PHYSICS

BOOKS - SURA PHYSICS (TAMIL ENGLISH)

QUARTERLY MODEL QUESTION PAPER

Mcq S

1. Inertia of the body depends on

A. Weight of the object

B. acceleration due to gravity of the planet

C. mass of the object

D. both a & b

Answer:

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2. Where should an object be placed so that a real and inverted image of same size is obtained by a convex lens.

A. f

B. 2f

C. infinity

D. beteen f and 2f

Answer:

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3. If a substance is heated or cooled, the linear expansion occurs along the axis is

A. X or -X

B. Y or -Y

C. both a and b

D. a or b

Answer:

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4. Kilowatt hour is the unit of

A. resistivity

B. conductivity

C. electrical energy

D. electrical power

Answer:

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5. If a sound wave travels with a frequency of $1.25 \times 10^4 Hz$ at $344 ms^{-1}$, the wave length will be

A. 27.52m

B. 275.2m

C. 0.02752m

D. 2.752m

Answer:

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6. Gamma radiations are dangerous because _____.

A. it affect eyes & bones

B. it affects tissues

C. it produces genetic disorder

D. it produces enormous amount of heat

Answer:

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7. The Volume occupied by 1 mole of a diatomic gas at S.T.P is _____.

A. 11.2 litre

B. 5.6 litre

C. 22.4 litre

D. 44.8 litre

Answer:

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8. 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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9. Deliquescence is due to _____

A. Strong affinity to water

B. Less affinity to water

C. Strong hatred to water

D. Inertness to water

Answer:

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10. 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:

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11. TFM in soaps represents _____ content in soap .

A. mineral

B. vitamin

C. fatty acid

D. carbohydrate

Answer:

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12. Which is formed during anaerobic respiration

A. Carbohydrate

B. Ethyl alcohol

C. Acetyl CoA

D. Pyruvate

Answer:

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13. According to Mendal ,alletes have the following character

A. Pair of genes

B. Responsible for character

C. Production of gametes

D. Recessive factors

Answer:

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14. Asexual reproduction takes place through budding in _____

A. Amoeba

B. Yeast

C. Plasmodium

D. Bacteria

Answer:

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15. A cut diamond sparkles because of its

A. absorption of light by the diamond

B. Emission of light by the diamond

C. High refractive index

D. hard surface

Answer: c

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16. Scent sprayer is based on

A. Bernoulli's principle

B. Charles's law

C. Archimedes' principle

D. Boyle's law

Answer: a

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17. Relative humidity is measured by

A. lactometer

B. hydrometer

C. potentiometer

D. all of them

Answer: b

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18. Mammals are _____ animals

A. Cold blooded

B. warm blooded

C. Poikilothermic

D. all the above

Answer:

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19. Kreb's cycle takes place in

A. chloroplast

B. mitochondrial matrix

C. stomata

D. inner mitochondrial membrane

Answer:

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20. A 25% alcohol solution means

A. 25 ml alcohol in 100 ml of water

B. 25 ml alcohol in 25 ml of water

C. 25 ml alcohol in 75 ml of water

D. 75 ml alcohol in 25 ml of water

Answer:

21. 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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22. 1 mole of any substance contains___molecules.

A. 6.023×10^{23}

B. 6.023×10^{-23}

C. 3.0115×10^{23}

D. 12.046×10^{23}

Answer:

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23. In a simple circuit, why does the bulb glow when you close the switch ?

A. The switch produces electricity

B. closing the switch completes the circuit

C. closing the switch breaks the circuit

D. The bulb is getting charged

Answer:

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24. If a substance is heated or cooled, the linear expansion occurs along the axis is

A. X or -X

B. Y or -Y

C. both a and b

D. a or b

Answer:

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Subjective Questions

1. If a 5N and a 15 N forces are acting opposite to one another . Find the resultant force and the direction of action of the resultant force

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2. Define dispersion of light.

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3. Write the different types of isotopes of oxygen and its percentage abundance .

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4. True or false. If false give the correct statement:

(i) Thermal energy always flows from a system at higher temperature to a system at lower temperature.

(ii) For a given heat in liquid, the percenrage

apparent expansion is more than that of real expansion.

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5. Match the following:

a)	Parturition	1)	Duration between pregnancy and birth
b)	Gestation	2)	Attachment of zygote to endometrium
c)	Ovulation	3)	Delivery of baby from uterus
d)	Implantation	4)	Release of egg from Graafian follicle

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6. you are given three media A, B and C of refractive index 1.33, 1.65 and 1.46. The medium in which the light will travel fastest is

A. a

B. b

C. c

D. equal

Answer: a

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7. A concave mirror of focal length 20 cm forms an image having twice the size of object. For the virtual position of object, the position of object will be at

A. 25

B. 40

C. none of these

D. at infinity

Answer: c

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8. A concave mirror of radius 30 cm is placed in water. It's focal length in air and water differ by

A. 15

B. 20

C. 30

D. 0

Answer: d

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9. An object at a distance of + 15 cm is slowly moved towards the pole of a convex mirror. The image will get

A. shortened and real

B. enlarged and real

C. enlarge and virtual

D. diminished and virtual

Answer: d

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10. A cricket ball of mass 100 g moving with a speed of 20 ms^{-1} is brought to rest by a player . Find the change in momentum of ball.

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11. Differentiate mass and weight.

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12. 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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13. Distinguish between linear, areal (or) superficial expansion.

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14. Distinguish between cation and an anion.

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15. Vinu dissolves 50 g of sugar in 250 ml of hot water, sarath dissolves 50g of same sugar in 250 ml of cold water. Who will get faster dissolution of sugar? And why?

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16. An object at a distance of 30 cm from a concave mirror gets its image at the same point. The focal length of the mirror is

A. -30cm

B. +30cm

C. -15cm

D. +15cm

Answer: c

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17. On analysing an impure sample of sodium chloride, the percentage of chloride was found to be 45.5 what is the percentage of pure sodium chloride in the sample?

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18. The angle of incidence for a ray of light having zero reflection angle is

A. 0

B. 30

C. 45

D. 90

Answer: a

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19. Study of life in outer space is known as

A. Enterobiology

B. Neobiology

C. Exobiology

D. endobiology

Answer: c

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20. A cricket ball of mass 25 g moving with a speed of 12 ms^{-1} is hit by a bat so that the ball is turned back with a velocity of $20ms^{-1}$. Calculate the impulse received by the ball?

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21. Which of the following wavelengths will suffer maximum deviation while passing through a prism?

A. orange

B. red

C. green

D. violet

Answer: d

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22. (i) An electric iron consumes energy at the rate of 420W when heating is at the maximum rate and 180W when heating is at the minimum rate. The applied voltage is 220 V. what is the current in each case?

(ii) What is co-efficient of real expansion?

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23. Having two eyes facilitates in A : Increasing the field of view B : Bringing three-dimensional

view C : Developing the concept of distance/ size Then the correct option is/are

A. only a

B. b

C. c

D. a,b,c

Answer:

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24. Sound travels faster in

A. Hydrogen than in water

B. Iron than in air

C. Wood than an iron

D. Dry iron than in water

Answer: b

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25. The mass energy relation is the conclusion of

A. general theory of relativity

B. quantum theory

C. arial theory of energy

D. special theory of relativity

Answer: d

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26. Why should the light dependent reaction occur before the light independent reaction?

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27. How does an astronaut float in a space shuttle ?

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28. State Snell's law.

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29. Find the percentage of nitrogen in ammonia.

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30. True or false. If false give the correct statement:

(i) Ionic radius increases across the period from left to right.

(ii) An alloy is a heterogenous mixture of metals.

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31. Which one of the following is not an amorphous substance?

A. Rubber

B. glass

C. polymer

D. copper

Answer: d

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32. Solar radiation is measured by

A. astrometer

B. barometer

C. pyrometer

D. nanometer

Answer: c

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33. Who was the inventor of Radar?

A. Austin

B. bush wall

C. fleming

D. robert watson

Answer: d

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34. What are Okazaki fragments?

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35. What is the resistance of heating element of the heater when 20 A current passing through it at a potential of 220 V ?

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36. State the principle of moments .

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37. What are the causes of Myopia?

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38. Distinguish between ideal and non-ideal solution.

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39. State two conditions necessary for rusting of iron.

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40. Will the cool drinks give more fizz at top of the hills or at the foot ? Explain .

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41. Draw the dorsal view of brain of rabbit & label the parts.

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42. Under which conditions does the law of independent assortment hold good and why?

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43. Voluntary and involuntary actions.

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44. Draw a Gynoecium and label the parts.

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45. A solution is prepared by dissolving 45g of sugar in 180g of water. Calculate the mass percentage of solute.

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46. Differentiate the eye defects: Myopia and Hypermetropia.

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47. (i) 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.

(ii) What is co-efficient of cubical expansion?

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48. (i) Calculate the number of water molecule present in one drop of water which weighs 0.18 g.

(ii) Give the salient features of "Modern atomic theory".

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49. (i) Name the acid that renders aluminium passive. Why?

(ii) What are hygroscopic substances differ from deliquescent substances.

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50. Describe the structure of cilia.

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51. (i) The sex of the new born child is a matter of chance and neither of the parents may be considered resposible for it. What would be

the possible fusion of gametes to determine to sex of the child?

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

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