




| Question Number | Scheme | Marks |
| :---: | :---: | :---: |
| 7. | (a) <br> A: $\quad 3 m g \sin 30-T=3 m \cdot \frac{1}{10} g$ <br> 3 mg $\Rightarrow T=\frac{6}{5} m g$ | M1 A1 <br> A1 <br> (3) |
|  | (b) | M1 A1 |
|  |  | M1 A2, 1, 0 |
|  | Using $F=\mu R$ | M1 |
|  | $\frac{6}{5} m g-\frac{1}{2} m g-\mu m g \frac{\sqrt{3}}{2}=\frac{1}{10} m g$ | $\downarrow \downarrow \downarrow$ M1 |
|  | $\rightarrow \quad \mu=\underline{0.693 \text { or } 0.69 \text { or }} \frac{2 \sqrt{3}}{5}$ | A1 <br> (8) |
|  | (c) <br> Magn of force on pulley $=2 T \cos 60=\frac{6}{5} \mathrm{mg}$ <br> Direction is vertically downwards | M1 A1 $\sqrt{ }$ |
|  |  | B1 (cso) |
|  |  | (3) |
|  |  | 14 |

