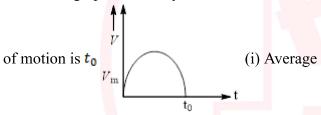
PHYSICS

- 1. A thermoelectric refrigerator works on
- (a) Joule effect (b) Seeback effect
- (c) Peltier effect (d) Thermonic emission
- 2. In a material medium, when a positron meets an electron both the particles annihilate leading to the emission of two gamma ray photons. This process forms the basis of an important diagnostic procedure called
- (a) MRI (b) PET (c) CAT (d) SPECT
- 3. The velocity of a particle moving in a straight line varies with time in such a manner that v versus t graph is velocity is v_m and the total time



velocity of the particle is $\frac{\pi}{4}v_m$ (ii) such motion cannot be realized in practical terms

- (a) Only (i) is correct (b) Only (ii) is correct
- (c) Both (i) and (ii) are correct
- (d) Both (i) and (ii) are wrong
- **4.** If a black body is heated at a high temperature, it seems to be
- (a) Blue (b) White (c) Red (d) Black
- **5.** The number of waves contained in unit length of the medium is called
- (a) Elastic wave (b) Wave number (c) Wave pulse
- (d) Electromagnetic wave

CHEMISTRY

6. The density of a gas A is twice that of a gas B at the same temperature. The molecular weight of gas B is thrice that of A. The ratio of the pressures acting on A and B will be

(a)
$$\frac{1}{6}$$
 (b) $\frac{7}{8}$ (c) $\frac{2}{5}$ (d) $\frac{1}{4}$

- 7. CH₃COOH is titrated with NaOH solution. Which of the following statements is true?
- (a) Conductance decreases upto equivalence point,

- after which it increases
- **(b)** Conductance increases upto equivalence point, after which it decreases
- (c) Conductance first increases (but not rapidly) upto equivalence point and then increases rapidly after equivalent point
- (d) None of the abve
- 8. From separate solutions of four sodium salts NaW, NaX, NaY and NaZ had pH 7.0, 9.0, 10.0 and 11.0 respectively. When each solution was 0.1 M, the strongest acid is:
- (a) HW (b) HX (c) HY (d) HZ
- **9.** Vitamin A is present in:
- (a) Liver (b) Milk (c) Green vegetables
- (d) All of these
- **10.** If, combustion of 4 g of CH₄ liberates 2.5 kcal of heat, the heat of combustion of CH₄ is:
- (a) -2 kcal mol^- (b) -10 kcal mol^-
- (c) $2.5 \text{ kcal mol}^{-1}$ (d) -5 kcal mol^{-1}

BIOLOGY

- 11. Which one of the following is not a method of in situ conservation of biodiversity? (NEET 2019)
 - (a) Sacred grove (b) Biosphere reserve
 - (c) Wildlife sanctuary (d) Botanical garden
- 12. Pick out the correct statements. I.Haemophilia is a sex-linked recessive disease II.Down s syndrome is due to aneuploidy III.Phenylketonuria is an autosomal dominant gene disorder IV.Phenylketonuria is an autosomal recessive gene disorder V.Sickle cell anaemia is an X-linked recessive gene disorder
- (a) I, III and V are correct (b) I and III are correct
- (c) II and V are correct (d) I, II and IV are correct
- **13.** The Digestive enzyme that is not found in human pancreatic juice is
- (a) Nucleotidase (b) Nuclease (c) Trypsin
- (d) Lipase
- 14. Starch is converted to maltose by the action of
- (a) Invertase (b) Amylase (c) Sucrose
- (d) Maltase

- **15.** The vestibular apparatus of human ear is composed of
- (a) Oval window (b) Otolith organs
- (c) Three semicircular canals
- (d) Both (b) and (c)
- **16.** Spore dissemination in some liverworts is aided by (2007)
- (a) indusium (b) calyptra (c) peristome teeth
- (d) elaters
- 17. The values of osmotic potential (π) and pressure potential (ρ) of cells A, B, C and D are

given below.

Cell	π	ρ
Α	-1.0	0.5
В	-0.6	0.3
С	-1.2	0.6
D	-0.8	0.4

Identify the correct sequence that shows the path of movement of water from among the following.

(a)
$$D \rightarrow C \rightarrow A \rightarrow B$$
 (b) $B \rightarrow D \rightarrow A \rightarrow C$

(c)
$$B \to C \to D \to A$$
 (d) $C \to B \to A \to D$

- **18.** Fungi in a forest ecosystem is
- (a) Producer (b) Decomposer (c) Top consumer
- (d) Autotroph

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- **19.** Emulsification of fat will not occur in absence of
- (a) Lipase (b) Bile pigments (c) Bile salts
- (d) Pancreatic juice
- 20. Term meiosis was proposed by
- (a) Farmer and Moore (b) Flemming
- (c) Strasburger (d) Darlington