



**Note: Students are allowed to use calculator.**

**Student Name:**

**Q1/** A shell was fired from a rifle at a speed of (200 meters/second) at an angle of ( $40^\circ$  degrees) with the horizon: **(5 Marks)**

1- The magnitude of its speed and the direction of the shell position (20 sec) after it was thrown.

2- Projectile/shell flight time

**Q2/** A worker pushes a loaded sled S whose mass m is (240kg) for a distance d of (2.3m) over the surface of frozen lake. The sled moves with negligible friction on the ice. The worker enters a constant horizontal force F of (130N). If the sled starts from rest, what is its final velocity. **(5 Marks)**