

Name of the Student: _____

Max. Marks : 18 Marks

Time : 18 Minutes

Mark Schemes

Q1.

- (a) 0.30 (m) 1
- (b) $W = 710 \times 0.30$ 1
- $W = 213 \text{ Nm}$
allow ecf from part (a) 1
- (c) force / weight is greater 1
- (d) gravitational potential 1
- thermal 1
- (e) weight = mass \times gravitational field strength
or
 $W = mg$ 1
- (f) $710 = m \times 9.8$ 1
- $m = \frac{710}{9.8}$ 1
- $m = 72.4\dots$ 1
- $m = 72 \text{ (kg)}$
this mark can only be awarded if the correct equation is used and a value of m is calculated 1

[11]

Q2.

- (a) vertical arrow from **X** pointing downwards
ignore any labels

1

- (b) $W = 0.150 \times 9.8$

1

$$W = 1.47 \text{ (N)}$$

allow 1.5 (N)

1

- (c) the resultant force on the apple is zero

1

- (d) the resultant force on the apple is downwards

1

- (e) $t = \frac{4.9}{9.8}$

1

$$t = 0.50 \text{ (s)}$$

allow 0.5 (s)

1

[7]