

**Paper 1 - 30 Multiple Choice Questions** - 45 minutes (Data Booklet used / no calculator)

**\*\*Remember what is a vector vs. scalar quantity\*\***

Topic 2: Mechanics - 13 questions

- 1-D Motion - SUVAT*
- 2-D Motion*
- Acceleration and terminal velocity*
- Net force*
- Work, Energy, Efficiency*
- Object on flat surface and ramp with friction*
- Impulse - momentum theorem*
- Conservation of momentum*

Topic 4: Waves - 11 questions

- SHM and waves - phase shift between displacement, velocity, acceleration (in radians)*
- Travelling waves - speed, frequency, wavelength*
- Wave refraction (traveling from one material to another / Snell's Law / Refractive Index)*
- Standing waves (pipes and fixed strings)*
- Young's double slit experiment*
- Polarization of light*

Topic 6: Circular Motion and Gravitation - 6 questions

- Objects in uniform circular motion - what serves as the  $F_c$  (centripetal force) and ways to calculate  $a_c$  (centripetal acceleration)*
- Linear velocity / Angular velocity / Kinetic energy for objects circular motion*

**Paper 2 - 4 Short Answer Questions** - 75 minutes (Data Booklet used / calculator allowed)

- Energy / Power / Projectile (2-D) Motion*
- Waves / SHM / Frequency / Wavelength / Wave speed / Refraction / Standing Waves*
- Mechanics on a Ramp / Friction / Power / Energy / Work*
- Gravitational Field Strength*