Name of the Student:_____
Max. Marks : 17 Marks **Time : 17 Minutes**

Mark Schemes

Q1.

(a) (i) replaced faster than it is used

accept replaced as quick as it is used
accept it will never run out
*do **not** accept can be used again*

1

(ii) any **two** from:

***two** sources required for the mark*

- wind
- waves
- tides
- fall of water

*do **not** accept water / oceans*
accept hydroelectric

- biofuel

accept a named biofuel eg wood

- geothermal

1

(b) (i) any **two** from:

- increases from 20° to 30°
- reaches maximum value at 30°
- then decreases from 30°
- same pattern for each month

*accept peaks at 30° for **both** marks*
*accept goes up then down for **1** mark*
ignore it's always the lowest at 50°

2

(ii) 648

*an answer of 129.6 gains **2** marks*
*allow **1** mark for using 720 value only from table*
*allow **2** marks for answers 639, 612, 576, 618(.75)*
*allow **1** mark for answers 127.8, 122.4, 115.2, 123.75*

3

(c) (i) (sometimes) electricity demand may be greater than supply (of electricity from the system)

accept cloudy weather, night time affects supply

or

can sell (excess) electricity (to the National Grid)

1

(ii) decreases the current

accept increases the voltage

1

reducing energy loss (along cables)

accept less heat / thermal energy lost / produced

1

[10]

Q2.

(a) any **one** from:

- energy / source is constant
- energy / source does not rely on uncontrollable factors

accept a specific example, eg the weather

- can generate all of the time

will not run out is insufficient

1

(b) (dismantle and) remove radioactive waste / materials / fuel

accept nuclear for radioactive

knock down / shut down is insufficient

1

(c) any **two** from:

- reduce use of fossil fuelled power stations

accept specific fossil fuel
accept use less fossil fuel

- use more nuclear power

accept build new nuclear power stations

- use (more) renewable energy sources

accept a named renewable energy source
*do **not** accept natural for renewable*

- make power stations more efficient
- (use) carbon capture (technology)

*do **not** accept use less non-renewable (energy) sources*

2

(d) (by increasing the voltage) the current is reduced

1

this reduces the energy / power loss (from the cable)

accept reduces amount of waste energy
accept heat for energy
*do **not** accept stops energy loss*

1

and this increases the efficiency (of transmission)

1

[7]