

Om Shree
2006077

IOT Assignment Chapter - 07

Ans 1) Micro-controller :-

A compact integrated circuit designed to govern a specific operation in an embedded system.

Micro-processor :-

A type of miniature electronic device that contains the arithmetic, logic & control circuit necessary to perform the functions of a digital computer's CPU.

→ IOT hardware comprises of a wide range of different devices that are completely connected to one another. It's the tech that is slowly beginning to govern the world. Series include a wide range of devices such as energy modules, power management modules, RF modules and sensing modules.

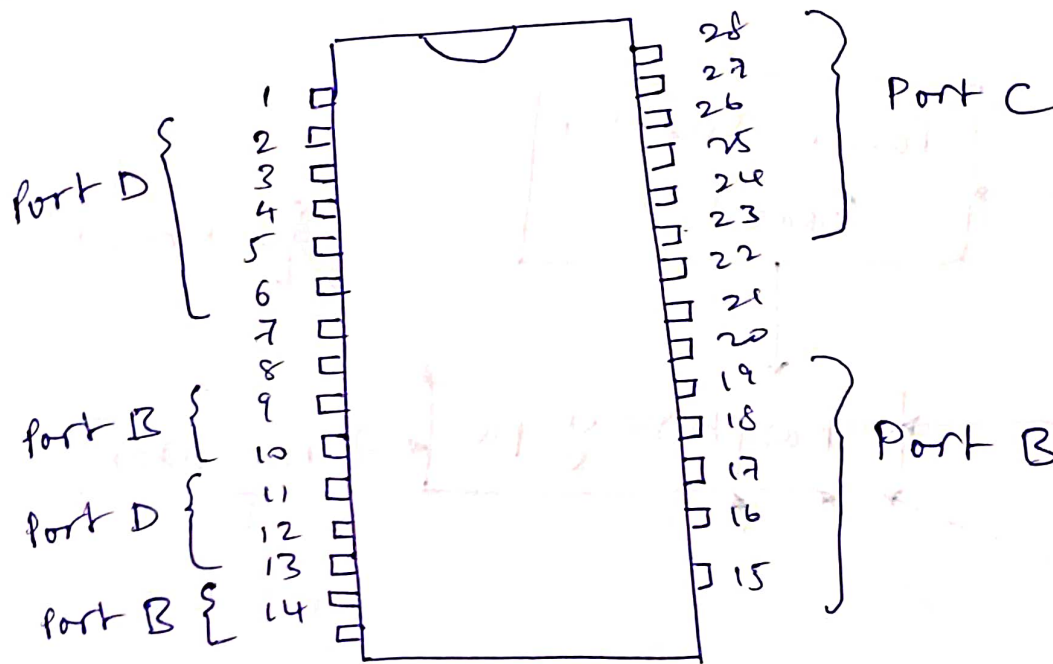
Ans 2) Arduino is an open source hardware & software company, project & user community that designs & manufactures single-board microcontrollers & microcontroller kits for building digital devices. There are many types of Arduino boards present in the market that include Arduino Uno, Red board, LilyPad Arduino, Arduino Mega and Arduino Leonardo.

Advantages :-

- ① Not much knowledge required to get started.
- ② Fairly low cost, depending on shield you need.
- ③ Lots of sketches & shields available.
- ④ No external program or power supply needed.

Disadvantages :-

- ① Lack of multitasking
- ② Not optimised for performance
- ③ Lack of communications
- ④ Limited support for programming language
- ⑤ Less memory storage capacity.



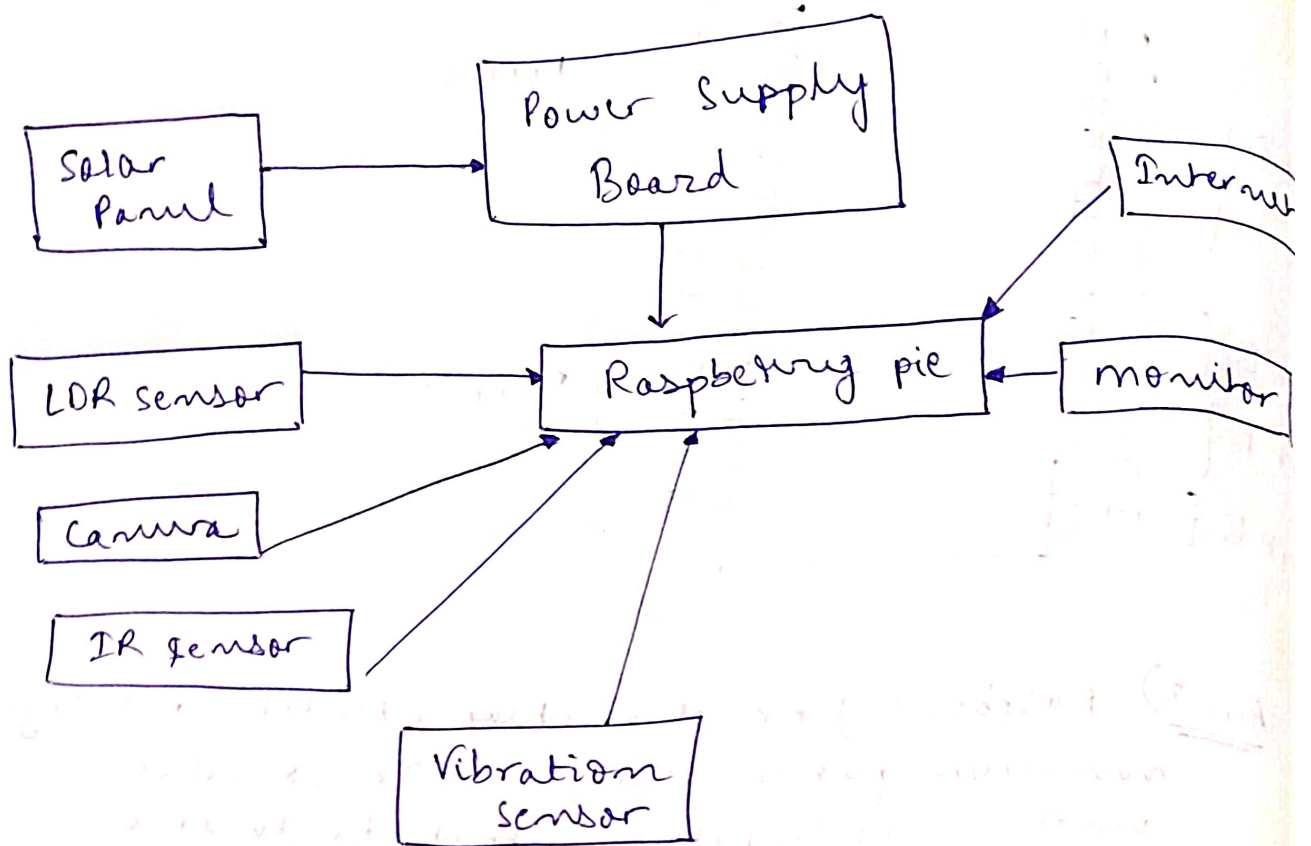
Ans 3) Raspberry pi is a cheap credit card sized microcomputer that is interoperable with any input & output hardware effectively converting the set-up into a full-fledged PC at a low cost.

Advantages :-

- ① Low cost
- ② Huge processing power in a compact board.
- ③ many interfaces
- ④ Support Linux, Python

Disadvantages :-

- ① Not able to run windows OS.
- ② Impractical as a desktop computer.
- ③ Graphics processing missing
- ④ Missing emmc internal storage.



Ans 4) Beagle bone black :-

Beagle bone is a single board computer which can be used as a stand-alone computer or it can be embedded into a system. This low cost, open source, linux based computer board is ideal for electronics engineers & hobbyists.

PC Duino :-

Is a mini PC platform that runs a PC like OS such as Ubuntu & Android 4.0 ICS. It outputs video through the HDMI port. Moreover, it has a hardware header interface compatible with Arduino.

Ans 5) Examples of Beagle bone board :-

- (a) Running a remote desktop using tight VNC.
- (b) Edit & run a python program.
- (c) Controlling the brightness of LED using Python's PWM command.

Examples of PC driving :-

- (a) Data logger based PC driving
- (b) Physical computing, involving interactive systems that can sense & response.
- (c) PC driving can also work as a thermostat in the winter.