Name: _____ Student ID: _____

Section 1. Fill in the blanks [1 mark each]

    A. CPU   C. ROM   E. System software

    B. RAM   D. Peripheral   F. Application software

1. _____ Google Chrome is part of this type of software.
2. _____ Turns on and off internal computer circuits.
3. _____ It frees RAM so that it can be used by other programs.
4. _____ Stores the BIOS.
5. _____ Touchscreen
6. _____ Loads the drivers when you connect a USB microphone.
7. _____ Limits the access of files in secondary memory.
8. _____ Translates computer instructions into hardware actions.
9. _____ Stores information and program data that are being executed.

Section 2: Answer the following questions.

1. Explain how information is encoded inside a computer, and how this allows it to represent information. [3 marks].

2. Calculate the minimum number of bits required to encode an alphabet of 800 different icons. Show all the steps used to arrive at your answer. [3 marks]

3. List three functions of an operating system. [3 marks]

Section 3. Complete the following conversions [3 marks each]

A) From binary to decimal
- 10001111_2

B) From decimal to hexadecimal
- 265_{10}

Section 4. Read the following case and answer the questions.

Barbara Smith is a web designer who works as a web developer. She is starting a new project next month, so she is planning to buy a new computer:

- Operating System Windows 10 of 64-bits
- Full HD 1920x1080 IPS screen of 17.3 inches with low power consumption
- Intel i7-8750H @ 2.20 GHz processor
- 9 MB of cache
- 2 MB of ROM
- 8GB of RAM for advanced multitasking
- 1 hard drive with 1TB storage capacity
- Graphics card NVIDIA GeForce 3060
- 1 USB C port
- 1 USB 3.0 port
- HDMI port
- Bluetooth 5.0
- High-definition webcam
- Headphone jack

a) Identify the operating system that this computer has [1 mark]

b) Indicate the amount of secondary memory [1 mark]

c) Indicate the amount of main memory [1 mark]

d) Indicate the processor manufacturer [1 mark]

e) Indicate three peripheral devices in this computer [2 marks]