PHYSICS

BOOKS - FULL MARKS PHYSICS (TAMIL ENGLISH)

SAMPLE PAPER-9

Part I

1. To produce a displacement _____ is required .

A. Acceleration

B. Force

C. Velocity

D. Momentum

Answer: B

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2. The refractive index of a transparent medium is always greater than _____.

A. two

B. three

C. one

D. four

Answer: C

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3. Velocity of sound in a gaseous medium is $330ms^{-1}$. If the pressure is increased by 4 times without causing a change in the

temperature, the velocity of sound in the gas

is ....

A. $330 ms^{-1}$

B. $660 ms^{-1}$

C. $156 ms^{-1}$

D. $990 ms^{-1}$

Answer: A

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4. Neon shows zero electron affinity due to

_____

A. stable arrangement of neutrons

B. stable configuration of electrons

C. reduced size

D. increased density

Answer: B

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5. A solution is a _____ mixture .

A. homogeneous

B. homogeneous and heterogeneous

C. heterogeneous

D. Non homogeneous

Answer: A

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6. Powered $CaCO_3$ reacts more rapiddly than flaky $CaCO_3$ because of _____.

A. large surface area

B. high pressure

C. high concentration

D. high temperature

Answer: A

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7. A patient with blood group O was injured in an accident and has lost . Which blood group the doctor should effectively use for transfusion in this condition ?

A. A group

B. B group

C. O group

D. AB group

Answer: C

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8. _____ is ATP factory of the cells.

A. Mitochondria

B. Nucleus

C. Ribosomes

D. Chloroplast

Answer: A

9. Anemophilous flowers have _____.

A. Sessile stigma

B. Small smooth stigma

C. Coloured flower

D. Large feathery stigma

Answer: D

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10. A person who met with an accident lost control of body temprature ,water balance and hunger.Which of the following part of brain is supposed to be damaged?

    A. Hypothalamus

    B. Pons

    C. Cerebrum

    D. Medulla oblongata

Answer: A

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11. Golgi complex plays a major role in

A. Fossilization

B. Variation

C. Preservation

D. Sedimentation

Answer: B

12. The centromere is found at the centre of the _____ chromosome.

A. Telocentric

B. Metacentric

C. Sub-metacentric

D. Acrocentric

Answer: B

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1. Define dispersion of light.

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2. What is meant by equilibrant ?

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3. Why does an empty vessel produce more sound than a filled one?

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4. Differentiate ore and mineral

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5. How do detergents cause water pollution?

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6. Define reflex arc.

7. The complete events of cardiac cycle last for

0.8 sec . What is the timing for each event ?

8. How will you prevent soil erosion?

9. Calculate the molecular mass of the HCl

10. Calculate the momentum of a toy car of

mass 200g moving with a speed of 5 m/s.

Part Iii

1. Explain the process of controlled and uncontrolled chain reactions.

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2. What are the factors that affect the speed of sound in gases?

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3. (i)Classify the types of force based on their application .

(ii)Which instrument is used to measure the electric current? How should it be connected in a circuit?

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4. calculate the molecular mass of Cl2

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5. The electronic configuration of metal A is 2,8,18,1.

The metal A when exposed to air and moisture forms B a green layered compound. A with conc. H_2SO_4 forms C and D along with water .

D is a gaseous compound. Find A , B, C and D .

6. A pure tall plant (TT)is crossed with pure dwarf plant (tt),What would be the F_1 and F_2 generations?Explain.

7. List out the external and internal factors that affect photosynthesis.

8. Solar energy is a renewable energy. How?

9. State the importance of biofertilizer.

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10. Draw a ray diagram of formation of images by the convex lens when object placed between 1.Infinity, 2. beyond 2F1

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Part Iv

1. Define one roentgen.

2. A ball of mass 1 kg moving with a speed of $10ms^{-1}$ rebounds after a pefect elastic collision with the floor. Calculate the change in linear momentum of the ball.

3. (i)Calculate the number of moles in

12.046×10^{23} atom of copper.

4. Explain the mechanism of cleansing action

of soaps and detergents.

5. (a)(i)Explain the functions of the thyroid hormones ?

(ii)How are stem cells useful in regenerative process ?

(iii)What is palaeontology ?

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6. Explain with an example the inheritance of dihybrid cross.How is it different from monohybrid cross?