PGT Physics

Q 1). Who among the following has become the world's youngest and fastest female para swimmer to swim solo across the English Channel Successfully recently?

(A) Shivani Kataria

(B) Dolly Nazir

(C) Devanshi Satija

(D) Jiya Rai

Correct Answer: (D)

Q 2). Recently, an Indian-origin lecturer named Prasanthi Ram at Nanyang Technological University has won Singapore Literature Prize for English fiction for her short story named _____.

(A) Nine Yard Sarees

(B) House of Cards

(C) Dollar Bahu

(D) The Very Expensive Coconut

Correct Answer: (A)

Q 3). Recently, WHO has declared Dhulikhel Municipality as the second healthiest city in Asia. This Dhulikhel Municipality is in which of the following countries?

(A) India

(B) Bhutan

(C) Nepal

(D) Myanmar

Correct Answer: (C)

Q 4). If a teacher first explains the rule and then gives examples. Which type learning style is this?

(A) Inductive

(B) Deductive

(C) Indo-Deductive

(D) Illustration

Correct Answer: (B)

Q 5). In which stage, children are able to think about things in terms of consistent physical features?

(A) Sensory Motor

(B) Concrete Operational

(C) Pre-Operational

(D) Formal Operational

Correct Answer: (C)

Q 6). Which of the following is not the main feature of RTE Act?

(A) Free Elementary Education for all children in age group 6-14 years in a neighbourhood school.

(B) Completion of Elementary Education even after fourteen years of age.

(C) Private Tuitions by teachers is not prohibited.

(D) No child is denied admission due to lack of age certificate.

Correct Answer: (C)

Q 7). Which of the following is dimension of the work function?

(A) $M^1L^2T^{-2}$

(B) $M^2L^0T^{-1}$

(C) $M^{-1}L^0T^0$

(D) $M^{-1}L^0T^2$

Correct Answer : (A)

Q 8). Prism converts white light into band of seven colors, this phenomena is known as _____.

(A) Reflection

(B) Refraction

(C) Diffusion

(D) Dispersion

Correct Answer : (A)

Q 9). “The rate of change of momentum of a body is directly proportional to the applied force and takes place in the direction in which the force acts” is known as _____.

(A) Newton’s second law of motion

(B) Newton’s third law of motion

(C) Universal gravitational law

(D) Newton’s first law of motion

Correct Answer : (A)

Q 10). Which of the following is a good insulator?

(A) Copper

(B) Mercury

(C) Diamond

(D) Nickle

Correct Answer : (C)

Q 11). All nuclides with same mass number are known as _____.

(A) Isobars

(B) Isotones

(C) Isotopes

(D) Isomers

Correct Answer : (A)

Q 12). For semiconductors, when temperature increases, the resistivity will _____.

(A) decreases

(B) increases

(C) remains constant

(D) moves near zero

Correct Answer : (A)

Q 13). The acceleration of an object moving with speed v in a circle of radius R has a magnitude $\frac{v^2}{R}$ and is always directed towards the centre is called _____.

(A) Centrifugal acceleration

(B) Centripetal acceleration

(C) Centrifugal speed

(D) Centripetal speed

Correct Answer : (B)

Q 14). In standing waves, 'nodes' are referred to which of the following?

(A) Position of maximum amplitude

(B) Position of minimum amplitude

(C) Position of zero amplitude

(D) Position of half of the maximum amplitude

Correct Answer : (C)

Q 15). Gravitational potential energy associated with two particles with mass m_1 and m_2 separated by a distance r is given by ____. (for which if $v = 0$ as $r \longrightarrow \infty$)

(A) $-\frac{Gm_1m_2}{r}$

(B) $-\frac{Gm_1m_2}{r^2}$

(C) $\frac{Gm_1m_2}{r^2}$

(D) $\frac{Gm_1m_2}{r}$

Correct Answer : (A)

Q 16). Near the surface of the earth, magnetic field is of the order of ____.

(A) 10^{-2} T

(B) 10^{-3} T

(C) 10^{-4} T

(D) 10^{-5} T

Correct Answer : (A)

Q 17). Match the following:

(p) P-type Semiconductor	(x) $n_e \ll n_h$
(q) N-type Semiconductor	(y) $n_e = n_h$
(r) Intrinsic Semiconductor	(z) $n_e \gg n_h$

(A) (p-x), (q-z), (r-y)

(B) (p-x), (q-y), (r-z)

(C) (p-z), (q-x), (r-y)

(D) (p-z), (q-y), (r-x)

Correct Answer : (A)

Q 18). In single slit experiment, if slit width is equal to the wavelength, then the angle of first dark fringes is ____.

(A) $90°$

(B) $45°$

(C) $0°$

(D) $-45°$

Correct Answer : (A)

Q 19). The flask contains argon and chlorine in the ration 2 : 1 by mass. The temperature of the mixture is 27°C. What will be the ration of average kinetic energy per molecule? Atomic mass of argon is 39.9 u and molecular mass of chlorine is 70.9 u.

(A) 2 : 1

(B) 1 : 2

(C) 1 : 1

(D) 1.5 : 1.5

Correct Answer : (C)

Q 20). What is the shortest wavelength present in the radiation from an X-ray machine whose accelerating potential is 50,000 V?

(A) 2.48 nm

(B) 248 nm

(C) 0.248 nm

(D) 0.0248 nm

Correct Answer : (D)
