



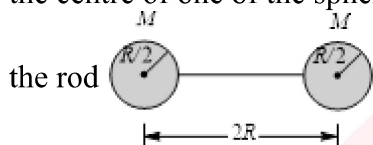
Date :-07/01/2022

Time :-30 Minutes

Exam Name :-NEET-1to1Guru-1

Mark :- 80

1. Two spheres each of mass M and radius $R/2$ are connected with a massless rod of length $2R$ as shown in the figure. What will b be the moment of inertia of the system about an axis passing through the centre of one of the sphere and perpendicular to



(a) $\frac{21}{5}MR^2$ (b) $\frac{2}{5}MR^2$ (c) $\frac{5}{2}MR^2$ (d) $\frac{5}{21}MR^2$

2. A fly wheel of moment of inertia $3 \times 10^2 \text{ kg m}^2$ is rotating with uniform angular speed of 4.6 rad s^{-1} . If a torque of $6.9 \times 10^2 \text{ N m}$ retards the wheel, then the time in which the wheel comes to rest is

(a) 1.5 s (b) 2 s (c) 0.5 s (d) 1 s

3. If the density of a small planet is the same as that of earth, while the radius of the planet is 0.2 times that of the earth, the gravitational acceleration of the surface of that planet is

(a) 0.2 g (b) 0.4 g (c) 2 g (d) 4 g

4. If the Young's modulus of the material is 3 times its modulus of rigidity, then its volume elasticity will be

(a) Zero (b) Infinity (c) $2 \times 10^{10} \text{ N/m}^2$
(d) $3 \times 10^{10} \text{ N/m}^2$

5. In H spectrum, the wavelength of H_{α} line is 656 nm whereas in a distance galaxy, the wavelength of H_{α} line is 706 nm. Estimate the speed of galaxy with respect to earth

(a) $2 \times 10^8 \text{ ms}^{-1}$ (b) $2 \times 10^7 \text{ ms}^{-1}$ (c) $2 \times 10^6 \text{ ms}^{-1}$
(d) $2 \times 10^5 \text{ ms}^{-1}$

6. A perfectly semi-permeable membrane when used to separate a solution from its solvent permits through it the passage of

(a) Solute only (b) Solvent only
(c) Both (a) and (b) (d) None

7. Ethylidene dichloride (CH_3CHCl_2) can be prepared by the addition of hydrogen chloride on:

(a) C_2H_6 (b) C_2H_4 (c) C_2H_2 (d) All of these

8. What is the overall formation equilibrium constant for the ion $[\text{ML}_4]^{2-}$ ion, given that β_4 for this complex is 2.5×10^{13} ?

(a) 2.5×10^{13} (b) 5×10^{-13} (c) 2.5×10^{-14}
(d) 4.0×10^{-13}

9. The energy required to break one mode of Cl - Cl bonds in Cl_2 is 242 kJ mol^{-1} . The longest wavelength of light capable of breaking a single Cl - Cl bond is

(a) 594 nm (b) 640 nm (c) 700 nm (d) 494 nm

10. A reaction was observed for 15 days and the percentage of the reactant remaining after the days indicated was recorded in the following table. Time (days) % Reactant remaining 0 100 2 50 4 39 6 25 8 21 10 18 12 15 14 12.5 15 10 Which one of following best describes the order and the half-life of the reaction? Reaction order Half-life (days)

(a) First 2 (b) First 6 (c) Second 2 (d) Zero 6

11. Primitive man was originated during

(a) Miocene (b) Holocene (c) Pleistocene
(d) Pliocene

12. The cut flowers and vegetables can be kept fresh for a long period by this plant hormone.

(a) Gibberellins (b) Cytokinins (c) Auxins
(d) Ethylene

13. *Australopithecus* is also called

(a) Java ape man (b) First ape man
(c) African ape man (d) Both (b) and (c)

14. Green-house effect refers to

(a) Cooling of earth (b) Trapping of UV rays
(c) Production of cereals (d) Warming of earth

15. Sphincter of oddi found in human being guards

(a) Opening of ampulla into duodenum
(b) Opening of hepatic ducts before joining the cystic duct
(c) Opening of stomach into duodenum
(d) Opening of cystic duct into pancreatic duct

16. The triploid number of chromosomes of the first taxon is 10 times more than the haploid

number of chromosomes of the second taxon, while the diploid number of the third taxon is six times more than the haploid number of the fourth taxon. Which one of the following shows the ascending order of the number of chromosomes in their respective endosperm?

- (a) Oryza-Allium-Saccharum-Nicotiana
- (b) Allium-Oryza-Nicotiana-Saccharum
- (c) Nicotiana-Saccharum-Oryza-Allium
- (d) Saccharum-Oryza-Nicotiana-Allium

17. Which vector can clone only a small fragment of DNA? (2014)

- (a) Bacterial artificial chromosome
- (b) Yeast artificial chromosome
- (c) Plasmid

(d) Cosmid

18. An enzyme that can stimulate germination of barley seeds is

- (a) α -amylase
- (b) Lipase
- (c) Protease
- (d) Invertase

19. Nucleoproteins are synthesised in (1989)

- (a) nucleoplasm
- (b) nuclear envelope
- (c) nucleolus
- (d) cytoplasm

20. In the immune system, interferons are part of

- (a) Physiological barriers
- (b) Cellular barriers
- (c) Physical barriers
- (d) Cytokine barriers

