Test 3: Energy 1 – Energy costs and Energy transfer

KNOW			
Q	**Answers**	**Marks**	**Syllabus**
01-05	C; A; C; D; C	5	3.3 1
06-10	D; A; C; A; B	5	3.3.2
APPLY			
Q	**Answers**	**Marks**	**Syllabus**
11	Advantages: (two from) employment of miners; power stations and network already in place; high energy output; inexpensive; available around the world.	2	3.3.1 **Enquiry process: 2.14**
	Disadvantages: (two from) pollution; non-renewable so will run out; may be dependent on other countries for power.	2	
12	Gravitational potential to kinetic to electrical to thermal and kinetic with dissipated sound energy.	3	3.3.1 and 3.3.2
13	a. Energy is 'wasted' as heat/sound in overcoming the friction between the wheels and the road and in overcoming air resistance.	1	3.3.2
	b. Thermal energy is transferred to the particles in the tea, increasing their kinetic energy so they evaporate.	1	
	c. Energy is 'wasted' as heat and in overcoming the water resistance.	1	
EXTEND			
Q	**Answers**	**Marks**	**Syllabus**
14	a. Very energy efficient, no pollution, energy security.	1	3.3.1 **Enquiry process: 2.5**
	b. Jobs, no pollution, potential for cheaper energy.	1	
15	a. percentage efficiency = (useful energy output ÷ total energy input) × 100	1	3.3.2
	b. The fuels are combusted to extract the energy, so a lot of energy is dissipated into light and thermal energy is 'wasted' to the surroundings.	1	
	c. 950 J	1	