

## NAT I Medical Physics

Sr	Questions	Answers Choice
1	If yellow light emitted by sodium lamp in Young's double slit experiment is replaced by monochromatic blue light of the same intensity	<p>A. Fringe width will decrease</p> <p>B. Fringe width will increase</p> <p>C. The fringe width will remain unchanged</p> <p>D. Fringes will become less intense</p>
2	A (100 W, 200 V) bulb is connected to a 160 V power supply. The power consumption would be	<p>A. 64 W</p> <p>B. 80 W</p> <p>C. 100 W</p> <p>D. 125 W</p>
3	Choose the correct statement	<p>A. Both an ammeter and voltmeter should have small resistance</p> <p>B. Both an ammeter and a voltmeter should have large resistance</p> <p>C. An ammeter should have large resistance and a voltmeter should have small resistance</p> <p>D. An ammeter should have small resistance and a voltmeter should have large resistance</p>
4	The modulus of rigidity of a liquid is	<p>A. Zero</p> <p>B. 1</p> <p>C. Infinity</p> <p>D. A value not one of those mentioned above</p>
5	How much water a pump of 2kW can raise in one minute to a height of 10 m. take $g = 10 \text{ m/s}^2$ ?	<p>A. 1000 liters</p> <p>B. 1200 liters</p> <p>C. 100 liters</p> <p>D. 2000 liters</p>
6	A photoelectric cell converts	<p>A. Electrical energy to light energy</p> <p>B. Light energy to light energy</p> <p>C. Light energy to electrical energy</p> <p>D. Light energy to elastic energy</p>
7	The contrast in the fringes in any interference pattern depends on	<p>A. Fringe width</p> <p>B. Intensity ratio of the sources</p> <p>C. Distance between the slits</p> <p>D. Wavelength</p>
8	A particle moves along a circular path under the action of a force. The work done by the force is	<p>A. <span style="font-size: 14.4444465637207px;">Zero</span></p> <p>B. <span style="font-size: 14.4444465637207px;">Positive and non-zero</span></p> <p>C. <span style="font-size: 14.4444465637207px;">Negative and non zero</span></p> <p>D. <span style="font-size: 14.4444465637207px;">None of above</span></p>
9	If the earth were to rotate faster than its present speed the weight of an object will	<p>A. Increase at the equator but remain unchanged at the poles</p> <p>B. Decrease at the equator but remain unchanged at the poles</p> <p>C. Remain unchanged at the decrease but decrease at the poles</p> <p>D. Remain unchanged at the equator but increase at the poles</p>
10	Relation between pressure (P) and energy (E) of a gas is	<p>A. <math>P = \frac{2}{3} E</math></p> <p>B. <math>P = \frac{1}{3} E</math></p> <p>C. <math>P = \frac{3}{2} E</math></p> <p>D. <math>P = 3 E</math></p>
11	A p-n junction has a thickness of the order of	<p>A. 1 cm</p> <p>B. 1 mm</p> <p>C. <math>10^{-6}</math> cm</p> <p>D. <math>10^{-12}</math> cm</p>
		<p>A. Becomes zero</p>

12	A person standing on a rotating platform has his hands lowered. He suddenly outstretches his arms. The angular momentum	<p>B. Increases C. Decreases D. Remains the same</p>
13	At 0° K which of the following properties of a gas will be zero?	<p>A. Kinetic energy B. Potential energy C. Vibrational energy D. Density</p>
14	The terminal velocity of a small size spherical body of radius R moving in a fluid varies as	<p>A. R B. <math>R^2</math> C. 1/R D. <math>(1/R)^2</math></p>
15	What remains constant when the earth revolves around the sun?	<p>A. Angular momentum B. Linear momentum C. Angular kinetic energy D. Linear kinetic energy</p>
16	The magnetic moment of a circular coil carrying current is	<p>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</p>
17	When sound waves travel from air to water which of these remains constant?	<p>A. Velocity B. Frequency C. Wavelength D. All the above</p>
18	If the metal bob of a simple pendulum is replaced by a wooden bob, then its time period will	<p>A. Increase B. Decrease C. Remain the same D. First 'A' then 'B'</p>
19	In which case application of angular velocity is useful?	<p>A. When a body is rotating B. When velocity of body is in a straight line C. When velocity is in a straight line D. None of these</p>
20	Mechanical waves on the surface of a liquid are	<p>A. Transverse B. Longitudinal C. Torsional D. Both transverse and longitudinal</p>