**Cisco IoT Fundamentals 2.0 Assessment 1 and 2**

**Instructions:**

Answer all the questions in the space provided.

**1.In your own words, describe what the Internet of Things is and draw an illustration to show the main parts that make an IoT system. (4marks)**

**2. Once an idea has been documented, what is the next step to be taken? (1mark)**

**3. Describe what you understand by interfacing and name 3 types of interfacing technologies (2marks)**

**4. What type of network device is used to forward packets from one network to other networks? (1mark)**

**5.Cellular, Wi-Fi, Zigbee and Bluetooth are all ways you could communicate with your end devices wirelessly. Which two of these technologies require an IP-enables controller or gateway in order to gain indirect access to the internet? (2marks)**

**6. How are electronic sensors used in digitizing the natural world? (1mark)**

**7. What is the purpose of an IP address? (1mark)**

**8. Name at least 2 types of System on Chips(SoCs) you know (2marks)**

**9. What is an open-source physical computing platform that can take input from a variety of switches or sensors to control physical objects? (hint: we’ve used it a lot in the class) (1mark)**

**10. A vibration sensor on an automated production line detects an unusual condition. The sensor communicates with a controller that automatically shuts down the line and activates an alarm. What type of communication does this scenario represent? (2marks)**

**[ Choose between machine-to-people, machine-to-machine, people-to-people and people-to-machine]**

**11. True or False?**

**Traditional security devices such as firewalls and intrusion prevention systems will play a role in securing communications on the Internet of Everything. (1mark)**

**12. True or False?**

**Personal photos posted on social websites can be mined and used by marketers to promote products and services. (1mark)**

**13. Name 2 programming languages you can use to program end-devices (microcontrollers and SoCs) (2marks)**

**14. Fill in the blank.  
An employee who has an idea for a new product uses a 3D printer to create a fully functioning of the new product. (1mark)**

**15. How do analytical tools help organizations model IoT solutions? (2marks)**

**16. Which type of analytics tool uses historical data to facilitate better understanding of business growth? (1mark) [choose between prescriptive, predictive and descriptive]**

**17. Which server will provide IP addressing information to end devices such as sensors and controllers in an IoE implementation? (1mark) [choose between file server, web server, DNS server and DHCP server]**

**18. What do you understand by Entrepreneurship and what role does it play in IoT? (2marks)**

**19. What technology allows users to access data anywhere and at any time? (1mark)**

**20.Briefly explain what LoRaWAN is and how you might use it to implement your IoT solution (3marks)**