

امتحان آزمون جامع اردیبهشت ۹۸  
کتاب و جزوه بسته است.

۱- ضرایب لیفت و زاویه گام هیدرودینامیکی مقاطع پره در جدول ذیل داده شده است:

$x = r/R$	:	0.2	0.4	0.6	0.8	0.9
$C_L$	:	0.345	0.292	0.224	0.183	0.165
$\beta_I$ deg	:	52.0	32.6	23.1	17.7	15.9

اگر نسبت کمبر برابر با ۰,۰۵ ضریب لیفت باشد مطلوبست زاویه حمله، زاویه هندسی گام و نسبت گام در هر شعاع؟

مسئله ۲

A propeller of 5.0 m diameter and 1.1 effective pitch ratio has a speed of advance of 7.2 m per sec when running at 120 rpm. Determine its slip ratio. If the propeller rpm remains unchanged, what should be the speed of advance for the propeller to have (a) zero slip and (b) 100 percent slip?

مسئله ۳

A ship has a speed of 15 knots when the engine produces 5000 kW brake power at 180 rpm. The effective power of the ship is 3600 kW. The propeller is directly connected to the engine. The wake fraction is 0.250, the thrust deduction fraction 0.150, the relative rotative efficiency 1.030 and the shafting efficiency 0.980. Determine the delivered power, the thrust power, the overall propulsive efficiency, the propulsive efficiency (quasi-propulsive coefficient), the hull efficiency, the open water efficiency, the speed of advance, the resistance of the ship, and the propeller thrust and torque.