

8<sup>TH</sup> STD HALF YEARLY EXAM KEY 2022-23 (CHENNAI DISTRICT)

- I 1) (c) visible light  
 2) (d) Both (a) & (b)  
 3) (c) 20 cm  
 4) (c) freezing  
 5) (c) electrons  
 6) (d) Violin  
 7) (b) Hg  
 8) (c) Iron  
 9) (c) carbon dioxide  
 10) (a) 1 : 8  
 11) (a) Lead  
 12) (c) red  
 13) (b) Virus  
 14) (b) Fungi  
 15) (a) Lactic acid  
 II 16) Accuracy  
 17) positive  
 18) Oxygen  
 19) Bentham and Hooker  
 20) skeleton  
 III 21) Solid  
 22) Liquid  
 23) Gas  
 24) Solid to gas  
 25) Gas to liquid  
 IV. 26) True  
 27) False  
 28) False  
 29) False  
 30) True  
 V. 31) Rolling, Static  
 32) Buoyant force  
 VI. 33)

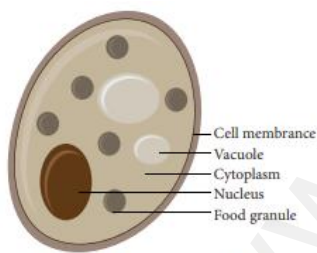


Figure 16.5 Structure of Yeast

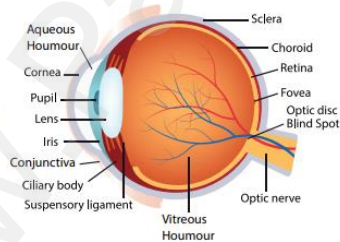


Figure 18.6 Structure of Human Eye

- VII. 34) Define – ampere.

One ampere is defined as one 'coulomb' of charge moving in a conductor in one second.

- 35) What is Pascal's law in simple terms?

The pressure at any point in the fluid is equal in all directions.

- 36) State the laws of reflection.

The incident ray, the reflected ray and the normal at the point of incidence, all lie in the same plane.

The angle of incidence and the angle of reflection are always equal.

- 37) Define one calorie.

One calorie is the amount of heat energy required to raise the temperature of 1 gram of water through 1°C.

- 38) Give some uses of electroplating.

We use iron in bridges and automobiles to provide strength.

A coating of zinc is deposited on iron to protect it from corrosion and formation of rust.

Chromium has a shiny appearance. It does not corrode.

8<sup>TH</sup> STD HALF YEARLY EXAM KEY 2022-23 (CHENNAI DISTRICT)

It resists scratches.

39) What are the hazards of noise pollution?

Noise may cause irritation, stress, nervousness and headache.

Long term exposure to noise may change the sleeping pattern of a person.

Sustained exposure to noise may affect hearing ability. Sometimes, it leads to loss of hearing.

Sudden exposure to louder noise may cause a heart attack and unconsciousness.

Noise of horns, loud speakers, etc., cause disturbances leading to lack of concentration.

Noise pollution affects a person's peace of mind.

40) Write the symbols for these elements

Oxygen-O, Gold-A U, Calcium-Ca, Iron-Fe

41) Define catalysis.

Chemical substance used to alters the speed of the reaction is called catalyst and the process is called catalysis.

42) Mention the physical properties of oxygen.

Oxygen is a colorless, odorless and tasteless gas.

It is a poor conductor of heat and electricity

Oxygen dissolves readily in cold water.

It is denser than air.

It can be made into liquid (liquefied) at high pressure and low temperature.

It supports combustion.

43) Write the names of the following compounds.

CO - Carbon monoxide, NO<sub>2</sub> - Nitrogen dioxide

44) What are the methods of removing hardness of water?

Boiling, Adding washing soda, Ion-exchange, Distillation

45) Write any two physical properties of acids.

Acids are sour in taste.

They are corrosive in nature. Strong acids can spoil substances like human skin, clothes and paper.

46) 1) Name the bacteria used in the production of vinegar.

Acetobacter aceti.

2) Write the name of any nitrogen fixing bacteria.

Rhizobium.

47) Write any two economic importance of fungi.

Mushrooms contain rich protein, minerals and are edible. Example: Agaricus.

The antibiotic penicillin is got from the fungus penicillium notatum other antibiotics like gentamycin, erythromycin are also got from fungi.

48) Define Metabolism?

Metabolism is the sum of chemical reactions by which living organisms sustain their life.

Metabolism consists of anabolism (the buildup of substances) and catabolism (the breakdown of substances).

49) Why our backbone is slightly movable?

In the backbone, vertebrae are joined by gliding points, which allow the body to be bent back, front or side wards.

50) What is ligament?

A ligament is a band of strong fibrous tissue which connects a bone to a bone.

51) List out the changes which occur during puberty.

Changes in body size

Changes in body proportion

Development of primary sex characteristics

Development of secondary sex characteristics.

52) Explain Menarche.

The first menstrual flow begins at puberty and is termed menarche.

It is the beginning of adolescence, during which mental and emotional maturation occurs and physical growth becomes pronounced.

53) Write any two points of dicotyledons.

Seed has two cotyledons.

8<sup>TH</sup> STD HALF YEARLY EXAM KEY 2022-23 (CHENNAI DISTRICT)

Plants have tap root system, leaves with reticulate venation.

Flowers are tetramerous or pentamerous. Calyx and corolla are well differentiated.

Pollination occurs mostly by insects.

VIII. 54) List out the base quantities with their units.

Quantity	Unit	Symbol
Length	metre	m
Mass	kilogram	kg
Time	second	s
Temperature	kelvin	K
Electric Current	ampere	A
Amount of Substance	mole	mol
Luminous Intensity	candela	cd

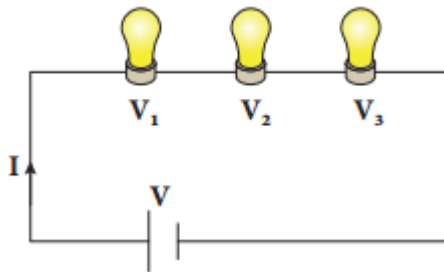
55) Explain the working of a periscope.

Periscope:

1. It is an instrument used for viewing bodies or ships, which are over and around another body or a submarine.
2. It is based on the principle of the law of reflection of light.
3. It consists of a long outer case and inside this case mirrors or prisms are kept at each end, inclined at an angle of 45°.
4. Light coming from the distant body, falls on the mirror at the top end of the periscope and gets reflected vertically downward.
5. This light is reflected again by the second mirror kept at the bottom, so as to travel horizontally and reach the eye of the observer.
6. In some complex periscopes, optic fibre is used instead of mirrors for obtaining a higher resolution.
7. The distance between the mirrors also varies depending on the purpose of using

56) Explain series and parallel circuit.

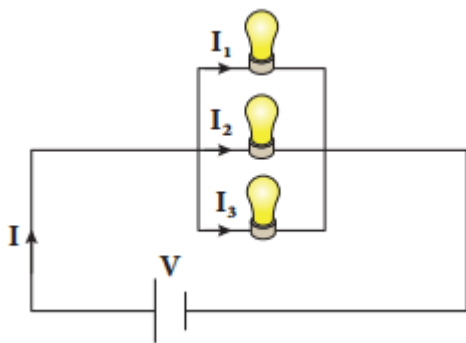
Series Circuit:



1. A series circuit is one that has more than one resistor (bulb) but only one path through which the electrons can travel.
2. From one end of the battery the electrons move along one path with no branches through the resistors (bulbs) to the other end of the cell.
3. All the components in a series circuit are connected end to end.
4. So, current through the circuit remains same throughout the circuit.
5. But, the voltage gets divided across the bulbs in the circuit.
6. In the following series circuit two bulbs are used as resistors.
7. Let  $I$  be the current through the circuit and  $V_1, V_2, V_3$  be the voltage across each bulb.
8. The supply voltage  $V$  is the total of the individual voltage drops across the resistances.  $V = V_1 + V_2 + V_3$

8<sup>TH</sup> STD HALF YEARLY EXAM KEY 2022-23 (CHENNAI DISTRICT)

Parallel Circuit:



1. In a parallel circuit, there is more than one resistor (bulb) and they are arranged on many paths.
2. This means charges (electrons) can travel from one end of the cell through many branches to the other end of the cell.
3. Here, voltage across the resistors (bulbs) remains the same but the current flowing through the circuit gets divided across each resistor.
4. Let us consider three bulbs connected in series.
5. Let  $V$  be the voltage across the bulbs and  $I_1, I_2, I_3$  be the current across each bulb.
6. The current  $I$  from the battery is the total of the individual current flowing through the resistances.  $I = I_1 + I_2 + I_3$

57) Discuss acid rain occurs due to emission of smoke from vehicles and industries.

Rain becomes acidic in nature due to the presence of certain pollutants in the air released by cars and industrial processes.

Acid rain is caused by emissions of sulphur dioxide and nitrogen oxide which react with the water molecules in the atmosphere.

58) Explain the different ways by which water gets polluted.

Answer:

1. Domestic Sewage.

Untreated sewage contains impurities such as organic matter from food waste, toxic chemicals from household products and it may also contain disease-causing microbes.

2. Domestic waste and plastics.

Plastics block drains spreading vector borne diseases such as malaria and dengue. Waste in water bodies negatively impact aquatic life.

3. Agricultural activities

- Fertilizers, pesticides and insecticides used in agriculture can dissolve in rainwater and flow into water bodies such as rivers and lakes.
- This causes an excess of nutrients such as nitrates and phosphates as well as toxic chemicals into the water bodies and they can be harmful to aquatic life.

4. Industrial waste.

- Many industries release toxic waste such as lead, mercury, cyanides, cadmium, etc.
- If this waste is unregulated and is released into water bodies, it negatively impacts humans, plants, animals and aquatic life.

5. Oil spills.

Oil spills cause water pollution which is harmful to aquatic life.

6. Thermal pollution.

Water used for cooling purposes is discharged back to a river or to original water source at a raised temperature and sometimes with chemicals. This rise in temperature decreases the amount of oxygen dissolved in water which adversely affects the aquatic life.

59) Write any five differences between monocot and dicot plants.

Answer:

Monocots:

- Seeds have a single cotyledon.
- Leaves show parallel venation
- They have fibrous root system.

8<sup>TH</sup> STD HALF YEARLY EXAM KEY 2022-23 (CHENNAI DISTRICT)

- Flowers are trimerous. Example : Paddy

Dicots:

- Seeds have two cotyledons.
- Leaves show reticulate venation.
- They have tap root system.
- Flowers are tetra or pentamerous. Example : Mango

60) What are the functions of skeleton in human body?

Answer:

The skeletal system serves five important functions in the human body:

1. It provides structure and shape to the body.
2. It supports and surrounds the internal organs of the body.
3. Calcium and phosphorus, the two minerals that the body needs for important regulatory functions, are stored inside the bones.
4. Red blood cells are produced in the bone marrow.
5. The bones of the skeletal system act as levers for muscular action.

61) Briefly explain the nutritional needs of adolescence.

Answer:

1. Adolescence is a stage of rapid growth and development.
2. Balanced diet is very much important during adolescence. Balanced diet includes proteins, carbohydrates, fats and vitamins in requisite proportions.
3. A very good amount of proteins and carbohydrates is necessary during this growth period. Apart from that, adolescents need the following dietary components.

Minerals:

1. Since there is an increase in skeletal mass and blood volume during adolescence, the body needs calcium, phosphorus and iron.

Calcium:

1. Calcium intake needs to be increased to prevent osteoporosis in later life.
2. It is present in milk and milk products or other equivalents.

Iodine:

1. It helps to prevent thyroid gland related diseases.

Iron:

1. Iron builds blood and iron-rich foods such as green leafy vegetables, jaggery, meat, dates, fish, chicken, citrus, Indian gooseberry (Nelli) and whole pulses are good for adolescents.
2. Lack of iron in the diet results in anemia.
3. In boys, iron deficiency occurs due to muscle spurt whereas in girls it occurs due to menstruation in addition to the muscular growth.

8<sup>TH</sup> STD HALF YEARLY EXAM KEY 2022-23 (CHENNAI DISTRICT)

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