

Course No: DNTS1303
Course Title: Med.Phy.
Date: 26-11-2014
No. of Questions: (4)
Time: 1:00 hours
Using Calculator: (Yes)

University of Palestine



Mid Exam
2014-2015
Total Grade:20

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

Question 1:

(5)

State if the following statements True Or False:

- 1- The fundamental physics quantities are: Length, time, and Force ().
- 2- Density is the mass per unit volume of the material ().
- 3- Scalar is Physical quantities that have magnitude only. ().
- 4- Two vectors are equal if they have the same direction ().
- 5- Structures are wider at their base to higher their center of gravity. 0. ().
- 6- If any force exerted on an object is zero, the object is said to be in equilibrium. ().
- 7- Statics is the study of forces acting on an object that is in equilibrium and at rest. ().
- 8- Rigid Body is an object that change its size or shape when subjected to a force ().
- 9- The lever arm: is the distance from the axis of rotation to the line of action. ().
- 10- Human Base of Support is the area under the feet including the area between the feet. . . ().

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Question 2:

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The position of a particle moving under uniform acceleration is some function of time and the acceleration. Suppose we write this position: $x = k \cdot a^m \cdot t^n$ where , k is a dimensionless constant.
Use the dimensional analysis to determine the power n and m .

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Question 3:

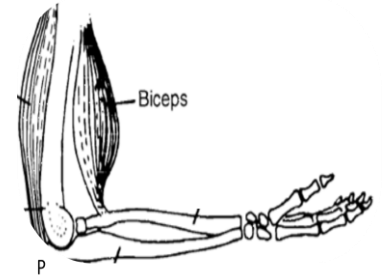
(5)

A forearm in the position shown in the figure.

The weight of the forearm is $w = 12$ N and can be treated as concentrated at the joint P shown.

Given moment arms from the joint P of 5 cm for the muscles and 15cm for the forearm.

- Draw F.B.D.
- Find the force exerted by the biceps muscle and,
- Find the force exerted by the elbow joint.



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Question 4:

(5)

The horizontal arm is composed of three parts: the upper arm (17 N), the lower arm (11 N), and the hand (4.2 N). Find the center of gravity of the arm relative to the shoulder joint.

