# NAT II Physical Science Physics

| Sr | Questions | Answers Choice |
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| 1 | At constant volume temperature is increased. Then | A. Collision on walls will be less<br>B. Number of collisions per unit time will increase<br>C. Collisions will be in straight lines<br>D. Collisions will not change |
| 2 | The number of translation degrees of freedom for a diatomic gas is | A. 2<br>B. 3<br>C. 5<br>D. 6 |
| 3 | All of the following statements are correct except | A. The total focal length of astronomical telescope is the sum of the focal lengths of its two lenses<br>B. The image formed by the astronomical telescope is always erect because the effect of the combination of the two lenses is divergent<br>C. The magnification of an astronomical telescope can increases by decreasing the focal length of the eyepiece<br>D. The magnifying power of the refracting type of astronomical telescope is the ratio of the focal length of the objective to that of the eye piece |
| 4 | The length of a telescope is 36 cm. The focal lengths of its lenses can be | A. 30 cm, 6 cm<br>B. -30 cm, -6 cm<br>C. 30 cm, -6cm<br>D. -30cm, 6cm |
| 5 | To increase the magnification of a telescope | A. The objective lens should be of large focal length and eyepiece should be of short focal length<br>B. The objective and eyepiece both should be of large focal lengths<br>C. Both the objective and eyepiece should be of smaller lengths<br>D. The objective should be small focal length and eyepiece should be of large focal length |
| 6 | If tube length of astronomical telescope is 105 cm and magnifying power is 20 for normal setting. Calculate the focal length of objective | A. 100 cm<br>B. 10 cm<br>C. 20 cm<br>D. 25 cm |
| 7 | A planet is observed by an astronomical refracting telescope having an objective of focal length 16 m and an eyepiece of focal length 2 cm. | A. The distance between the objective and the eyepiece is 8 m<br>B. The angular magnification of the planet is 200<br>C. The image of the planet is inverted<br>D. The objective is smaller than the eyepiece |
| 8 | A lens behaves as a converging lens in air and a diverging lens in water. The refractive index of the material is | A. Equal to unity<br>B. Equal to 1.33<br>C. Between unity and 1.33<br>D. Greater than 1.33 |
| 9 | An object is placed at a distance of f/2 from a convex lens. The image will be | A. At one of the foci, virtual and double its size<br>B. At, 3f/2, real and inverted<br>C. At 2f, virtual and erect<br>D. At f, real and inverted |
| 10 | When the length of a microscope tube increases, its magnifying power | A. Decreases<br>B. Increases<br>C. May increases or decreases depending on the observer and the place of observation<br>D. |

| | | D. Does not change |
|---|---|---|
| 11 | When the length of a microscope tube increase, its magnifying power | A. Decreases<br>B. Increases<br>C. Does not Change<br>D. May increase or decrease depending on the observer and the place of observation |
| 12 | A converging lens is used to form an image on a screen. When the upper half of the lens is covered by an opaque screen | A. Half the image will disappear<br>B. No change either in size or in intensity<br>C. Intensity of image will increase<br>D. Intensity of the image will decrease |
| 13 | A fly is sitting on the objective of a telescope pointed towards the moon.<br>What effect is expected on the photography of the moon taken through the telescope? | A. The entire of view blocked<br>B. There is an image of the fly on the photography<br>C. There is no effect at all<br>D. There is a reduction in the intensity of the image |
| 14 | Huygen's wave theory of light cannot explain | A. Diffraction<br>B. Interference<br>C. Polarization<br>D. Photoelectric effect |
| 15 | The contrast in the fringes in any interference pattern depends on | A. Fringe width<br>B. Intensity ratio of the sources<br>C. Distance between the slits<br>D. Wavelength |