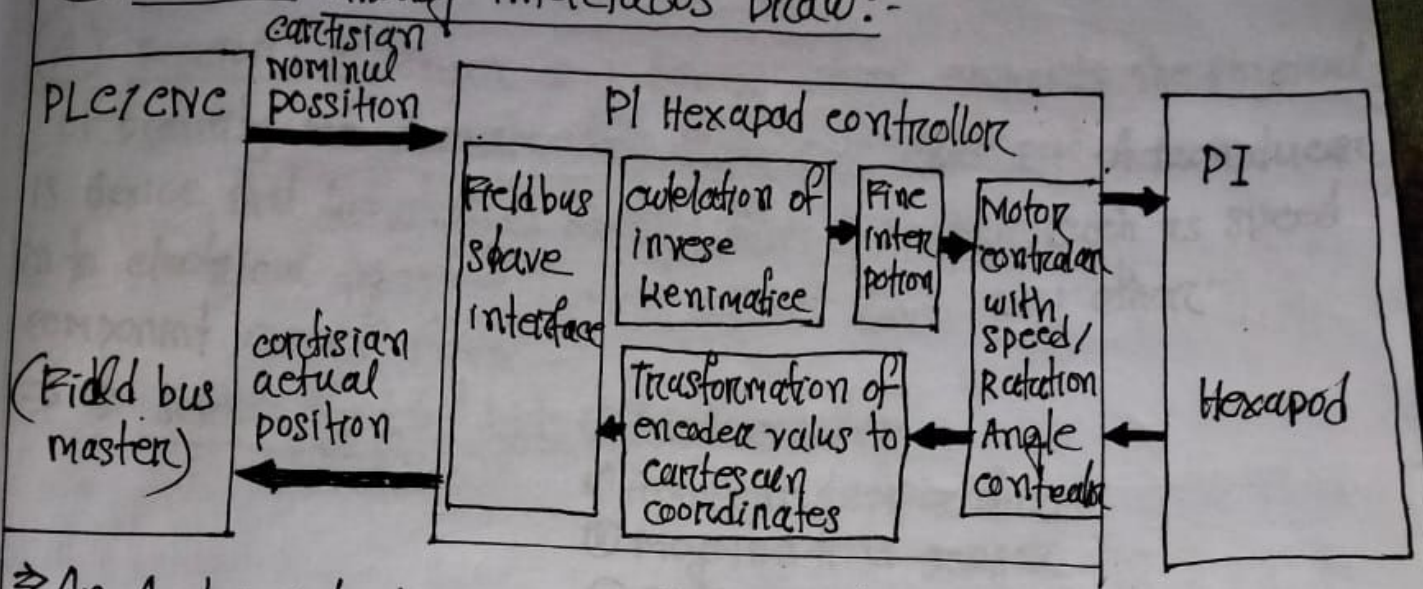
Ans to the q. no - 1

(A) Ans: <u>Define keyboard</u>: A keyboard is a puriphiral Device that Enoblis a user to input text in to a computer on any other Electronic machinary. A keyboard is an input Divice and is the most basic was for the user to commonicate with a computer. This device is patterned after its predicossor the type writer, from which the keyboard inbiricited its layout, Although the keys or latters are arranged to function as Electric switcher. The keys include, panetuation alphanumeric and special keys like the windows key and various multimedia keys, whies have specifice function Assigned to them.

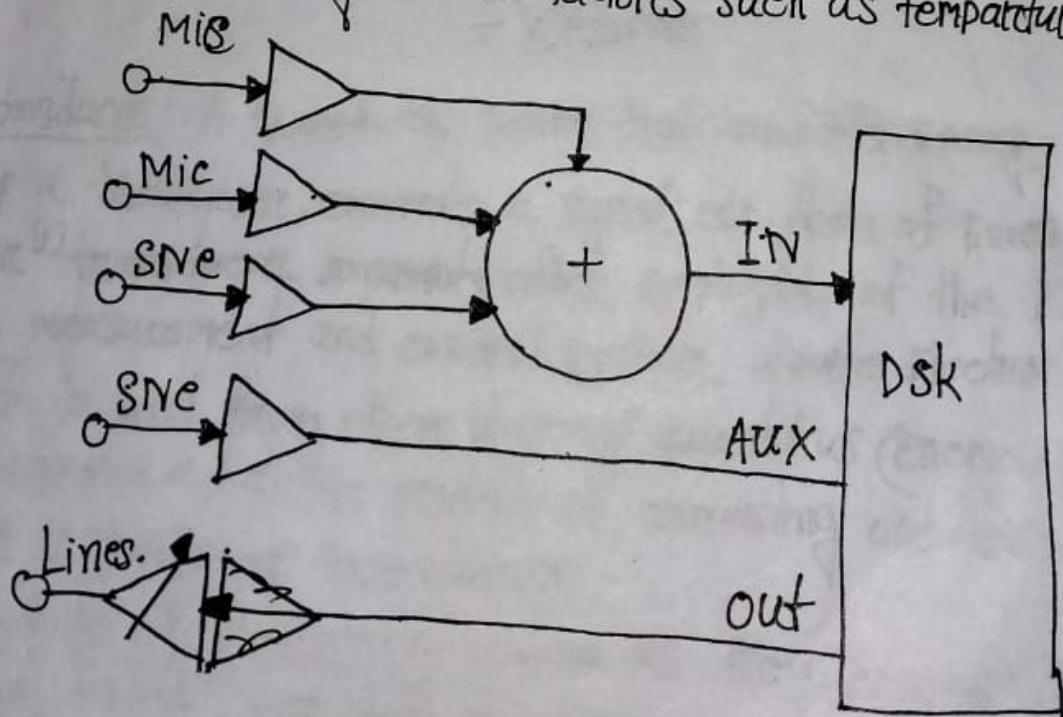(B) <u>contact type keyboard switch</u>: ⇒ widely used switches.
⇒ pressing the keyboard plunger caussithi contarets to toch and to prodase a voltage.

⇒ key bounce — the contacts may bounce when the plunger isdoprrud giving the appearance of simral rapid key dippressions. This effect is known as key bounce. this must be eliminated by special cirreurity which effectinely ignore the key after its first dippression for a key short periode of time.

(B) **Answer:** Analog interfaces Draw:-

⇒ An Analog interfaces is point. to point with no text requirents with regard to cably type and cable. The signal from sensors that measure surrounding natural factors such as tempartur, presure.

Alalong Interfaeong.

Ans to the q. no -2

(A) <u>sensor</u>: A sensor is a Device which converts the physical of Erantity into corrusponding Electricale chet put. A transducar is device that transforms Energy from to Another, such as speed in to electrical signal. A sensor dos'not have any other component except itself.

⇒ ⇒ <u>sensor type of list:</u>
① Aecileroneter
② Ambient temparature
③ Mogmtic field sensor
④ Gyroscope
⑤ Hoart Rate
→ light
→ proximity
→ pressure.

⇒ <u>Transducir:-</u> A transducer Device that converts Energy from to Another usally a transducer. converts a signal one from of Energy to signal in another [1] transducer conects after Employed at the Baundars of auto mation, measurement and control system, where Electroele signal convort to and from other plysical auantitus (Energy, force, bree, light, Motion, position, e.t.c) The prosess of converting one from of energy to another is known as transducer.

⇒ <u>Machaniol trunducin:</u> So called as they convert physical Eluantits into maehanical out put or vice virsa,

⇒ <u>Electrical tronsducer:</u> However convert physical quontities into Electrical out put signal.

(B) _Answer:_ Thermo couple Advantages and disadvantage :-

In temparatur measurement, the thermocouple term is common an is mainly used in thermomete as the sensor of temparture measurment the ability of thermocouple who can measure very high until very low temparature is the main reson why so many industrus Apell yingH this artide has given the benefits and drawbook of the thermocouple to better understand this topic.

[±] Adventages of Herorocoupl: ① very wide temparatur range About 200°C to 2500°C. ② First Responel time. ③ The are simple construction. ④ Low initial cost. ⑤ Durable. ⑥ Easy to read has a clear seroenegood seal. ⑦ Quick response for any temparature ehenge. ⑧ Presion Aeeuraey in temparature measurement. ⑨ It is not easily Brokengood durability. ⑩ Not required bridge crreuit. ⑪ Good aceuracy. ⑫ High speed respons.

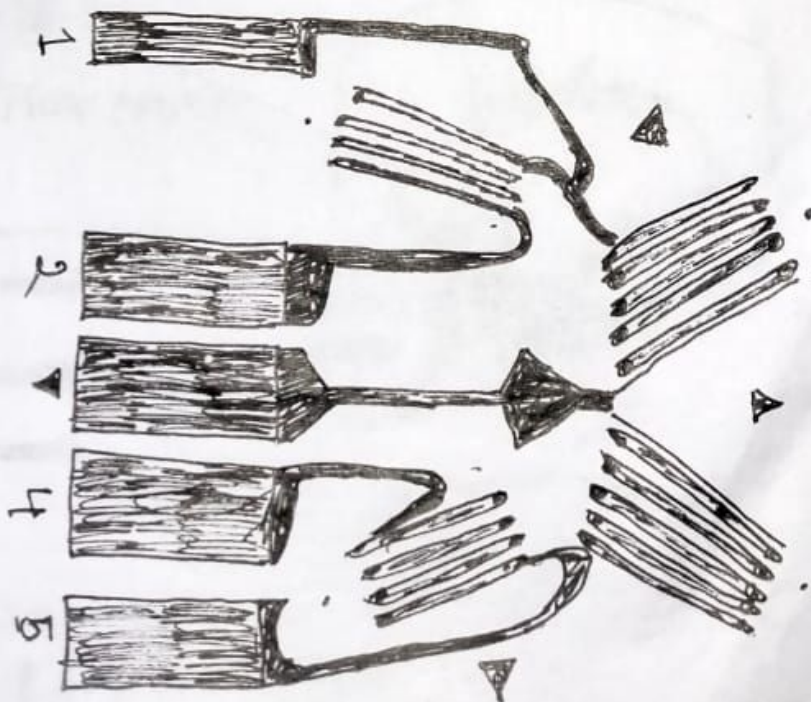[±] Disadventages of theromocouple:- ① Not as stable as RTD. ② More succeptible to RFI/EMI ③ Roealobration is deficult. ④ the arenonlinear. ⑤ they have a low autput voltage. ⑥ loss sensdtivity. ⑦ loss sensitivity. ⑧ they require are forcenee for oporation the stray voltage piek up is possible. ⑨ As cut put voltage is very small so it needs amplitieation. ⑩ Difficult to verify. ⑪ Requir exposive TC wire from the sensor to recoarding. device.

Answer to the question No-3

(A) Answer: Strain Gage : A strain gage work to measure the amout of strain on a given object. At this most basic from. a strain gage converts a change in demenson to a chang in electrical resistance. the retio of mechanicle strain to Electrical resistance is what is known as the gage factor, and is specifie to the type of strain gage used. Strain gage can be used to sener expension as wall as contraction and produce positiove or negative signals to distinguish between the two.
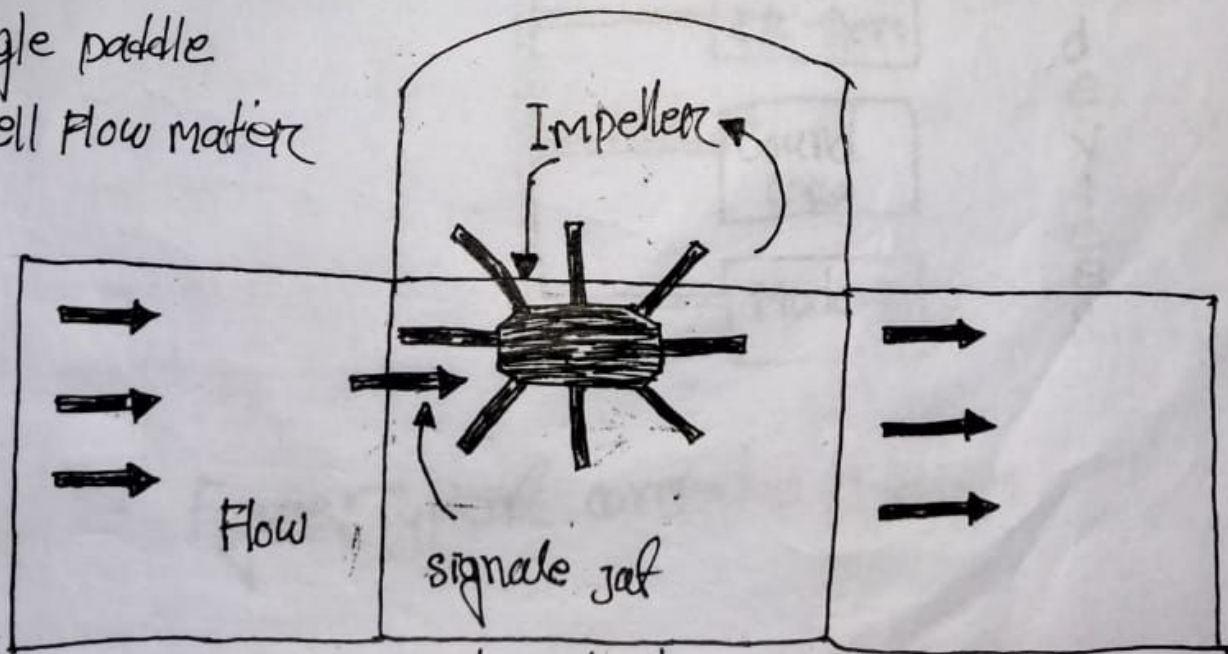
In general a strain gage maks use of very fine weire or matalie foil arranged in a grid pattern. the Electicale roistance of strain gage matalie grid chanops in poporation. To the amount of strain Expireneed by the object, offering the oparatore a clean accurate measusement of strain, e.g. How much the the item is struteed or twisted.

Answer to the question · No-3·B

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(B) Answer: paddle wheel method : As the Magnets in the blades spin past the sensor, the patle wheel meter genarates a frequney and voltage signal which is proportional to the flow rate. The faster the flow the higher the frequney and the voltg out put. working proneiple of poddle whell plow mater.

The paddle wheel mathod is Designal to be insorted into a pipe fitting, either in-line or insorction method and materials such a PYDF polyproplen and staunless steel. similar to turbine meters, the paddle wheel mater Roquir a minimum run of straight pipe before and after the sensor. Flow disply and controllers are used to recred the signal from the paddle wheel matter convertdit into actual plow rate are total flow balue the procosed signal can be used to control the procose ganerate omalam. send signal to external e.t.c.

Single paddle whell Flow mater

F.g. puddle wheel mathod

Answer to the question No-4 -Ⓑ

Ⓑ **Answer:** Typical compiter system: Excluding eple mamagg all other input device connected with the computer system are altogther reforned to as peripheral device.

input / out put

Memory buss.


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┌────────┐   ┌─────┐              ┌─────────┐
│ Memory │──▶│ CPU │              │  Disk   │
└────────┘   └─────┘              └─────────┘
                                  │  Tape   │
                                  │ printer │
                                  │ Disply  │
                                  │keyboard │
                                  │  Mous   │
                                  │ CD-Rom  │
                                  │ Sound   │
                                  │  card   │
                                  │ Modem   │
                                  └─────────┘
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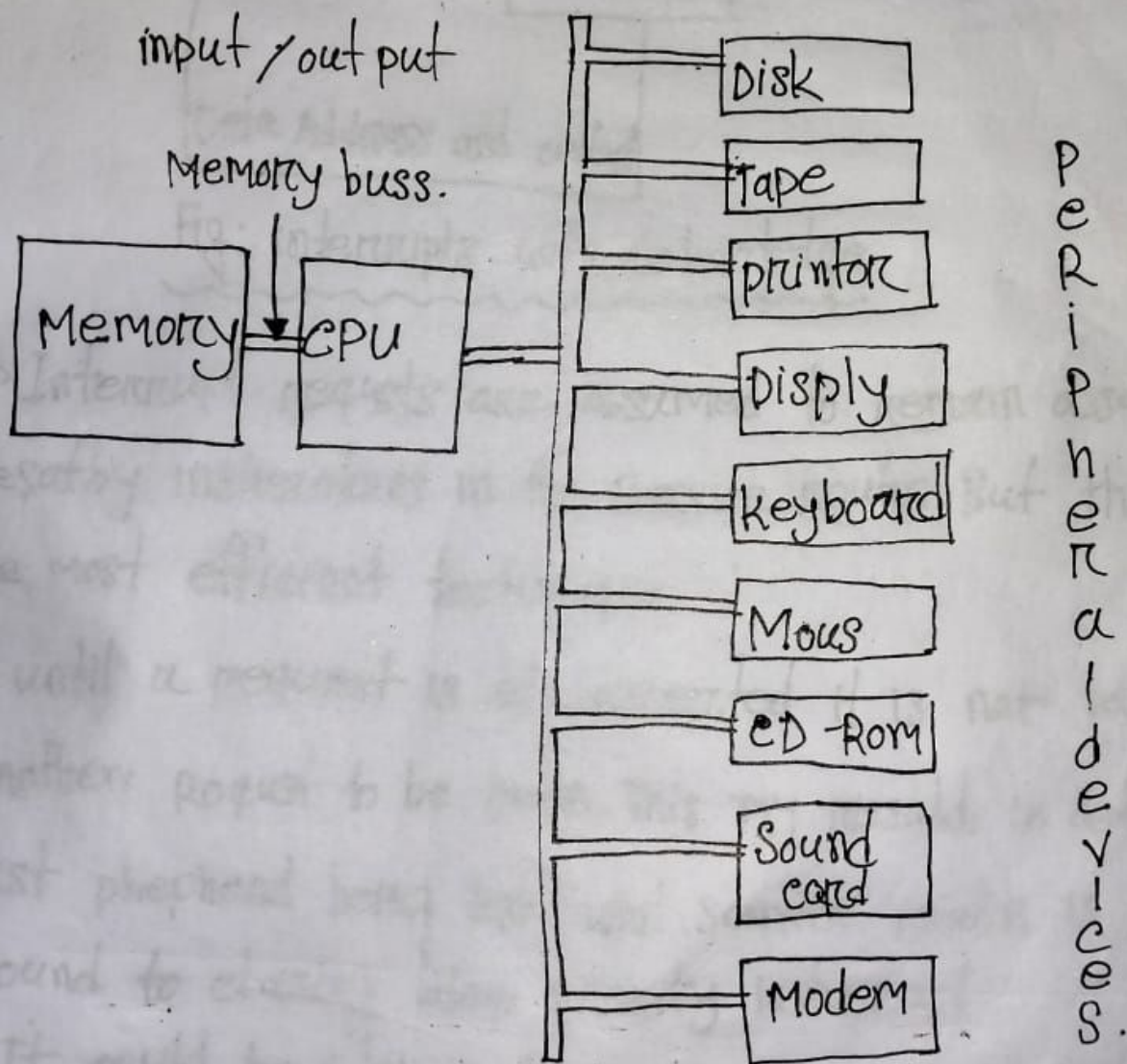
P e r i p h e r a l d e v i c e s.

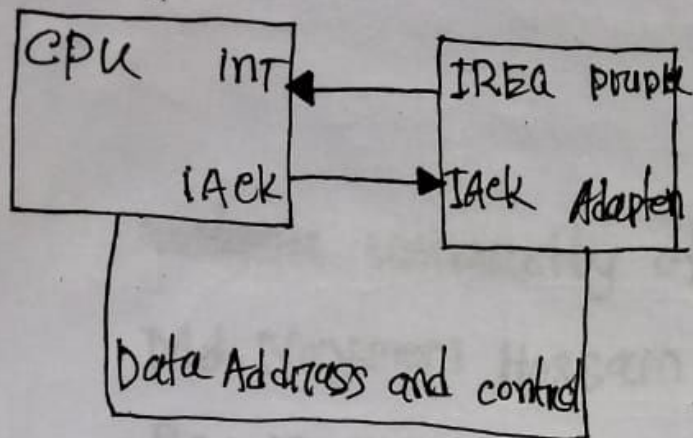Figure: Typical compaten system

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(e) Answer: Interrup Acknowledgement:-

Fig: interrupts with Acknoledge

⇒ Interrupt requsts are assumed to remain asserted until Resetby instructions in the service routin. But this is not the most efficient techinique.

⇒ until a request is de-asserted it is not possible for Another Roqust to be seen. This my resuld in data from a first phephend being lost whil service routin is getting Heound to claring alow prority interrupl.

⇒ It could be better if the Request could be eliased quikly affer the requst is notice.