Name of the Student:_____
Max. Marks : 14 Marks **Time : 14 Minutes**

Mark Schemes

Q1.

(a) energy transferred from athlete / skin / body to water / sweat
allow water / sweat heated by athlete
1

(so) more energetic (water / sweat) particles escape (from the liquid)
accept particles with higher speeds escape (from the liquid)
1

water / sweat <u>evaporates</u>
accept particles escape from the (surface of the) liquid
1

(which) lowers the <u>average</u> energy of (remaining) water / sweat particles
allow reference to the total energy of the liquid reducing
allow lowers the athlete's <u>temperature</u>
ignore cool down
1

(b) any **three** from:
accept IR / radiation / heat / infrared / energy throughout

- the blanket traps air
- air is an insulator
  accept for 2 marks trapped air reduces conduction / convection
- space blanket reflects infrared radiation (back to the body)
  ignore incident solar radiation
  ignore reflects light
  ignore bounces off
- space blanket is a poor emitter / radiator of infrared radiation
  *do **not** accept does not emit infrared radiation*

3

[7]

Q2.

(a) (liquid C)
no mark awarded for stating liquid C
no marks awarded if liquid A or B chosen

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(causes) biggest temperature decrease

allow cools quicker / the quickest

1

(because it) evaporates quickest

allow evaporates quicker

allow most / more evaporated

ignore references to boiling

1

(b) all of the liquid has evaporated

accept no net energy transfer

allow it was dry

1

(c) particles with most energy / highest speed evaporate

allow hottest particles

1

these particles escape from the (surface of the) liquid

accept overcoming the attractive forces (between particles)

1

decreasing mean energy of particles (left in liquid)

allow some reference to the total energy of the liquid reducing

1

which lowers the temperature

ignore cool down

1

[7]

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