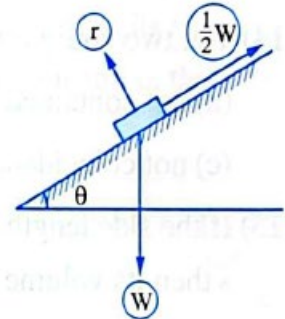


5.) In the opposite figure :

If the body is in equilibrium under acting of the shown forces , then $m (\angle \theta) = \dots\dots\dots^\circ$

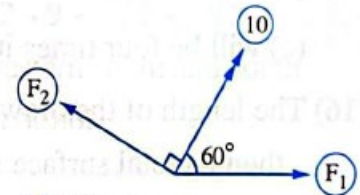
- (a) 30 (b) 60
(c) 45 (d) 15



6. In the opposite figure :

If the force 10 newton is resolved into two components F_1 and F_2 inclined to the force by 60° and 90° respectively , then $F_2 = \dots\dots\dots$ newton.

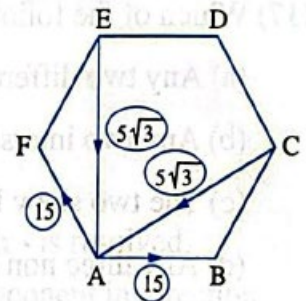
- (a) $5\sqrt{3}$ (b) 10 (c) $10\sqrt{3}$ (d) 20



In the opposite figure :

7. ABCDEF is a regular hexagon , forces of magnitudes 15 , $5\sqrt{3}$, $5\sqrt{3}$ and 15 act along \overline{AB} , \overline{CA} , \overline{EA} and \overline{AF} , then the magnitude of the resultant $R = \dots\dots\dots$ newton.

- (a) 5 (b) 10
(c) zero (d) 25



Second: Essay Questions:

1 ABCDEF is a uniform hexagon , the forces of magnitudes 8 , $6\sqrt{3}$, 5 and $4\sqrt{3}$ newton act on \overline{AB} , \overline{AC} , \overline{AD} , \overline{AE} respectively , find the magnitude and the direction of their resultant.

2 A homogeneous smooth sphere its radius length is 10 cm. , its weight = 30 gm.wt. is in equilibrium by a string of length 10 cm. attached to a point of its surface and the other end of the string is fixed at the point in vertical smooth wall , find the tension in the string and the reaction of the wall on the sphere.