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# **SWS3009 – Part B**

## **Robotics / TeleOperation**

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### **Section 2: Raspberry Pi**

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Raspberry Pi, Apple Pi, Banana Pi, .....

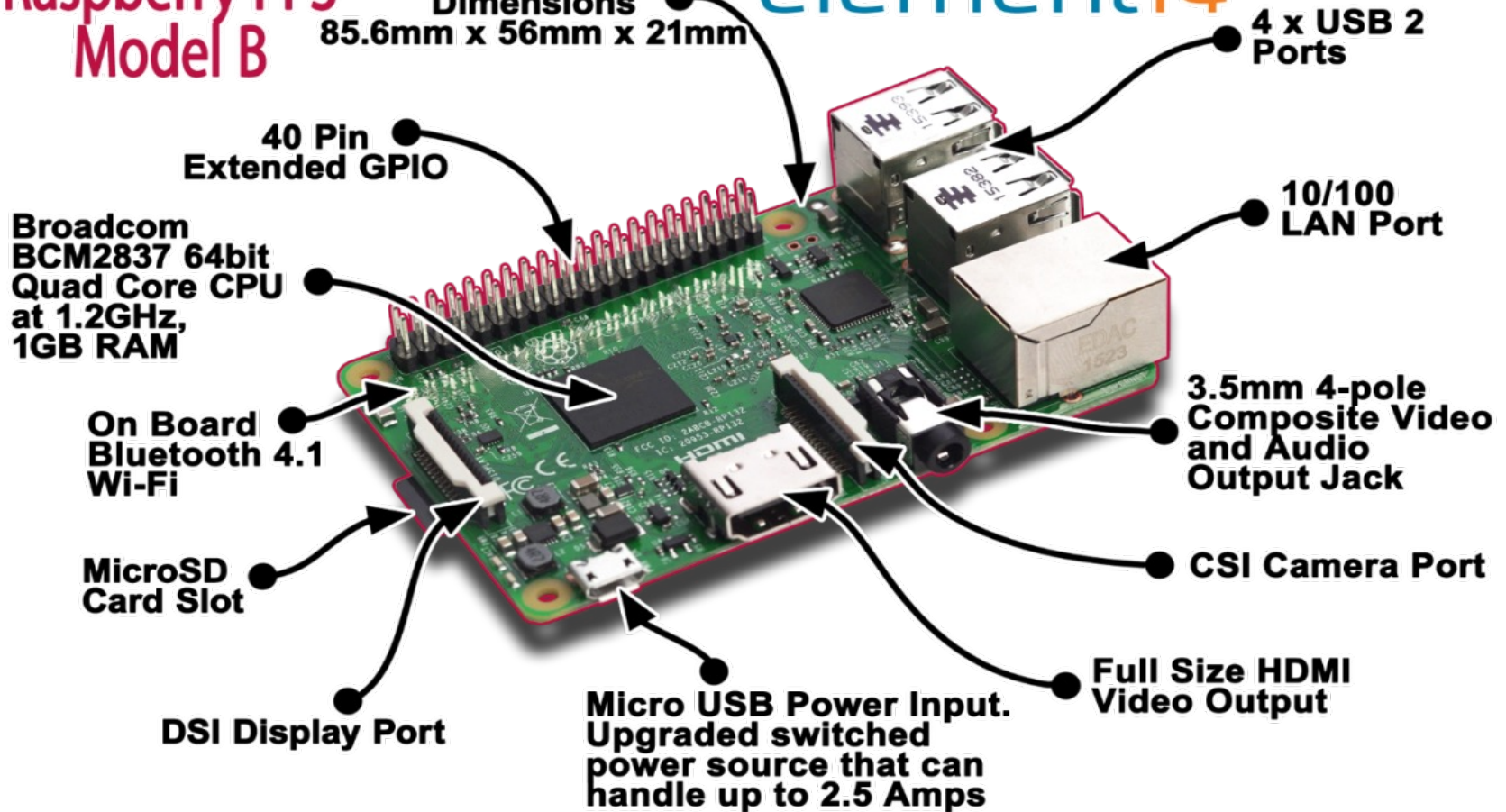
# PI BASICS

# Raspberry Pi 3B – Layout

## Raspberry Pi 3 Model B

**Dimensions**  
85.6mm x 56mm x 21mm

element14



# Key Characteristics

- Pi is simply a **tiny computer**
  - ❑ **Processor** = Quad-Core ARM Processor
  - ❑ **Memory** = Built-in
  - ❑ **Hard disk** = SD Card (16Gb in our case)
  - ❑ **Operating System** = Commonly Linux based (**Raspbian** in our case)
  - ❑ **I/O interfaces** = HDMI, USB, Audio etc
  
- Useful functionalities for us:
  - ❑ **Networking**: Wifi, Lan
  - ❑ **Interfaces**: GPIO, Camera

# And then.....?

- Raspberry Pi is essentially a miniscule computer
- Instead of “talking about it”, we are going to do a number of demonstrations to show how Pi works in real life
- The slides after these are just the list of demonstrations 😊

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# Demonstration

- Basic layout
- Booting
- GUI / Command line
- Package Manager
- Networking
- Coding Environments
- Secure shell
- Remote desktop
- .....

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Say: "Berry Good!"

**PI CAMERA**

# Demonstration





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# Reference

- Pi Camera, "Getting Started"
  - <https://projects.raspberrypi.org/en/projects/getting-started-with-picamera>

**END**