1to1 GURU

Learn to Lead, Learn to Succeed

Date :-04/02/2022 **Time :-30 Minutes** **Exam Name :-NEET-1to1guru-4** **Mark :- 80**

1.	**c**	
2.	**b**	(b) In a material medium, when a positron meets an electron both the particles annihilate leading to the emission of two γ -ray photons. This process forms the basis of an important diagnostic procedure called PET
3.	**c**	(c) The displacement of the particle is determined by the area bounded by the curve. This area is $s = \frac{\pi}{4} v_m t_0$ The average velocity is $< v >= \frac{s}{t_0} = \frac{\pi}{4} v_m$ Such motion cannot be realized in practical terms since at the initial and final moment, the acceleration (which is slope of $v - t$) is infinitely large. Hence, both (i) and (ii) are correct.
4.	**b**	(b) At low temperature short wavelength radiation is emitted. As the temperature rises colour of emitted radiations are in the following order Red → Yellow → Blue → White (at highest temperature)
5.	**b**	(b) Wave number is the reciprocal of wavelength and is written as $\bar{n} = \frac{1}{\lambda}$
6.	**a**	(a) $\frac{d}{p} = \frac{M}{R}$ Let density of gas $B = d$ So, density of gas $A = 2d$ And molecular weight of $A = M$ So molecular weight of $B = 3M$ $p_A = \frac{M_A}{d_A}$ and $p_B = \frac{M_B}{d_B}$ $\frac{p_A}{p_B} = \frac{M_A}{d_A} \times \frac{d_B}{M_B}$ $= \frac{M}{2d} \times \frac{d}{3M} = \frac{1}{6}$
7.	**c**	
8.	**a**	(1) The salt hydrolysis in each case occurs except NaW because its $pH = 7$. Thus, HW is strongest acid. More is the pH of salt solution, weaker is its acid part.
9.	**d**	(4) All are source of vitamin A.
10.	**b**	(2) $\Delta H = \frac{2.5 \times 16}{4} = -10 \text{ kcl mol}^{-1}$
11.	**d**	(d) : Botanical garden comes under ex-situ method of conservation of biodiversity.
12.	**d**	(d) Haemophilia or Bleeder s disease is a sex linked (X-linked recessive) disease. Down s syndrome is caused due to trisomy of chromosome 21 *(i.e.*, hyperploidy type of aneuploidy). Phenylketonuria is an autosomal recessive gene disorder. Sickle cell anaemia in human, is also inherited as an autosomal recessive disorder.
13.	**a**	(a) Nucleotidase enzyme is secreted by intestinal juice or succus entericus. It hydrolyses nucleotides into nucleosides and phosphate.
14.	**b**	(b) Amylase converts starch into maltose.

15. **d**

(d) The inner ear contains a complex system called vestibular apparatus located above the cochlea. The vestibular apparatus is composed of three semi-circular canals and the otolith organ consisting of the saccule and utricle. Each semicircular canal lies in a different plane at the right angles to each other.
The membranous canal suspended in perilymph of the bony canals. The base of the canals is swallon and is called ampulla, which contains a projecting ridge called crista ampullaris, which contains hair cells. The saccule and utricle contains a projecting ridge called macula. The crista and macula are the specific receptors of the vestibular apparatus which are responsible for maintenance of balance of the body and posture

16. **d**

(d): An elater is a cell (or structure attached to a cell) that is hygroscopic and therefore will change shape in response to changes in moisture in the environment. Elaters come in a variety of forms, but are always associated with plant spores. In plants that do not have seeds, they function in dispersing the spores to a new location. In the liverworts, elaters are cells that develop in the sporophyte alongside the spores. They are complete cells, usually with helcial thickenings at maturity that respond to moisture content. In most liverworts, the elaters are unattached, but in some leafy species (such as *Frullania*) a few elaters will remain attached to the inside of the sporangium (spore capsule). The elaters by hygroscopic movement help in spore dispersal

17. **b**

(2) The movement of water occurs from low DPD cell to high DPD cell. DPD is equal but opposite to water potential (algebraic sum of solute or osmotic potential and pressure potential).

Cell	Water potential (osmotic potential + pressure potential	DPD
A	-1+0.5=-0.5	+0.5
B	-0.6+0.3=-0.3	+0.3
C	-1.2+0.6=-0.6	+0.6
D	-0.8+0.4=-0.4	+0.4

So, the correct sequence of the path of movement of water is
$B \rightarrow D \rightarrow A \rightarrow C$.

18. **b**

(b) Ecosystem is composed of biotic components and abiotic (non-living) components. The biotic components of forest ecosystem are primary consumers (*e.g.*, rabbit, moles, deer, squirrels, grasshoppers, etc), secondary consumers (*e.g.,* carnivorous, birds, snake, lizard, etc) and decomposers (fungi and bacteria). In tropical and subtropical forests, rate of decomposition is more rapid than temperate.

19. **c**

(c) Bile is secreted from liver and contains bile pigments and bile salts (sodium taurocholate and sodium glycocholate). Emulsification of fat will not take place in absence of bile salts.

20. **a**

a)
Meiosis is a reductional division, in which the chromosome number is reduced to half. It was proposed by Farmer and Moore. It is found only in diploid germ cells and is main cause of variations. During meiosis, four daughter cells are formed from one cell.