

1. Proper timing of valve openings and closings in a four-cycle engine, the camshaft rotates at :
 - A. The same speed as the crankshaft.
 - B. One half the speed of the crankshaft.
 - C. Twice the speed of the crankshaft.
 - D. **Four times the speed of the crankshaft.**

2. The Grubler's criterion for determining the degrees of freedom (mobility) (M) of a mechanism having plane motion is:

Where: M: degree of freedom or mobility

L: Number of links

J: Number of binary joint

- A. $M = (L - 2) - J$
 - B. $M = 2(L - 1) - 2J$
 - C. **$M = 3(L - 1) - 2J$**
 - D. $M = 4(L - 1) - 3J$
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3. One of the below is not an advantage of preventive maintenance:
 - A. Reduce production downtime.
 - B. **Improve assets inherited capabilities.**
 - C. Reduce cost of repairs by reducing secondary failures.
 - D. Better quality products