Studentpad

NEET PREVIOUS YEAR 2022-23

Time : 90 Min	Pre : Full Portion Paper	Marks : 120

PHYSICS MOCK TEST

01) A thin circular ring of mass M and radius R is rotating in a horizontal plane about an axis vertical to its plane with a constant angular velocity ω. If two objects each of mass m be attached gently to the opposite ends of a diameter of the ring, the ring will then rotate with ____ angular velocity.

A) $\frac{\omega M}{M+m}$

B) $\frac{\omega M}{M+2m}$

C) $\frac{\omega(M+2m)}{M}$

D) $\frac{\omega(M-2m)}{M+2m}$

CHEMISTRY MOCK TEST

02) The energy absorbed by each molecule (A_2) of a substance is 4.4×10^{-19} J and bond energy per molecule is 4.0×10^{-19} J. What will be the kinetic energy of the molecule per atom?

A) 2.0×10^{-20} J

B) 2.0×10^{-19} J

C) 2.2×10^{-19} J

D) 4.0×10^{-20} J

BIOLOGY MOCK TEST

03) In which of the following, the cell junctions called tight, adhering and gap junction are found?
A) Connective tissue
B) Muscular tissue
C) Epithelial tissue
D) Neural tissue

04) The speed of light in media M_1 and M_2 is 1.5×10^8 m/s and 2.0×10^8 m/s respectively. A ray of light enters from medium M_1 to M_2 at an incidence angle i. If the ray suffers total internal reflection, then what will be the value i?

A) Equal to $\sin^{-1}\left(\frac{2}{3}\right)$

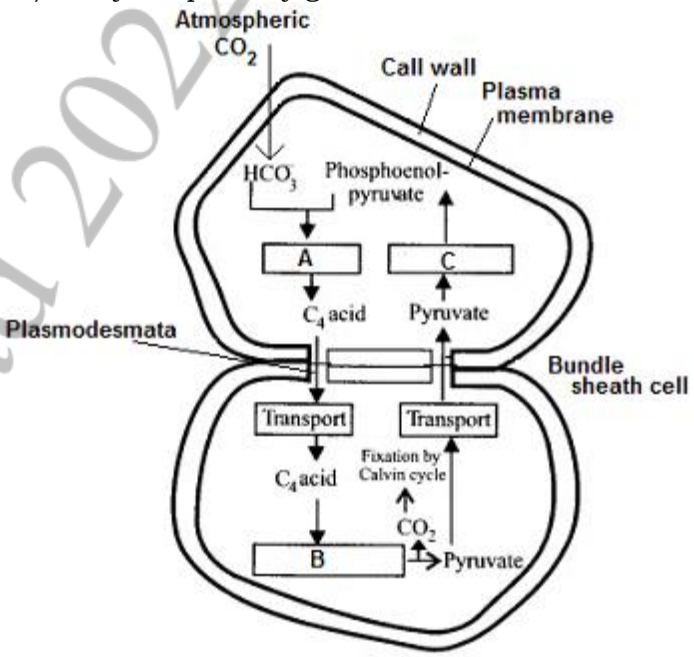
B) Less than $\sin^{-1}\left(\frac{2}{3}\right)$

C) Equal to or greater than $\sin^{-1}\left(\frac{3}{4}\right)$

D) Equal to or less than $\sin^{-1}\left(\frac{3}{5}\right)$

05) Among the following four compounds
A. Phenol B. Methyl Phenol
C. Meta-nitrophenol D. Para nitrophenol
Select the acidity order.
A) D > C > A > B
B) C > D > A > B
C) B > A > C > D
D) A >D > C > B

06) Study the pathway given below



Select one of the following options, correct words for all the three blanks A, B and C are indicated?

A)

A	B	C
Decarboxylation	Reduction	Regeneration

B)

A	B	C
Carboxylation	Decarboxylation	Regeneration

C)

A	B	C
Fixation	Decarboxylation	Regeneration

D)

A	B	C
Fixation	Transamination	Regeneration

07) A nucleus $^{m}_{n}X$ emits one α -particle and two β^- particles. What is the resulting nucleus?

A) $^{m-4}_{n-2}Y$

B) ${}^{m-4}_{n}X$

C) ${}^{m-6}_{n-4}Z$

D) ${}^{m-6}_{n}Z$

08) What is the total number of atomic orbitals in fourth energy level of an atom?
A) 8
B) 4
C) 32
D) 16

09) Select one of the following is correctly states as it happens in the common cockroach?
A) Nitrogenous excretory product is urea
B) Oxygen is transported by haemoglobin in blood
C) The food is ground by mandibles and gizzard
D) Malpighian tubules are excretory organs projecting out from the colon

10) If the nuclear radius of ${}^{27}Al$ is 3.6 Fermi. What is the approximate nuclear radius of ${}^{64}Cu$ in Fermi?
A) 1.2
B) 2.4
C) 4.8
D) 3.6

11) Select one of the following compounds will give a yellow precipitate with iodine and alkali?
A) Acetophenone
B) Acetamide
C) Methyl acetate
D) 2-hydroxypropane

12) Select one of the following options gives the correct categorisation of six animals according to the type of nitrogenous wastes (A, B, C), they give out?

A)

A Ammonotelic	B Ureotelic	C Uricotelic
Frog, Lizards	Aquatic Amphibia, Humans	Cockroach, Pigeon

B)

A Ammonotelic	B Ureotelic	C Uricotelic
Pigeon, Humans	Aquatic Amphibia, Lizards	Cockroach, Frog

C)

A Ammonotelic	B Ureotelic	C Uricotelic
Aquatic Amphibia	Frog, Humans	Pigeon, Lizards, cockroach

D)

A Ammonotelic	B Ureotelic	C Uricotelic
Aquatic Amphibia	Cockroach, Humans	Frog, Pigeon, Lizards

13) A coil of self- inductance L is connected in series with a bulb B and AC source. When the brightness of the bulb decreases?
A) number of turns in the coil is reduced
B) a capacitance of reactance $X_C = X_L$ is included in the same circuit.
C) frequency of the AC source is decreased
D) an iron rod is inserted in the coil

14) Select one of the following molecules do not contain π-bond ?
A) CO_2
B) H_2O
C) NO_2
D) SO_2

15) What do you mean by artificial insemination?
A) Transfer of sperms of husband to a test- tube containing ova
B) Transfer of sperms of a healthy donor to a test-tube containing ova
C) Artificial introduction of sperms of a healthy donor into the vagina
D) Introduction of sperms of healthy donor directly into he ovary

16) Steam at 100^0C is passed into 20 g of water at 10^0C. When water acquires a temperature of 80^0C. What will be the mass of water present? [Take specific heat of water $= 1\,cal\,g^{-1}{}^{\circ}C^{-1}$ and latent heat of steam $= 540\,cal\,g^{-1}$]
A) 31.5 g
B) 42.5 g
C) 24 g
D) 22.5 g

17) Find one of the following which will be most stable diazonium salt $RN_2^+X^-$?
A) $C_6H_5CH_2N_2^+X^-$
B) $C_6H_5N_2^+X^-$
C) $CH_3CH_2N_2^+X^-$
D) $CH_3N_2^+X^-$

18) Match the following and find the correct answer.

Column I	Column II
A. Centriole	1. Infoldings in mitochondria
B. Chlorophyll	2. Thylakoids
C. Cristae	3. Nucleic acids
D. Ribozymes	4. Basal body cilia or flagella

A) A B C D
4 3 1 2
B) A B C D
4 3 2 1
C) A B C D
1 3 2 4
D) A B C D
1 2 4 3

19) A rectangular coil of length 0.12 m and width 0.1 m having 50 turns of wire is suspended vertically in a uniform magnetic field of strength $0.2\ \text{Wb/m}^2$. The coil carries a current of 2 A. If the plane of the coil is inclined at an angle of 30^0 with the direction of the field, the torque required to keep the coil in stable equilibrium will be
A) 0.24 Nm
B) 0.20 Nm
C) 0.15 Nm
D) 0.12 Nm

20) Which of the following statements is not correct for a nucleophile?
A) Nucleophile is a Lewis acid
B) Nucleophiles are not electron seeking
C) Nucleophiles attack low electrons density sites
D) Ammonia is a nucleophile

21) A colour blind man marries a woman with normal sight who has no history of colour blindness in her family. What is the probability of their grandson being colour blind?
A) 1
B) 0.5
C) Nil
D) 0.25

22) A body of mass 1 kg begins to move under the action of a time dependent force $\vec{F} = \left(2t\,\hat{i} + 3t^2\,\hat{j}\right)\text{N}$, where $\hat{i}$ and $\hat{j}$ are unit vectors along X and Y axis. What power will be developed by the force at the time (t)?
A) $\left(2t^2 + 4t^4\right)\text{W}$
B) $\left(2t^3 + 3t^4\right)\text{W}$
C) $\left(2t^3 + 3t^5\right)\text{W}$
D) $\left(2t + 3t^3\right)\text{W}$

23) For a sample of perfect gas when its pressure is changed isothermally from p_i to p_f, the entropy change is given by
A) $\Delta S = nR\,\text{In}\left(\frac{p_f}{p_i}\right)$
B) $\Delta S = 2R\,\text{In}\left(\frac{p_i}{p_f}\right)$
C) $\Delta S = RT\,\text{In}\left(\frac{p_i}{p_f}\right)$
D) $\Delta S = nRT\,\text{In}\left(\frac{p_f}{p_i}\right)$

24) The standard petal of a papilionaceous corolla is also called
A) Pappus
B) Vexillum
C) Carina
D) Corona

25) Which one of the following represents forward bias diode?
A) 

B) 

C) 

D) 

26) Extraction of gold and silver involves leaching with CN^- ion. Silver is later recovered by
A) Distillation
B) Liquation
C) Zone refining
D) Displacement with Zn

27) The DNA fragments separated on an agarose gel can be visualised after staining with
A) Aniline blue
B) Acetocarmine
C) Bromophenol blue
D) Ethidium bromide

28) A sample of 0.1 g of water at 100^0C and normal pressure $(1.013\times10^5\ \text{Nm}^{-2})$ requires 54 cal of heat energy to convert to steam at 100^0C. If the volume of the steam produced is 167.1 cc, the change in internal energy of the sample, is
A) 84.5 J
B) 208.7 J
C) 42.2 J
D) 104.3 J

29) Which of the following is correct with respect to -I effect of the substituents? (R = alkyl)
A) $-NH_2 < -OR < -F$
B) $-NR_2 < -OR < -F$
C) $-NH_2 > -OR > -F$
D) $-NH_2 > -OR > -F$

30) Match the items given in Column I with those in Column II and select the correct option given below

	Column I		Column II
1.	Tidal volume	i.	2500-3000 mL
2.	Inspiratory reserve volume	ii.	1100-1200 mL
3.	Expiratory reserve volume	iii.	500-550 mL
4.	Residual volume	iv.	1000-1100 mL

A) 1 2 3 4
iii ii i iv
B) 1 2 3 4
iii i iv ii
C) 1 2 3 4
i iv ii iii
D) 1 2 3 4
iv iii ii i