Exercise: Chapter 5

Answer ALL questions. (15 Marks)

1.   Aliyah pulls horizontally, at the end of a window that has 96 cm width at a force of 32N.
       Find the torque's, r magnitude if the force is employed
       (a) perpendicular to the window?
       (b) at a 60⁰ angle to the face of the door?
                                                                                    (6 Marks)

2.   The weight of Zamani is 75 kg. He sits at one end of a 9.0 m long panel board. His 25 kg
       son sits on the other end. Identify the position of the pivot to be placed so that the panel
       board is in a balance condition. Ignore the panel board's mass.
                                                                                    (5 Marks)

3.   Ali, a 62 kg healthy man climbing a hill by a bicycle. He puts all his weight on each
       pedals that rotate in a circle of radius, r 17 cm. Find the maximum torque exerted by Ali.
                                                                                    (4 Marks)

Answer:
    1. (a) 31 Nm, (b) 27 Nm
    2. 2.25 m
    3. 103.4 Nm