



PHYSICS

BOOKS - FULL MARKS PHYSICS (TAMIL ENGLISH)

DEPARTMENTAL MODEL PAPER (SOLVED)

Part I

1. To project the rockets which of the following principle(s) is / (are) required ?

A. Newton's third law of motion

B. Newton's law of gravitation

C. Law of conservation of linear momentum

D. Both (a) and (c)

Answer:



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2. Kilowatt hour is the unit of

A. resistivity

B. conductivity

C. electrical energy

D. electiral power

Answer:



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3.element emits its radiation spontaneously.

A. Ni

B. Pb

C. Pt

D. u

Answer:



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4. Which of the following is a triatomic molecule ?

A. Glucose

B. Helium

C. Carbon-di-oxide

D. Hydrogen

Answer:



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5. _____ is an important metal to form amalgam

A. Ag

B. Hg

C. Mg

D. Al

Answer:



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6. what is triatomic molecule?

A.

B.

C.

D.

Answer:



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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. O group

B. AB group

C. A or B group

D. All blood group

Answer:



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8. Excessive consumption of alcohol leads to

.....

- A. Loss of memory
- B. Cirrhosis of liver
- C. State of hallucination
- D. Supperssion of brain function

Answer:



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9. Which is formed during anaerobic respiration

A. Carbohdrate

B. Ethyl alcohol

C. Acetyl CaA

D. Pyruvate

Answer:



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10. Casparian strips are present in the _____
of the root.

A. Cortex

B. pith

C. pericycle

D. Endodermis

Answer:



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11. The soft finely stratified sedimentary rock is called _____ .

A. Shale

B. Petroleum

C. Methane

D. coal

Answer:



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12. All files are stored in the

A. Folder

B. Box

C. Paint

D. Scanner

Answer:



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1. State Newton's second law.



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2. What are the causes of Myopia ?



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3. What is the minimum distance needed for an echo?



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4. Why does the reaction rate of a reaction increase on raising the temperature ?



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5. Differentiate soaps and detergents .



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6. Write the dental formula of rabbit.



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7. What is bolting? How can it be induced artificially?



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8. Identify the parts A,B,C & D ?



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9. How can you find the age of fossiles ?



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10. A charge of 10 coulomb flows through a bulb in 5 second. What is the current through the bulb ?



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Part Iii

1. State and prove the law of conservation of energy.



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2. Draw a ray diagram to show the image formed by a convex lens when the object is placed between F and $2F$.



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3. How many electrons are passing per second in a circuit in which there is a current of 5 A ?



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4. Derive the relationship between relative molecular mass and Vapour density.



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5. How is metal corrosion prevented?



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6. With a neat labelled diagram explain the structure of a neuron.



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7. First vascular plants are



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8. Differentiate the following

(a) Monocot root and Dicot root (b) Aerobic and Anaerobic respiration



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9. What precautions can be taken for preventing heart disease?



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10.

(i) Calculate the pH of $0.01M HNO_3$?



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Part Iv

1. Explain the experiment of measuring the real and apparent expansion of a liquid with a neat diagram.



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2. A source of sound is moving with a velocity of 50ms^{-1} towards a stationary listener. The listener measures the frequency of the source as 1000Hz . What will be the apparent frequency of the source when it is moving away from the listener after crossing him? (velocity of sound in the medium is 330ms^{-1}).



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3. Calculate the mass of 1.51×10^{23} molecule of H_2O .



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4. Write notes on various factors affecting solubility .



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5. What is triple fusion ?



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6. Natural selection is a driving force for evolution-How ?



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