

**3) A type K thermocouple can measure temperature from -75 deg C to 200 deg C with an accuracy of 0.75%. (10)**

- i) Calculate the span of this sensor.
- ii) Calculate the accuracy in terms of temperature in deg C.
- iii) If the thermocouple gives an output of 2 mV/deg C, what is output voltage range of this thermocouple?
- iv) Based on the below graph, calculate the measured sensitivity of the thermocouple at 378.37 deg C. What is the error between measured sensitivity vs expected sensitivity?
- v) Based on the linear fit shown in the graph, at approximately what temperature is the error maximum? What is this error called?

