**Question 35 [from WATP 2016 Sem I Paper] (9 marks)**

Many retired soldiers have made the trip to Papua New Guinea to walk the Kokoda Track in memory of the Kokoda Trail campaign fought during World War II. The track is considered very difficult due to the extreme humidity and heat, but if people look after themselves properly during the trek, it is manageable.

1. Describe two problems that extreme heat and humidity could cause for individuals walking the track. (2 marks)

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1. The control of the body’s internal environment is essential if the person is going to be able to function properly and respond to the demands of such an arduous task of walking the track.

Complete the feedback loop shown below to show how heat loss from the body can be physiologically increased to prevent overheating. (5 marks)

**Response/s**

**Effector/s**

**Receptor/s**

**Modulator**

**Negative Feedback**

**Stimulus**

High Body temperature

1. State why sweating might not be very useful at decreasing the body temperature in this environment. (1 mark)

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1. The steady state control system outlined on the previous page is an effective mechanism for maintaining the body’s core temperature. It was found, however, that those attempting the track were becoming very dehydrated.
2. What would be the cause of their dehydration?

(1 mark)

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