PHYSICS

BOOKS - FULL MARKS PHYSICS (TAMIL ENGLISH)

SAMPLE PAPER - 3

Part I

1. One kilogram force equals to _____

A. 9.8 dyne

B. 9.8×10^4 N

C. 98×10^4 dyne

D. 980 dyne

Answer:

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2. Temperature is the average ..... of the molecules of a substance.

A. difference in K.E and P.E

B. sum of P.E and K.E

C. difference in T.E and P.E

D. difference in K.E and T.E

Answer:

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3. In nuclear reactor ..... is used as a control rod.

A. barium

B. carbon

C. cadmium

D. Na

Answer:

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4. Mass of 1 mole of Nitrogen atom is ..... .

A. 28 amu

B. 14 amu

C. 28 g

D. 14 g

Answer:

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5. Which of the following have inert gases 2 electrons in the outermost shell?

A. He

B. Ne

C. Ar

D. Kr

Answer:

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6. The number of components in a binary solution is _____ .

A. 2

B. 3

C. 4

D. 5

Answer:

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7. Coronary heart disease is due to

A. Streptococci bacteria

B. Inflammation of pericardium

C. Weaking of heart valves

D. Insufficient blood supply to heart muscles

Answer:

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8. Glycolysis takes place in the mitochondria.

A. Cytoplasm

B. Mitochondira

C. Inner mitochondiral membrane

D. Nucleus

Answer:

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9. _____ is ATP factory of the cells.

A. Mitochondria

B. Chloroplast

C. Ribosomes

D. Nucleus

Answer:

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10. The 'use and disuse theory' was proposed by____.

A. Charles Darwin

B. Ernst Hacc Kel

C. Jean Baptiste Lamark

D. Gregor Mendel

Answer:

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11. Which is used to edit programs?

A. Inkscape

B. Script editor

C. Stage

D. Sprite

Answer:

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Part Ii

1. Define moment of a couple.

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2. What is power of accomodation of eye?

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3. What are the advantages of LED TV over the normal TV ?

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4. State Ohm's law .

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5. Distinguish between saturated and unsaturated fatty acids.

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6. Why is the teeth of rabbit called heterodont?

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7. What is the function of Oxytocin?

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8. What will happen I you cut planaria into small fragments ?

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9. Match the following:

(a) Atavism	(i) A wing of a bat an A a wing of an insect
(b) Atavism	(ii) Rudimentary tail
(c) Homologous organs	(iii) Vermiform appendix
(d) Analogous organs	(iv) a forelimb of cat and a bats wing

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10. How much current will an electric heater coil draw from 220 V source, if the resistance of heater coil is 110 Ω.

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Part Iii

1. What are the types of inertia ? Give an example for each type.

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2. Explain the rules for obtaining images formed by a convex lens with the help of ray diagram.

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3. A piece of wire of resistance 10 ohm is drawn out so that its length is increased to three times its original length. Calculate the new resistance.

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4. Write the characteristics of hydrocarbons .

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5. (i) What is Hydrated salt?

(ii) How is ethanoic acid prepared from ethanol? Give the chemical equation?

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6. Voluntary and involuntary actions.

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7. Enumerate any four functions of blood.

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8. Write the reaction for photosynthesis.

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9. What are the contributing factors for Obesity ?

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10. State Avogadro's law.

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Part Iv

1. With the help of a circuit diagram derive the formula for the resultant resistance of three resistances connected in series.

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2. An object of height 3 cm is placed at 10 cm from a concave lens of focal length 15 cm. find the size of the image.

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3. (i) What is the mass of 1 mole of nitrogen atom?

(ii) How many moles of SO_2 have same mass as 3 moles of oxygen?

(iii) How many molecules are present in 1 ml of water?

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4. Explain the factors influcencing the rate of a reaction

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5. Write the physiological effects of gibberellins.

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6. Explain the importance of fossils.

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