Physics Predictions 2019

FT Paper 1:

Unit 1: energy

- Elastic potential energy
- **REQ'D prac – Specific heat capacity**= Write a method + calcualtions
- Efficiency
- Energy transfers **– conduction rods and drawing pins expt** – variables
- Power – PET and WPT

Unit 2: Electricity

- REQ'D prac – Method, hazards and circuit diagram for resistance of a wire – Use Physics single science 2018 Q 12
- Series and parallel circuits
- Power
- National grid

Unit 3: Particle model

- Calculate and explain density – **Find volume of a regular shape – vernier callipers and micrometer metioned** in specification!
- Changes of state + heating and cooling graphs

Unit 4: Atoms and radiation

- Isotopes
- Half life and radioactive contaminations, beta deacy

REQ'D PRAC Resistance of a wire – Use Physics single science 2018 Q 12 – IMPORTANT NOTES!!

Common response was 'measure its resistance' without giving details of how this would be done. Other students described taking ammeter and voltmeter readings, without referring to current and potential difference, but did not mention changing the length.
Many realised that the wire could get hot, which would be a hazard, but there were a number of responses which referred to 'electrocution' and 'electric shock'; this was judged to be insufficient for a hazard as low voltage supplies are likely to be used.

HT Paper 1:

Unit 1: energy

- Elastic potential energy, kinetic energy, gravitational potential energy
- **REQ'D prac – Specific heat capacity**= Write a method + calcualtions
- Efficiency
- Energy transfers – conduction rods and drawing pins expt – variables

Unit 2: Electricity

- **REQ'D prac – Method, hazards and circuit diagram for resistance of a wire** – Use Physics single science 2018 Q 12
- Thermistors link between temp and resistance and applications
- National grid
- VI graph for resistor or diode
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Unit 3: Particle model

- Calculate and explain density – Find volume of a regular shape vernier callipers and micrometer metioned in specification!
- Changes of state + heating and cooling graphs+ specific latent heat and difference between spc
- Internal energy and energy transfers

Unit 4: Atoms and radiation

- Isotopes
- Plot and use Half life graphs and radioactive contaminations

FT paper 2 Physics

Unit 5: Forces

- Contact and non contact forces, D/t graphs, common values for speed, calculating speed, N Laws and **reaction time practical**

Unit 6: Waves

- Transverse waves, calculating the period of a wave (Use Q3 single science physics 2018), wave equation **REQ'D PRAC – ripple tank and radiation**

Unit 7: Magnets

- Plot / draw magnetic field pattern for a straight wire + solenoid. Describe how to using a compass
- Electromagnetic practical – (use Q4 single science physics 2018)

HT paper 2 physics

Unit 5: Forces

- Word done, w = m x g energy transfers
- Resultant forces HT section
- common values for speed, calculating speed, DT graphs and drawing a tangent. Acceleration HT section. HT section on velocity.
- N Laws and **reaction time practical**

Unit 6: Waves

- Transverse waves, calculating the period of a wave (Use Q3 single science physics 2018), wave equation **REQ'D PRAC – ripple tank and radiation**
- **Properties of e /m waves**

Unit 7: Magnets

- Plot / draw magnetic field pattern for a straight wire + solenoid. Describe how to using a compass
- Electromagnetic practical – (use Q4 single science physics 2018)
- Fleming LH rule and apply the equation Force = magnetic flux x current x length
- Motors