

Course No: DNTS 1303
Course Title: Med.Phy.
Date: 19-01-2015
No. of Questions: (6)
Time: 2:00 hours
Using Calculator: (Yes)

University of Palestine



Final Exam
2014-2015
Total Grade:60

Instructor Name: Dr.Loai Afana
Student No.: _____
Student Name: _____
College Name: _____
Dep. / Specialist: _____
Using Dictionary: (No)

Question 1:

(10/60)

State if the following statements True (✓) Or False (×):

- 1- If an equation is dimensionally correct, this means that the equation must be true.().
- 2- The Center of Gravity of an object is at its geometric center.().
- 3- Statics is the study of forces acting on an object that is in equilibrium and at rest.().
- 4- Kinetic friction is the friction when the object is moving.().
- 5- The relation between the stress and the strain for a material under tension can be found mathematically.().
- 6- Steel is the only metal in which elasticity is very well developed.().
- 7- Boyle's Law said: When gas is kept at constant temperature its pressure is directly proportional to the volume.().
- 8- The specific heat capacity is defined as the amount of heat required to change temperature of one gram of a substance by one degree.().
- 9- Fluid is a substance that changes its shape in response to any force however small.().
- 10- A liquid is a fluid that is easily compressed.().

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Question 2:

(8/60)

An 18.0 kg boy is released on a 37.0° incline and accelerates down at 0.27 m/s^2 .
Find the coefficient of friction.



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Question 3:

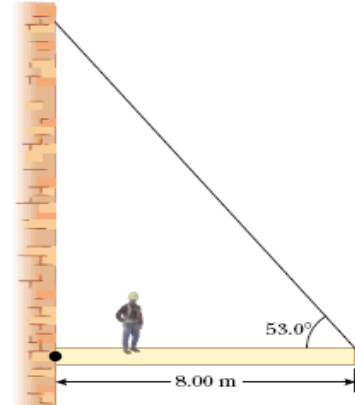
(10/60)

A uniform horizontal beam with a length of 8.00m and a weight of 200N is attached to a wall.

Its far end is supported by a cable that makes an angle of 53.0° with the beam.

If a 600N person stands 2.00m from the wall,

- Find the tension in the cable.
- Find the magnitude and direction of the force exerted by the wall on the beam.



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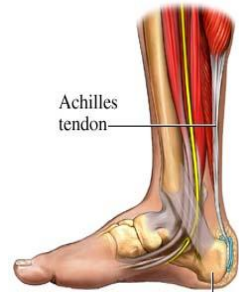
Question 4:

(12/60)

A 15 cm long tendon was found to stretch 3.7 mm by a force of 13.4 N.

The tendon was approximately round with an average diameter of 8.5 mm. Find

(a) The stress. (b) The strain. (c) The elastic modulus. (d) The elastic strain energy.



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Question 5:

(8/60)

A quantity of hot water at 91°C and another cold one at 12°C .
How much kilogram of each one is needed to make an 800 liter of water bath at temperature of 35°C .

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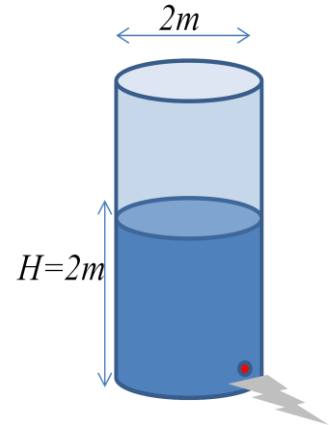
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Question 6:

(12/60)

Water is flowing from a hole of 1cm radius at the bottom of a closed cylindrical container of 2m diameter. If the height of the water in the container is 2m and the pressure over the surface of water is 3atm , Calculate how much time it took until the container became empty? Noting: $\rho_{\text{water}}=1000\text{kg.m}^{-3}$.



End of Questions