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| **P1.2 Factual Knowledge Tests – Pass Mark = 80%** |
| **Describe the Doppler Effect;(2)**  When a sound moves towards you, the wavelength decreases and the frequency and pitch increase.  When a sound moves away from you, the wavelength increases and the frequency and pitch decrease. |
| **What does the big bang theory explain (1)**  How the universe began |
| **Describe the big bang theory (3)**  The universe began as a singularity – an infinitely hot and infinitely small point.  The singularity exploded in a big bang.  The universe has expanded and cooled ever since. |
| **Describe the motion of 99.9% of all galaxies (2)**  99.9% of all galaxies are moving away from us and each other.  The further away a galaxy is, the faster it is moving away. |
| **Explain what redshift is and how it is evidence for the big bang theory (4)**  Redshift is when the wavelength of light/spectral lines from a galaxy has increased as the galaxy is moving away from us.  The further away a galaxy is, the more it is redshifted, the faster it is moving away.  Redshift proves almost all galaxies are moving away so the universe must be expanding. |
| **What is blueshift and what would a galaxy be doing if it was blueshifted (2)**  Blueshift is when the wavelength of light/spectral lines decreases  If a galaxy is blueshifted, it is moving towards us. |
| **Explain what CMBR is and how it is evidence of the big bang theory**  CMBR is cosmic microwave background radiation  CMBR is radiation left over from the big bang  CMBR is evidence of the big bang theory because it is found everywhere in the universe and could only come from the big bang. |
| **What will happen to the wavelength of CMBR over time (1)**  Wavelength of CMBR will increase |
| **State 3 limitations of the big bang theory (2)**  Can’t explain what came before the big bang  Laws of physics break down in trying to explain the singularity  Can’t explain why the universe was created  Violates law of conservation of energy |
| **Describe and compare the steady state theory to the big bang theory (2)**  Steady state – the universe has always existed and is always expanding  It is different to the big bang because the big bang theory states the universe had a beginning. |

**Score /25 = %**

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| **P1.2 Energy Efficiency - Factual Knowledge Tests** |
| **Law of conservation of energy (3)** |
| **Describe what happens to wasted energy and its effect on the surroundings (2)** |
| **State the formula for energy efficiency and state what values efficiency is always between. (2)** |
| **Why are energy efficient devices good for the environment? (3)** |
| **What are the advantages and disadantages of LED’s over filament lamps (3)** |
| **Why is using standby bad for the environment? (3)** |
| **State all the forms of energy (9)** |

**Score /25 = %**

**EBI – In the space below write out 3 of the ones you got incorrect so that you learn these for your resit.**