

India's Number 1 Education App

### **BIOLOGY**

## BOOKS - SURA BIOLOGY (TAMIL ENGLISH)

### **QUARTERLY MODEL QUESTION PAPER**

### Mcqs

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



**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  $344 m s^{-1}$ , 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

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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:



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

buddinng in \_\_\_\_.

A. Amoeba

B. Yeast

C. Plasmodium

D. Bacteria

#### Answer:

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**15.** Which one of the following hormones is naturally not found in plants:

A. 2,4-D

B. GA3

C. Gibberellin

D. IAA

#### Answer:

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16. Dendrites transmit impulse\_\_\_\_cell body

and axon transmit impulse\_\_\_\_ cell body.

A. away from, away from

B. towards, away from

C. towards, towards

D. away from, towards

#### Answer:

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## **17.** Which of the following process requires energy?

A. Acting transport

B. diffusion

C. osmosis

D. all of them

#### Answer:

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**18.** Mammals are \_\_\_\_\_ animals

A. Cold blooded

B. warm blooded

C. Poikilothermic

D. all the above

#### Answer:



#### 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





## **21.** Which of the following have inert gases 2 electrons in the outermost shell?

A. He

B. Ne

C. Ar

D. Kr



**22.** 1 Mole of any substance contains \_\_\_\_\_ molecules .

A.  $6.023 imes 10^{23}$ 

 $\texttt{B.}\,6.023\times10^{-23}$ 

C.  $3.0115 imes 10^{23}$ 

D.  $12.046 imes 10^{23}$ 



**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



**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

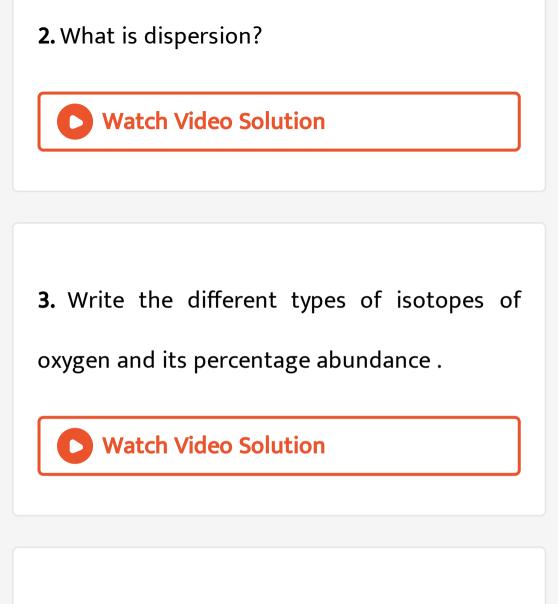




#### **Subjective Questions**

**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



**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.

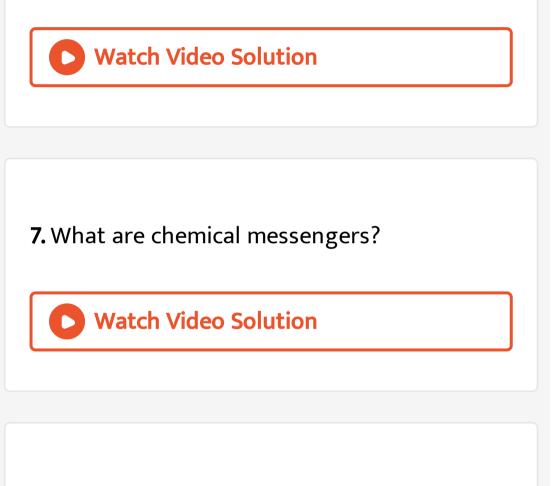
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5. Draw diagrams to represent the types of

concentric vascular bundles.

**6.** (a) Site of protein synthesis in a cyton\_\_\_\_.

(b) Membranes covering the brain.



8. What are allosomes?

**9.** 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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10. Differentiate mass and weight.

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



**12.** Distinguish between linear and areal or superficial expansion.



13. Distinguish between cation and an anion .



**14.** 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?



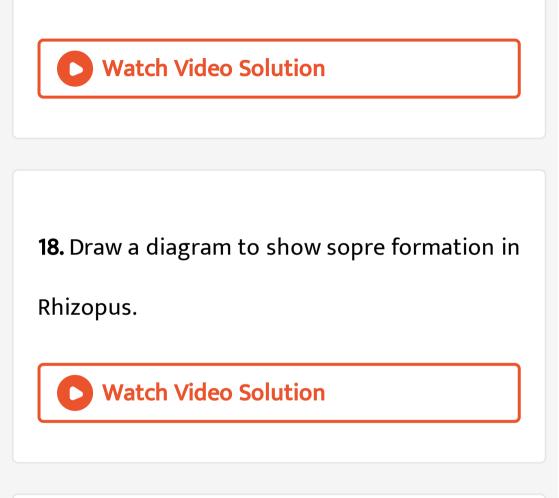
15. Describe the structure of the human ovum

with a neat labelled diagram.

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**16.** 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?

17. Name the components of nervous system.



19. 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?



**20.** (i) Differentiate convex lens and concave lens.

(ii) Why does the sky appear in blue colour?

**21.** An electric iron consumes energy at the rate of 420 W when heating is at the maximum rate and 180 W when heating is at the minimum rate. The applied voltage is 220V. What is the current in each case.

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**22.** (i) Calculate the % of each element in calcium carbonate.

(ii) Give the applications of Avogadro's

hypothesis.



**23.** (i) Metal A belongs to period 3 and group 13. A in red hot condition reacts with steam to form B. A with strong alkali forms C> find A, B and C with reactions.

(ii) How does developig embryo gets its nourishment inside the mother's body?



**24.** (i) What are the structures involved in the protection of brain?

(ii) List out the parasitic adaptation in leech.



25. (i) How are chromosomes classified based

on the position of centromere?

(ii) Why should the light dependent reaction

occur before the light independent reaction?

26. How does an astronaut float in a space

shuttle?

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27. State Snell's law.

**28.** Find the percentage of nitrogen in ammonia.

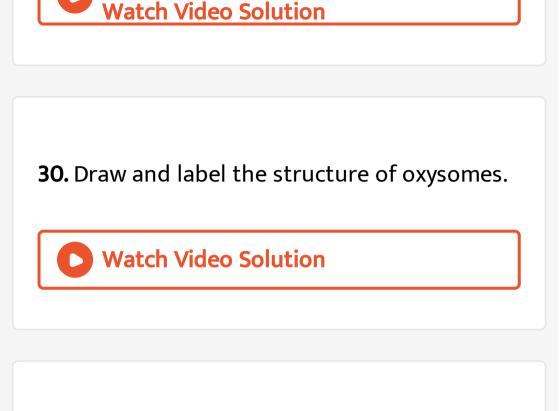
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**29.** True or false. If false give the correct statement:

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

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

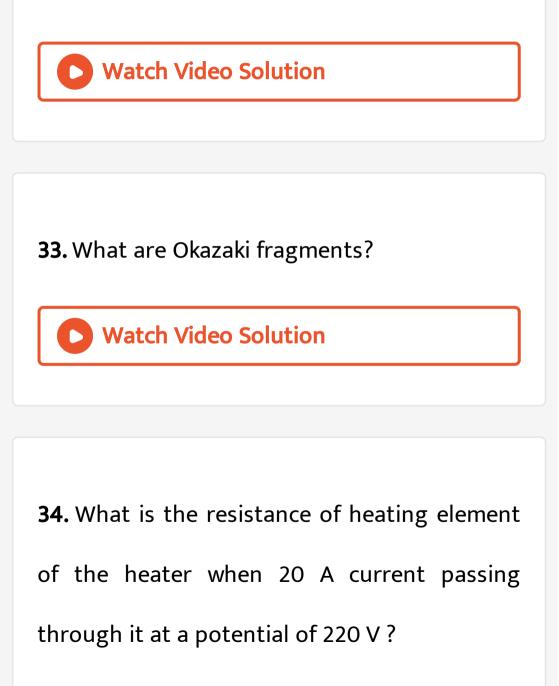


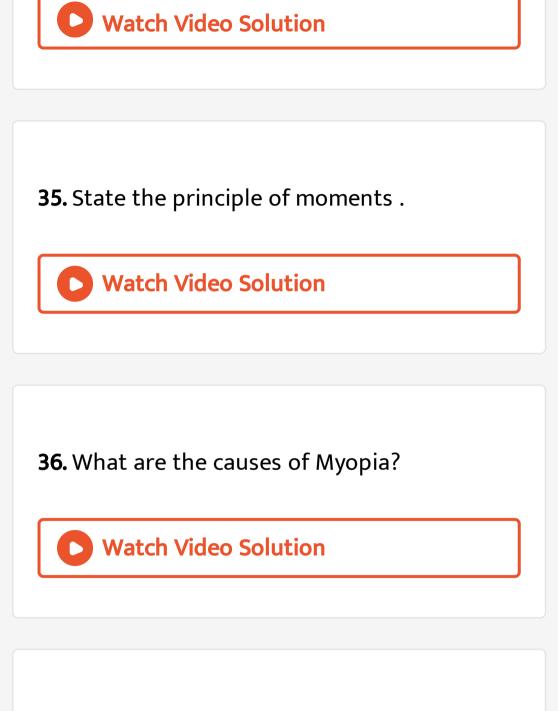


- **31.** (a) How does leech respire?
- (b) What does CNS stand for?



**32.** What is the role of parathorone?





37. Distinguish real and ideal gases.



## 38. State two conditions necessary for rusting

of iron.

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## 39. Will the cool drinks give more fizz at top of

the hills or at the foot ? Explain .

40. Draw the dorsal view of brain of rabbit &

label the parts.



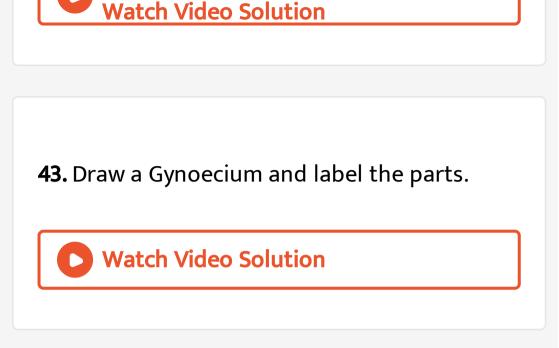
41. Under which conditions does the law of

independent assortment hold good and why?

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**42.** Voluntary and involuntary actions.





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

45. (i) Differentiate the eye defects: Myopia

and Hypermetropia.

(ii) List any five properties of light.

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**46.** 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.



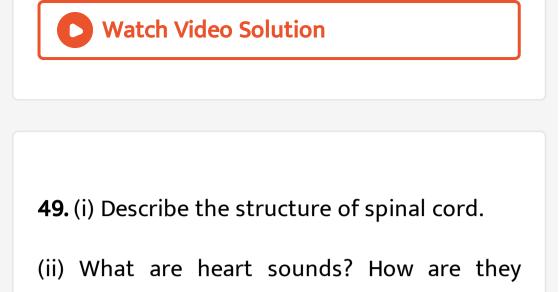
**47.** (i) Calculate the number of water molecule present in one drop of water which weighs 0.18 g.

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

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48. (i) Name the acid that renders aluminium passive. Why?(ii) What are hygroscopic substances differ

from deliquescent substances.



produced?



**50.** (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.