NAT I Medical Physics

Sr	Questions	Answers Choice
1	In LCR series AC circuit the phase angle between current and voltage is	A. Any angle between 0 and ±π/2 B. π/2 C. π D. Any angle between 0 and π/2
2	The sieman is the SI unit of	A. Resistance B. Specific Resistance C. Conductance D. Inductance
3	Velocity of sound in a diatomic as is 300 m/sec what is its rms velocity	A. 400 m/sec B. 40 m/sec C. 430 m/sec D. 300 m/sec
4	When the displacement is half of the amplitude the ratio of potential energy to the total energy is	A. 1/2 B. 1/4 C. 1 D. 1/8
5	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
6	The dot product of two vectors is negative when	A. They are parallel vectors B. They are anti-parallel vectors C. They are perpendicular vectors D. None of the above is correct
7	To explain his theory Bohr used	A. Conservation of linear momentum B. Conservation of angular momentum C. Conservation of quantum frequency D. Conservation of energy
8	A body moves a distance of 10 m along a straight line under the action of a force of 5 Newtons, if the work done is 25 joules the angle which the force takes with the direction of motion of the body is:	A. 0° B. 30° C. 60° D. 90°
9	The henry is the unit for	A. Resistance B. Magnetic flux C. Magnetic field D. Inductance
10	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
11	If in a moving coil galvanometer a current 1 produces a deflection θ then	A. i ∞ tan θ B. i ∞ θ² C. i ∞ θ D. i ∞ √θ
12	If two non-zero vector $\overline{A}$ and $\overline{B}$ are parallel to each other, then $\overline{A}$, $\overline{B}$ is equal to	A. Zero B. AB C. A + B D. A - B
13	The conductivity of a superconductor is	A. Infinite B. Very large C. Very small

		D. Zero
14	When n-type of semiconductor is heated	A. Number of electrons increases while that of holes decreases B. Number of holes increases while that of electrons decreases C. Number of electrons and holes remains same D. Number of electrons and holes increases equally
15	A wire is stretched to double of its length.The strain is	A. 2 B. 1 C. Zero D. 0.5
16	A man pushes a wall but fails to displace it. He does:	A. Negative work B. Maximum positive work C. Positive work but not maximum D. No work
17	When sound waves travel from air to water which of these remains constant?	A. Velocity B. Frequency C. Wavelength D. All the above
18	Which one of the following phenomena is not explained by Huygen's construction of wavefront?	A. Refraction B. Reflection C. Diffraction D. Origin of spectra
19	Mechanical waves on the surface of a liquid are	A. Transverse B. Longitudinal C. Torsional D. Both transverse and longitudinal
20	A capacitor acts as an infinite resistance for	A. AC B. DC C. Both AC and DC