Name of the Student:_____
Max. Marks : 18 Marks **Time : 18 Minutes**

Mark Schemes

Q1.

(a) (i) 720

*allow **1** mark for correct substitution,*
ie 72 × 10 provided no subsequent step shown

2

(ii) 720
or
their (a)(i)

1

(b) (i) gravitational potential

allow gravitational
allow potential

1

(ii) 432

*allow **1** mark for correct substitution, ie* $\frac{21600}{50}$ *provided no subsequent step shown*

2

watt / W

1

[7]

Q2.

(a) (i) horizontal arrow pointing to the left

judge by eye
drawn anywhere on the diagram

1

(ii) 60 (N)

1

(at steady speed) resultant force must be zero

accept forces must balance/are equal
accept no acceleration
*do **not** accept constant speed*

1

(b) 1680

Downloaded from www.merit-minds.com

*allow **1** mark for correct substitution, ie 60 x 28 provided no subsequent step shown*

2

joule

accept J
do not accept j

1

[6]

Q3.

(a) (i) 75

*allow **1** mark for correct substitution ie 250 × 0.3*
*do **not** credit if subsequent step shown*
*allow **1** mark for an answer 7500*

2

(ii) Nm

1

(b) force is (applied) further from the nut / pivot / axis of rotation

handle is longer is insufficient
*do **not** accept less force needed*

1

moment (on wrench) is larger

1

[5]

Downloaded from www.merit-minds.com