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	Who explained the origin of the Fraunhofer lines?	A. Fraunhoffer B. Kirchhoff C. Fresnel D. Snell
3	A photoelectric cell converts	A. Electrical energy to light energy B. Light energy to light energy C. Light energy to electrical energy D. Light energy to elastic energy
4	To make the frequency double of na oscillator we have to	A. Double the mass B. Half the mass C. Quadruple the mass D. Reduce the mass to one-fourth
5	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%
6	Ball pen function on the principle of	A. Viscosity B. Boyle's law C. Gravitational force D. Surface tension
7	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
8	How much water a pump of 2kW can raise in one minute to a height of 10 m. take g = 10 m/s^2?	A. 1000 liters B. 1200 liters C. 100 liters D. 2000 liters
9	A p-n junction has a thickness of the order of	A. 1 cm B. 1 mm C. 10⁻⁶ cm D. 10⁻¹² cm
10	The henry is the unit for	A. Resistance B. Magnetic flux C. Magnetic field D. Inductance
11	The primary winding of transformer has 500 turns whereas its secondary has 5000 turns The primary is connected to an a.c supply of 20 V, 50 Hz The secondary will have an output of	A. 200 V, 50 Hz B. 2 V, 50 Hz C. 200 V, 500 Hz
12	The product of the pressure and volume of an ideal gas is	A. A constant B. Approximately equal to the universal gas constant C. Directly Proportional to its temperature D. Inversely proportional to its temperature
13	In a capacitive circuit	A. Current leads voltage by phase of π/2 B. Voltage leads current by phase of π/2 C. Current and voltage are in same phase D. Sometime current and sometime voltage leads

14	A couple produces	A. Purely linear motion B. Purely rotational motion C. Linear and rotational motion D. No motion
15	The nuclear model of atom was proposed by	A. J.J Thomson B. E.Rutherford C. Neil Bohr D. Summerfield
16	The volt/metre is the unit of:	A. Potential B. Work C. Force D. Electric field intensity
17	A prism splits a beam of white light into its seven constituent colors this is so because	A. Phase of different colors is different B. Amplitude of different colors is different C. Energy of different colors is different D. Velocity of different colors is different
18	Surface tension of water is due to	A. Inter molecular attraction B. Intermolecular spaces C. Inter molecular repulsion D. None of above
19	Planck's constant has the dimensions of:	A. Energy B. Momentum C. Frequency D. Angular momentum
20	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