



الزمن: ساعتان
مجموعة (1) – (أ)
أستاذ المادة: د. رمضان على حسن

الاختبار الدوري الاول
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مقرر: أساسيات الفيزياء الطبية
برنامج: الفيزياء الطبية

الرقم الجامعي:

الاسم:

Please choose the correct answer (circle the letter of the correct answer @): -

- For hypotension (low blood pressure) the pressure (mmHg) may be about;
a) 110/60 b) 120/80 c) 155/110 d) 80/120
- When 70-kg person jumping from a height of 60 cm, the energy is absorbed by the leg bones about;
a) 470 J b) 4800 erg c) 48 erg d) 412 J
- In -----flow fluid the velocity is lower at the walls and increases toward the center of the pipe.
a) laminar b) turbulent c) incompressible d) non-viscose
- For a given momentum change, the magnitude of the impulsive force is----- the collision time;
a) greater than b) equal to c) proportional to d) inversely proportional to
- If the force applied to the shoulder equal 50 N with the man height to shoulder 1.5 m, the torque then about;
a) 40 N.m b) 75 N c) 75 N.m d) 33.3 N.m
- The center of gravity -----as the person moves and bends.
a) go up b) shift c) not change. d) Go down
- Using the Doppler effect, it is possible to measure -----within a body.
a) Wavelength b) motions c) pressure d) Elasticity
- The ratio between the stress and strain is called;
a) Longitudinal strain b) Young's modulus c) Elasticity d) none of them
- The magnitude of the frictional force depends on;
a) Coefficient of friction b) the body weight c) the body mass d) a & b
- Sound is a----- wave. a) mechanical b) electromagnetic c) dynamic d) transverse
- The wavelength of ultrasound in air at 20 C° with frequency of 2×10^6 Hz about;
a) 2.7 mm b) 1.7×10^{-2} cm c) 2×10^6 cm d) 26.5cm
- A Steel block with 30 kg mass is pulled by a horizontal force along a rough horizontal ice surface ($\mu_k = 0.01$) at a constant accelerate. then the frictional force about;
a) 3.92 N b) 1.91 N c) 0.74 N d) 2.95 N

13. The decibel rating of the $1.0 \times 10^{-7} \text{ W/cm}^2$ intensity of sound;
- a) 100000 dB b) 60 dB c) 90 dB d) 40 dB
14. The average velocity of the blood in the aorta of radius 1 cm if the flow rate is 3 liter/min about;
- a) 26.5 cm/s b) 21 m/s c) 21 cm/s d) 16 cm/s
15. The threshold of pain of Sound Levels about;
- a) 10^{-16} W/cm^2 b) 90 dB c) 10^{-12} W/cm^2 d) 120 dB
16. According to Bernoulli's Equation as the tube diameter decreased the fluid velocity is;
- a) Become laminar b) increased c) decreased d) not change
17. If 183N required to topple standing person of mass 70 kg & height to shoulder 1.5 m, then his feet spread is; a) 0.8 m b) 0.4 m c) 1.6 m d) $8.375 \times 10^4 \text{ m}$
18. Mechanical advantage of Class III lever is; a) =1 b) >1 c) =0 d) <1
19. The -----is larger in a fast collision than in a slower collision.
- a) Momentum b) collision force c) spring constant d) stress
20. Most skeletal muscles in the body arrangement provides for..... of the limbs.
- a) Greater speed b) longitudinal strain c) greater force d) longitudinal stress
21. In cut off method when the pressure in the balloon drops to its normal size, the flow in the artery becomes; a) Laminar and the noise appear b) laminar, and the noise disappears
c) turbulent, and the noise appear d) turbulent, and the noise disappears.
22. In supine position, as the blood flows away from the heart, the average pressure;
- a) Become laminar b) increased c) decreased d) not change
23. The viscosity of a fluid is a measure of its to flow
- a) Compressing b) pressure c) velocity d) resistance
24. The human ear is capable of detecting sound at frequencies between about;
- a) 10 to 20 kHz b) 10 to 8 kHz c) 20 to 4 kHz d) 20 to 20 kHz
25. The compression ($\Delta \ell$) equivalent to;
- a) $\frac{AL}{Y}$ b) $\frac{LS_B}{Y}$ c) $\frac{YL}{A}$ d) $\frac{AS_B}{Y}$