

ĐẠI HỌC DUY TÂN Khoa: KHTN Bộ môn: Vật lí -----⌘-----	ĐỀ THI KẾT THÚC MÔN HỌC Môn: Vật lí đại cương A1 cho CSU Học kì I-Năm học: 2018-2019 Khối lớp: CSU PHY 101 AIS	<div style="border: 2px solid blue; border-radius: 15px; padding: 10px; text-align: center;"> ĐỀ SỐ: 01 </div>
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Thời gian làm bài: 60 phút (không kể thời gian phát đề)

Chú ý: Thí sinh có thể dùng từ điển giấy

Problem 1 (3,0 points): You are designing an airport for small planes. One kind of airplane that might use this airfield must reach a speed before takeoff of at least 27.8 m/s (100 km/h), and can accelerate at 2.00 m/s^2 .

- a) If the runway is 150 m long, can this airplane reach the required speed for takeoff?
- b) If not, what minimum length must the runway have?

Problem 2 (3,0 points): Suppose a person pulls the 10.0-kg box by the attached cord, as shown in Figure. 1, along the smooth surface of the table. The magnitude of the force exerted by the person is $F_p = 40.0 \text{ N}$ and it is exerted at a 30° angle as shown. Take $g = 9.8 \text{ m/s}^2$. Calculate:

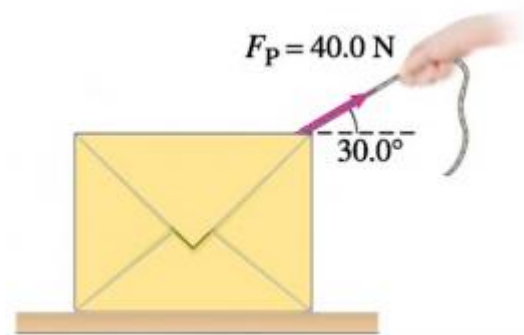


Figure 1

- a) The acceleration of the box
- b) The magnitude of the normal force exerted by the table on the box. Assume that friction can be neglected.

Problem 3 (4,0 points): A uniform disk of radius 7.0 m and mass 31.10^3 kg accelerates from rest to 0.68 rad/s in 24 s. Determine:

- a) The rotational inertia of the disk in the case of the rotational axis through the center of mass.
- b) The net torque required to accelerate it

THE END!

Người duyệt đề

Người ra đề

TS. NGUYỄN PHƯỚC THỂ

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