

Menoufia University  
Faculty of Electronic Engineering  
Physics & Math Department  
Preparatory Year  
1<sup>st</sup> Term Final Exam



Engineering Physics (1)  
Properties of Matter  
Time Allowed: 90 minutes  
Max. Degree: 45  
Date: 2:1:2019

أجب عن الأسئلة التالية

- 1- What are the dimensions and the SI units of: (10 Marks)
- (a) Coefficient of Elasticity (b) Torque  
(c) Permeability  $\mu_0$  (d) Surface Tension  
(e) Viscosity
- 2- a) Draw the relation between applied force versus elongation for a typical metal under tension. (5 Marks)
- 2- b) Define: (a) Stress (b) Strain  
(c) Young's Modulus (3 Marks)
- 3- What's meant by (give an example): (10 Marks)
- (a) Bulk Modulus (b) Rigidity Modulus  
(c) Shear Modulus (d) Safety factor
- 4- a) Write down the Bernoulli's equation. (2 Marks)
- 4- b) State the characteristics of the ideal flow. (6 Marks)
- 5- a) State Archimedes principle. (3 Marks)
- 5- b) Write short notes about: Laminar and Turbulent Flow. (6 Marks)

مع خالص أمنياتي بالتوفيق والنجاح أ د سناء محمود الربيعي،