NAT I Medical Physics

Sr	Questions	Answers Choice
1	The magnetic moment of a circular coil carrying current is	A. Directly proportional to the length of the wire in the coil B. Inversely proportional to the length of the wire in the coil C. Directly proportional to the square of the length of the wire in the coil D. Inversely proportional to the square of the length of the wire in the coil
2	The percentage errors in the measurements of mass and speed are 2% and 3% respectively. How much estimate of the kinetic energy obtained by measuring mass and speed	A. 11% B. 8% C. 5% D. 1%
3	The essential distinction between X-rays and y-rays is that	A. y-rays have smaller wavelength than X-rays B. y-rays emanate from nucleus while X-rays emanate from outer part of the atom C. y-rays have greater ionizing power than X-rays D. y-rays are more penetrating than X-rays
4	In case of p-n junction diode at high value of reverse bias the current rises sharply The value of reverse bias is known as	A. Cut off voltage B. Zener voltage C. Inverse voltage D. Critical voltage
5	If 2.2 kilowatt power is transmitted through a 10 ohm line at 22000 volt, the power loss in he form of heat will be	A. 0.1 watt B. 1 watt C. 10 watt D. 100 watt
6	Radio waves of constant amplitude can be generated with	A. Rectifier B. Filter C. FET D. Oscillator
7	The henry is the unit for	A. Resistance B. Magnetic flux C. Magnetic field D. Inductance
8	A particle moves along a circular path under the action of a force. The work done by the force is	A. Zero B. Positive and non-zero C. Negative and non zero D. None of above
9	How does the Young's modulus vary with the increase of temperature?	A. Decrease B. Increase C. Remains constant D. First increases and then decreases
10	The unit of inductance is equivalent to	A. V x s/A B. V x A/s C. A x s/v D. V/A x s
11	The part of a transistor which is heavily doped to produce large number of majority carriers is	A. Emitter B. Base C. Collector D. Any of the above depending on nature of transistor.
		A. R₁ = 2R₂ B. R

12	Two electric bulbs of 200 W and 100 W have same voltage.If R1 and R2 be their resistance respectively then	₂ = 2R₁ C. R₂ = 4R₁ D. R₁ = 4R₂
13	The sieman is the SI unit of	A. Resistance B. Specific Resistance C. Conductance D. Inductance
14	Two forces of 10N and 15N are acting simultaneously on an object in the same direction. Their resultant is	A. Zero B. 5N C. 25N D. 150N
15	Two point charge +3μC and +8μC repel each other with a force of 40 N. if a charge of -5μC is added to each of them then the force between will become	A. -10N B. +10N C. +20N D. -20N
16	With the propagation of a longitudinal wave through a material medium the quantities transmitted in the propagation direction are	A. Energy momentum and mass B. Energy C. Energy and mass D. Energy and linear momentum
17	Electrons in the atom are held in the atom due to	A. Coulomb forces B. Nuclear forces C. Gravitational forces D. Van der Waal's forces
18	In a simple harmonic motion (SHM) which of the following does not hold?	A. The force on the particle is maximum at the ends B. The acceleration is minimum at the mean position C. The potential energy is maximum at the mean position D. The kinetic energy is maximum at the mean position.
19	According to Stoke's law drag force depends on	A. Initial velocity B. Final velocity C. Terminal velocity D. Instantaneous velocity
20	What is the average energy of N molecules of monoatomic gas?	A. 1/2 NkT B. NkT C. 3/2 NkT D. 5/2 NkT