Grade10-Andhra Pradesh-Science-2019

Physical Science

Part - A

Section - I

4 x 1=4

Q1. Let heat is not lost by any other process between two objects in thermal contact, "Net heat lost (by hot body) = Net heat gain (by cold body)".
Above statement indicates a principle. Write the name of that principle.

Solution:

The statement "Net heat lost (by hot body) = Net heat gain (by cold body)"refers to the principle of the method of mixtures.

Q2. Pose a question to understand the difference between plane mirrors and curved mirrors.

Solution:

How does the reflection of light and image formation differ between a plane mirror and a curved mirror?

Q3. A teacher asked to give an example for Dobereiner's triad. Ramu wrote them as "Li, Na, Mg". In these three, identify which element does not belongs to this triad?

Solution:

The element that does not belong to Dobereiner's triad is Magnesium.

Q4. Imagine and write what type of ion can be formed generally by an atom of element with low ionisation energy, low electron affinity with high atomic size?

Solution:

An atom with low ionization energy, low electron affinity, and a large atomic radius typically forms a positively charged ion, known as a cation.

Section II

5x2=10

Q5. Temperatures of two cities at different times are given as follows:

Time/City	At 6 AM	At 11.30 AM	At 6.30 PM
A	−3°C	300 K	5°C
B	271 K	27°C	270 K

On the basis of above table, answer the following questions.

(1) In which city, the morning temperature at 6 o'clock is relatively high?

(2) At what time, both cities are having the equal temperature'!

Solution:

(1) The morning temperature is high in City B.

(2) Both the cities are having the equal temperature at 11.30 AM.

Q6. While doing an experiment with a mirror to get an image, Gayathri got magnification value m as +1.5. Based on the above statement answer the following

(i) Which mirror she used for this experiment?

(ii) Write any two characteristics of the image formed at this magnification value.

Solution:

(i) She used a concave mirror for this experiment.

(ii) Characteristics of the Image Formed:

Nature of the Image: The image is virtual and erect.

Size of the Image: The image is magnified, being 1.5 times larger than the object.

Q7. Write the material that you use to find out the value of refractive index of a prism. What is the necessity of the graph in this experiment?

Solution:

Materials Used: A glass prism, drawing board, white paper, pins, and a protractor.

Necessity of the Graph: Plotting a graph of the angle of incidence versus the angle of deviation is essential, as it allows for the identification of the minimum deviation angle, which is crucial for accurately calculating the prism's refractive index.

Q8. Imagine, which one in each of the following pairs is large in size relatively with other? Explain. (X) Na, Al (Y) Na, Mg^{2+}

Solution:

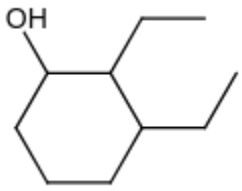
(X) Na vs. Al:

Na is larger in size because, in the periodic table, atomic size decreases as we move from left to right across a period due to the increase in nuclear charge, which pulls electrons closer to the nucleus.

(Y) Na vs. Mg^{2+}:

Na is larger than Mg^{2+}. While neutral Magnesium (Mg) is smaller than Sodium (Na), Mg^{2+} is even smaller because it loses two electrons, leading to a higher effective nuclear charge that pulls the remaining electrons closer to the nucleus. Hence, Sodium is larger than Mg^{2+}.

Q9. Based on the diagram, answer the following.



1. Write the name of the compound.

2. Write the name of functional group in the structure.

Solution:

1. The name of the compound is 2, 3-di ethyl-cyclo hexan-1-ol.
2. The name of the functional group in the structure is alcohol.

Section III

4 x 4= 16

Q10. Write the role of lenses in our daily life.

Solution:

Lenses can be used in our daily life for the following purposes:

(i) It is used for correcting eye detects

(ii) It is used in cameras, telescopes, binoculars, etc.

(iii) It is used in microscopes.

(iv) It is also used in cinema projectors, magnifying lens, etc.

OR

A house has 3 tube lights, 2 fans and a television. Each tube light draws 40 W. The fan draws 80 W and the television draws 60 W. On an average, all the tube lights are kept on for five hours, two fans for 12 hours each and the television for five hours a day, Find the cost of electric energy used in 30 days at the rate of Rs. 3.00 per KWH.

Solution:

Total consumption of current in 30 days

$$= [\{(3 \times 40 \times 5) + (2 \times 80 \times 12) + (5 \times 60 \times 1)\}30]/1000$$

$$= \frac{[(600 + 1920 + 300)30]}{1000} = 2820 \times 30/1000$$

$$= 84.6\text{KWH}$$

Cost of 1 unit (KWH) charge $=$ Rs $3.00/-$

Cost of 84.6KWH $= 84.6 \times 3$

$=$ Rs 253.80

Q11. $2Al + Fe_2O_3 - Al_2O_3 + 2Fe$

$(Al = 27u, Fe = 56u, O = 16u$ are the atomic masses)

How much of Iron, we can get if 54 kg of Aluminum is used?

Solution:

As per the balanced equation

$2Al + Fe_2O_3 - Al_2O_3 + 2Fe$

$54U + 160U - 102U + 112U$

$54gm + 160gm - 102gm + 112gm$

Aluminium - Iron

$54gms - 112gms$

$54kgs - 112kgs$

Hence, if 54 kg of Aluminum is used we can get 112 kg of Iron.

OR

Write Bohr's model of Hydrogen atom and its limitations.

Solution:

Bohr's Model of the Hydrogen Atom:

1) Stationary Orbits: Electrons revolve around the nucleus in fixed orbits, called stationary orbits, each associated with a specific energy level.
2) Energy Absorption and Emission: When an electron transitions from a lower energy level to a higher one, it absorbs energy. Conversely, it emits energy when transitioning from a higher energy level to a lower one.
3) Quantized Energy Levels: The energy of electrons in an atom is quantized, meaning it can only take specific values $E_1, E_2, E_3, \ldots$These fixed energy states are called stationary states, and the corresponding energies are known as energy levels.

Limitations of Bohr's Model:

- It could not explain the splitting of spectral lines (fine structure) observed in high-resolution spectra.
- It failed to account for the Zeeman effect (splitting of spectral lines in a magnetic field) and the Stark effect (splitting in an electric field).

- The model is not applicable to atoms with more than one electron, as it does not consider electron-electron interactions.

Q12. Write the procedure of a lab activity to understand lateral shift of light rays through a glass slab.

Solution:

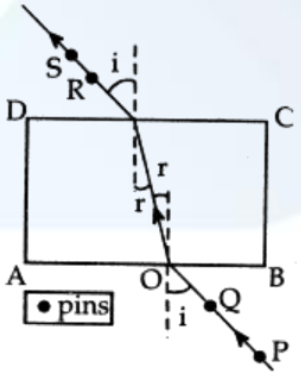
The procedure of the lab activity are as follows:

Aim: To understand lateral shift of light rays through glass slab.

Material required: plank, chart paper, clamps, scale, pencil, thin glass slab and pins.

Procedure:

1) Fix a piece of chart paper onto a plank using clamps.
2) Place a glass slab at the center of the chart paper and draw its outline with a pencil. Label the edges as A,B,C,D.
3) Draw a normal (ON) at the midpoint of side AB. Then, draw an incident ray making an angle of incidence (i) with the normal.
4) Fix two pins (P and Q) along the incident ray.
5) View these pins from the opposite side of the slab and fix two other pins (R and S) such that all four pins (P,Q,R,S) appear in a straight line when viewed through the slab.
6) Remove the slab and extend the incident ray (PQ) and emergent ray (RS).



Observation: The angles of incidence and emergence are equal.

($< i =< e$)

Conclusion:

1. The incident and emergent rays (PQ, RS) are parallel.
2. Measure the distance between the parallel rays (PQ, RS). This distance is called "Lateral shift".

OR

Write an activity to know the reaction of bases with metals.

Solution:

The reaction of bases with metals can be known by performing the mentioned below activity.

Aim: Reaction of bases with metals.

Materials required: Test tube, delivery tube, glass trough, candle, soap water, NaOH solution and Zinc granules.

Procedure:

- Take a clean test tube and add a few granules of zinc metal to it.
- Pour 10 ml of sodium hydroxide solution to the test tube and gently warm the contents.
- Connect a delivery tube to the test tube and immerse the other end in a glass trough containing soap solution to capture the evolving gas in the form of bubbles.
- Bring a burning candle near the bubbles filled with gas.

Observations:

The gas produced burns with a characteristic pop sound, indicating the presence of hydrogen gas (H_2).

$2NaOH + Zn - Na_2ZnO_2 + H_2$

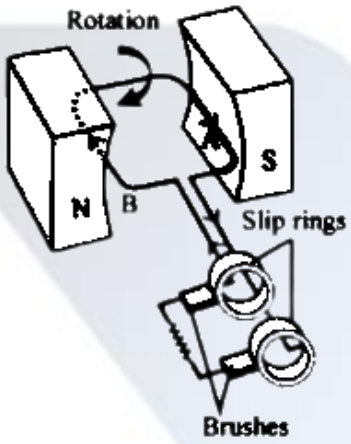
This experiment demonstrates that bases like sodium hydroxide can react with certain metals, such as zinc, to produce hydrogen gas.

Q13. Which device is used to convert mechanical energy into electrical energy? Draw a neat diagram and label the parts of this device.

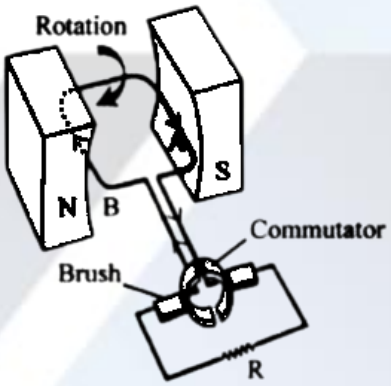
Solution:

The device used to convert mechanical energy into electrical energy is AC Generator or DC Generator. The diagram is as shown below.

AC Generator



DC Generator

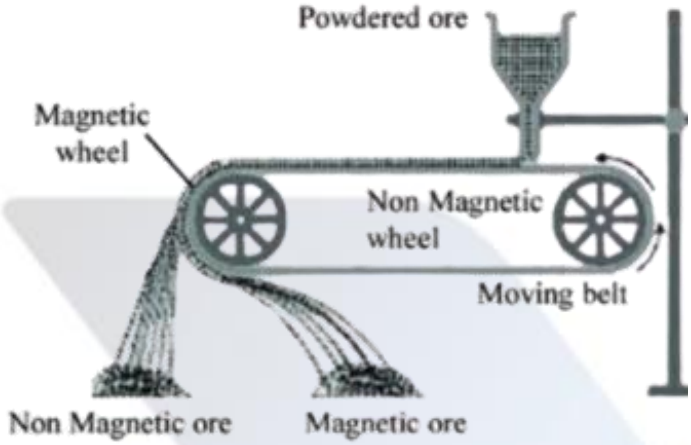


OR

Write the name of the method we use to separate the ore or impurity in which one of them is magnetic substance. Draw a neat diagram indicating the method.

Solution:

The method is **magnetic separation**, and the diagram is as given below.



Part B

Section IV

20 x ½ =10

Q14. When water is boiling, its temperature _____

(a) remains constant

(b) increases

(c) decreases

(d) can't say

Solution:

(a) remains constant

Q15. The spoilage of food can be prevented by vitamins like _____ and _____.

(a) B, C

(b) C, E

(c) B, E

(d) A, E

Solution:

(b) C, E

Q16. $2PbO + C \rightarrow 2\ Pb + CO_2$

(g) (g) (g) (g)

Which of the following statements are correct for the above chemical reaction.

(i) Lead is reduced

(ii) Carbon dioxide is oxidized

(iii) Carbon is oxidized

(iv) Lead oxide is reduced.

(a)(i) and (ii)

(b) (i) and (iii)

(c) (iii) and (iv)

(d) (i), (ii), (iii) and (iv)

Solution:

(c) (iii) and (iv)

Q17. Which of the following is not an olfactory indicator?

(a) Onion

(b) Vanilla essence

(c) Groundnut

(d) Clove oil

Solution:

(c) Groundnut

Q18. Mirage formed due to

(a) Dispersion

(b) Scattering

(c) Interference

(d) Total internal reflection

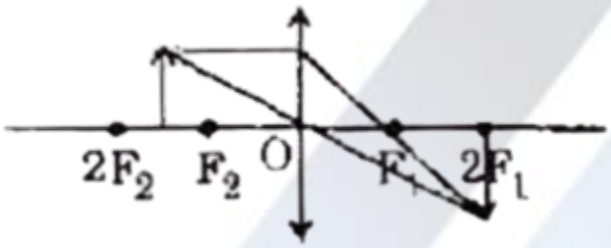
Solution:

(d) Total internal reflection

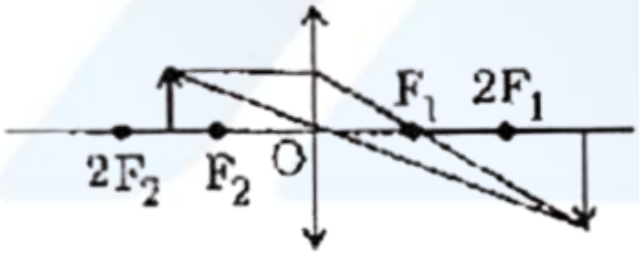
Q19. The complete ray diagram for the below given picture.

(a)

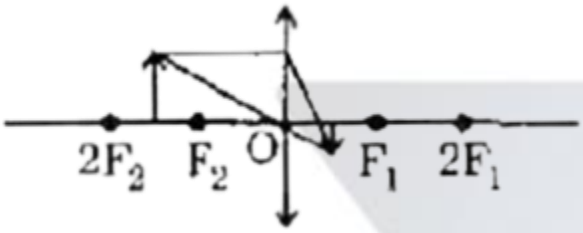
(b)



(c)

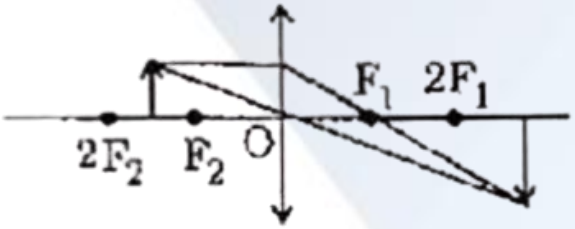


(d)



Solution:

(c)



Q20. Short sightedness is known as and lens is used to correct the visibility.

(a) Myopia, Convex

(b) Hypermetropia, Convex

(c) Hypermetropia, Concave

(d)Myopia, Concave.

Solution:

(d)Myopia, Concave.

Q21. The eye lens adjusts its focal length between _____cm to _____ cm.

(a) 22.7; 25

(b) 2.27; 2.42

(c) 2.26; 2.5

(d) 2.27; 2.5

Solution:

(d) 2.27; 2.5

Q22. Match the following

1. Between the aqueous humor and the lens, there is a muscular diaphragm	(X) Retina
2. Small hole in a muscular diaphragm, where diaphragm lies between the aqueous humor and the eye lens	(Y) Pupil
3. The place where the image forms at back side of eye ball.	(Z) Iris

(a) (1) —X, (2) — Y, (3) — Z

(b) (1) -X, (2) -Z, (3) -Y

(c) (1) -Z, (2) -X, (3) - Y

(d) (1) -Z, (2) —Y, (3) — X

Solution:

(d) (1) - Z, (2) -Y, (3) -X

Q23. The scientist who explained splitting of line spectra into finer lines is:

(a) Max Planck

(b) Sommerfeld

(c) Moseley

(d) Lewis

Solution:

(b) Sommerfeld

Q24. An example for Mendeleev's anomalous series is

(a) Tellurium, Iodine

(b) Sodium, Potassium

(c) Eka Boron, Eka Silicon

(d) Sodium, Calcium.

Solution:

(a) Tellurium, Iodine

Q25. Among the following, which is more stable?

(a) Li

(b) Be

(c) F

(d) Ne

Solution:

(d) Ne

Q26. Statement 1: The VSEPR theory proposed by Sidgwick, Powell

Statement 2: The VSEPR theory was further improved by Sidgwick, Gillespie.

(a) Both 1, 2 are correct

(b) Only Statement 1 is right

(c) Only statement 2 is right

(d) Both statements are false.

Solution:

(b) Only Statement 1 is right

Q27. Among the following, correct pair is_____.

(a) $BeCl_2$ – Bond angle 120°

(b) BF_3 - Bond angle 180°

(c) NH_3 – Bond angle 104°27′

(d) CH_4 - Bond angle 109°28′

Solution:

(c) CH_4 - Bond angle 109°28′

Q28. 6Ω, 6Ω, 6Ω are connected in parallel, the resultant resistance is _____.

(a) 1/6

(b) 6

(c) 18

(d) 2

Solution:

(d) 2

Q29. The induced current will appear in such a direction that it opposes the change in the flux in the coil, is known as _____.

(a) VSEPR theory

(b) Lenz's law

(c) Faraday's law

(d) Ohm's law

Solution:

(b) Lenz's law

Q30. SI unit for magnetic flux is _____.

(a) Weber

(b) Volt

(c) Ampere

(d) Coulomb

Solution:

(a) Weber

Q31. Froth floatation is the method mostly used for the purification of _____ ore.

(a) Sulfide

(b) Oxide

(c) Carbonate

(d) Nitrate

Solution:

(a) Sulfide

Q32. The general formula of Alkene is _____.

(a) C_nH_{2n}

(b) C_nH_{2n+1}

(c) C_nH_{2n-2}

(d) C_nH

Solution:

(a) C_nH_{2n}

Q33. Correct order of priority for choosing and naming a principal characteristic.

(a) $-COOH > -CHO > R-OH > -NH_2 > C=O > COOR$

(b) $-COOH > -COOR > C=o > OH > -NH_2 > CHO$

(c) $-COOH > -COOR > -CHO \gg C=O > R-OH > -NH_2$

(d) $-COOH > -CHO > -COOR > C=O > R-OH > -NH_2$

Solution:

(b) $-COOH > -COOR > -CHO \gg C=O > R-OH > -NH_2$

Biological Science

Section I

4 x 1 =4

Q1. What suggestion do you give to your friend suffering from constipation?

Solution:

For constipation, suggest a fiber-rich diet with fresh fruits like pears, apples (with the skin), and oranges, along with dried fruits like prunes. Encourage drinking plenty of water and avoiding excessive fatty or sugary foods.

Q2. Why is man called a moving museum of vestigial organs?

Solution:

Humans are often referred to as "living museums" of vestigial organs because our bodies contain numerous structures that have lost their original function through

evolution. Estimates of the number of vestigial features in humans vary, with some sources suggesting more than 100 such structures. These vestigial traits serve as evolutionary remnants, highlighting our species' ancestral past.

Q3. What is the apparatus used in your class while performing the demonstration of peristaltic movement in esophagus?

Solution:

The apparatus used in class while performing the demonstration of peristaltic movement in esophagus are cycle tube, potato and oil.

Q4. Why should we conserve forests? Give two reasons.

Solution:

We should conserve forests because:

- Forests decrease global warming by absorbing excess carbon dioxide from the atmosphere.
- Forests play a key role in rainfall.

Section II

5 x 2 =10

Q5. Ram met with an accident. After that he lost the capacity to walk in straight manner and cannot smell anything. Which part of the brain got damaged in the above cases?

Solution:

Ram's inability to walk in a straight line indicates damage to his Cerebellum, which controls balance and coordination. The loss of smell suggests damage to the Olfactory lobes of the Forebrain.

Q6. Observe the following table and answer the questions.

Name of the animal	Weight of the body	Weight of the Heart	No. of beats /min
Blue Whale	1,50,000kgs	750 kgs	7
Elephant	3,000kgs	12 – 21kgs	46
Man	60 – 70kgs	300 grams	76
Coal Tit Bird	8 grams	0.15 grams	1200

(a) What is meant by cardiac cycle?

(b) Write relation between the weight of the heart and heartbeat.

Solution:

(a) The cardiac cycle refers to the complete sequence of events in the heart from the beginning of one heartbeat to the start of the next. This cycle includes both systole (contraction) and diastole (relaxation) phases of the atria and ventricles, facilitating the efficient pumping of blood throughout the body.

(b) In healthy individuals, an increase in heart size, as seen in athletes, often leads to a decrease in resting heart rate due to enhanced cardiac efficiency.

Q7. If you happen to meet a pulmonologist, what questions would you ask him about respiratory disorders?

Solution:

We will ask questions such as:

- What are the preventive measures to avoid respiratory disorders?
- How can air pollution affect lung health?

Q8. There is an increase in the atmospheric temperature year by year. If it continues, guess and write what could be the consequences?

Solution:

The ongoing increase in global temperatures can lead to several significant consequences:

Melting Polar Ice and Rising Sea Levels: Elevated temperatures cause polar ice caps and glaciers to melt, resulting in higher sea levels, which can lead to coastal flooding and habitat loss.

Altered Precipitation Patterns: Changes in climate can disrupt rainfall patterns, leading to more frequent droughts in some regions and increased flooding in others, adversely affecting agriculture and water resources.

Q9. In your area, soil is polluted by the enormous usage of pesticides. Suggest any two programmes for prevention of soil pollution.

Solution:

To mitigate soil pollution caused by excessive pesticide application, consider implementing the following biological methods:

- Crop Rotation: Alternating different types of crops in the same area across seasons can naturally reduce pest populations by disrupting their life cycles, thereby decreasing the need for chemical pesticides.
- Biological Control: Utilizing natural predators, parasites, or pathogens to manage pest populations offers an eco-friendly alternative to chemical pesticides, promoting a balanced ecosystem and reducing soil contamination.

Section III

4 x 4 =16

Q10. (A) Lalitha visited a doctor with her grandfather. The doctor said that he is suffering from high BP.

i. What is meant by high B.P?

ii. What are the causes for high B.P?

iii. Suggest some measures to control high B.P.

Solution:

i. High BP refers to a condition where blood pressure exceeds the normal range of 120/80 mmHg during rest.

ii. The causes of high BP are being overweight, smoking or too much stressful life.

iii. Some of the measures to control high BP are:

- Exercise regularly.
- Avoid smoking and alcoholism
- Manage stress effectively.
- Limit intake of fatty foods.

OR

(B) Write salient features of Darwin's theory of Evolution.

Solution:

The salient features of Darwin's theory of Evolution are:

- Evolution occurs gradually over a long period of time.
- Variations arise within organisms and are inherited by their offspring.
- Organisms adapt to environmental changes to survive under new conditions.
- Accumulated changes over generations can lead to the formation of new species.

Q11. (A) Observe the experimental set up and answer the following questions.

(1) Why did the candle extinguish?

(2) In this experiment, do you find any relationship between mint plant and rat? Discuss.

(3) What were Priestly's observations in this experiment?

(4) Why is the candle continuously burning, when the mint plant was kept inside the Belly jar?

Solution:

(1) Candle extinguished due to lack of gas which helps in burning.

(2) In this experiment Rat uses the gas (O_2) released by the Mint plant and the Mint plant utilizes the gas (CO_2) released by the Rat.

(3) Priestly observed that plants were giving out a gas that supported burning and was essential for the survival of animals.

(4) The oxygen gas released by the Mint plant is the main cause for the continuous burning of the candle.

OR

(B) Suneetha wanted to observe Rhizopus on the piece of bread.

(i) Suggest the apparatus needed.

(ii) Write the procedure to be followed.

Solution:

(i) Apparatus needed: mold sample or spoiled bread, cover slip, plain glass slide, water, disposable gloves, microscope.

(ii) Procedure

- Place a drop of water at the center of the slide.
- By using a toothpick, scrape very little of the mold, and place it on the drop of water.
- Place the cover slip on the mold sample without any air bubbles.
- Use tissue paper to absorb any excess water around the edges of the cover slip.
- View the slide with a compound microscope.

Q12. (A) Observe the following table and answer the questions.

Division I	Division II

Auxins	Adrenalin
Gibberellins	Testosterone
Ethylene	Estrogen
Abscisic Acid	Thyroxin
Cytokinin	Growth Hormone

(a) On what basis the above classification done?

(b) From which gland, Adrenalin released?

(c) Which hormone is responsible for closing of stomata?

(d) What are the functions of Auxins?

Solution:

(a) The above classification is based on Plant and Animal hormones.

(b) Adrenaline is secreted by the adrenal glands.

(c) Abscisic acid induces stomatal closure.

(d) Auxins promote cell elongation and regulate the differentiation of shoots and roots in plants.

OR

(B) Observe the following pyramid of biomass and answer the following questions.

(a) This pyramid shows a decrease in the biomass as we move up, why the biomass is decreasing?

(b) Give some examples of producers and primary consumers.

(c) Where do producers get the energy from?

(d) How much biomass is lost at each step?

Solution:

(a) In this pyramid, only 10% of biomass is transferred from one trophic level to the next.

(b) Some examples of producers and primary consumers are

- Producers: green plants. algae, phytoplankton.
- Primary consumers: herbivores, rabbit, cow, goat, etc.

(c) Producers, such as green plants, obtain energy by capturing sunlight through photosynthesis.

(d) At each trophic level, approximately 90% of biomass is lost due to metabolic processes, leaving only about 10% available for the next level.

Q13. (A) The given parts belong to which system?

Draw a neat, labelled diagram of the system

(a) Kidneys

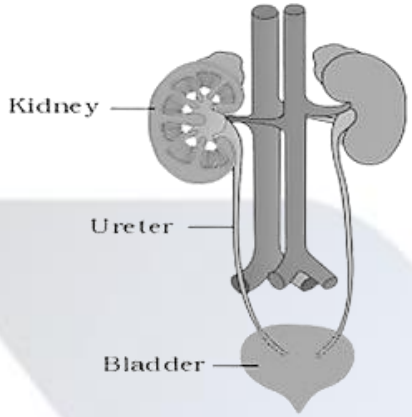
(b) Ureters

(c) Urinary bladder

Solution:

The given parts belong to the Excretory System.

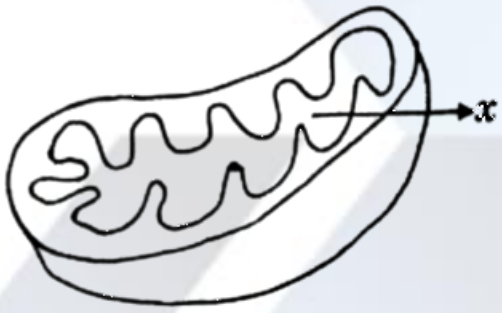
The excretory system is responsible for removing waste materials from the body and maintaining the body's internal balance of water and salts. The mentioned parts—kidneys, ureters, and urinary bladder—play key roles in this process.



Excretory System

OR

(B) Observe the diagram and answer the questions below:



(a) What does the given diagram indicate?

(b) What is the part ' x ' in the diagram?

(c) What is the function of the given picture?

(d) To which system the given picture belongs to?

Solution:

(a) The given diagram indicates Mitochondria, the powerhouse of the cell.

(b) The part ' x ' in the diagram is Matrix, the innermost compartment of the mitochondria.

(c) The function of the given picture are:

i. Participates in cellular respiration

ii. Produces energy in the form of ATP (Adenosine Triphosphate).

(d)The given picture belongs to cellular system.

Part B

Section IV

20 x ½ =10

Q14. Vocal cords are found in

(a)Larynx

(b)Pharynx

(c)Nasal Cavity

(d)Trachea

Solution:

(a) Larynx

Q15. Identify the mis-matched pair:

(a)Vitamin A - Retinol

(b)Vitamin D - Calciferol

(c)Vitamin K - Tocoferol

(d)Vitamin C - Ascorbic Acid.

Solution:

(c)Vitamin K – Tocoferol

Q16. Match the following

List A	List B
Pepsin	Carbohydrates
Amylase	Proteins
Lipase	Fats

(a) (i) - (b), (ii) - (a), (iii) - (c)

(b) (i) - (a), (ii) -(b), (iii) -(c)

(c) (i) - (c), (ii) - (b), (iii) - (a)

(d) (i) - (a), (ii) - (c), (iii) -(b)

Solution:

(a) (i) - (b), (ii) - (a), (iii) -(c).

Q17. Which reagent do you use in the lab to know the presence of oxygen in the solutions?

(a)KOH solution.

(b)Janus Green B

(c)Iodine solution

(d)Methylene Blue

Solution:

(b) Janus Green B

Q18. Which of the following has no role in blood clotting?

(a)Phylloquinone

(b)Fibrin

(c)Thrombin

(d)Thiamine

Solution:

(d)Thiamine

Q19. Blood pressure is measured with

(a)Stethoscope

(b)Sphygmomanometer

(c)Lense

(d)Scanner

Solution:

(b)Sphygmomanometer

Q20. Skin: Sweat : : Lungs: _____

(a)CO_2

(b)Faeces

(c)Urea

(d)Saliva

Solution:

(a)CO_2

Q21. Insulin is produced by

(a)Liver

(b)Pancreas

(c)Kidney

(d)Stomach

Solution:

(b)Pancreas

Q22. Suggest a practice to keep your kidneys healthy.

(a)Controlling the blood sugar levels.

(b)Avoid smoking, alcoholism

(c)Controlling the blood pressure levels.

(d)All the above

Solution:

(d)All the above

Q23. From the third month of pregnancy, the embryo is called .....

(a)Zygote

(b)Placenta

(c)Embryo

(d)Foetus

Solution:

(d)Foetus

Q24. Which part of the brain helps to maintain posture and equilibrium.

(a)Cerebrum

(b)Cerebellum

(c)Midbrain

(d)Diencephalon

Solution:

(b)Cerebellum

Q25. How can we prevent AIDS?

(a)Use texted blood for blood transfusion.

(b)Use disposable needles

(c)Avoid unsafe sexual relations.

(d)All the above

Solution:

(d)All the above

Q26. Sphincter that helps in opening stomach into duodenum _____.

(a)Cardiac

(b)Pyloric

(c)Anal

(d)Gastric

Solution:

(b)Pyloric

Q27. How much time the hunger pangs will continue.

(a)10-15 minutes

(b)1-2 hours

(c)15-20 minutes

(d)30-45 minutes

Solution:

(d)30-45 minutes

Q28. Who is known as the father of Genetics?

(a)Mendel

(b)Darwin

(c)Lamarck

(d)Aristotle

Solution:

(a)Mendel

Q29. Natural selection means:

(a)Nature selects desirable characters.

(b)Nature selects undesirable characters.

(c)Nature rejects desirable characters.

(d)None of the above.

Solution:

(a)Nature selects desirable characters.

Q30. Which is not suitable method for growing crops?

(a)Rotation of crops

(b)Biological control

(c)Cultivating mixed crops

(d)Using chemical fertilizers and pesticides.

Solution:

(d)Using chemical fertilizers and pesticides.

Q31. A food chain always starts with _____.

(a)The herbivore

(b)The carnivore

(c)The producer

(d)None of them

Solution:

(c)The producer

Q32. The given diagram represents.

(a)Recycle

(b)Sustainable development

(c)Micro irrigation

(d)UNDP

Solution:

(b)Sustainable development

Q33. The recent studies showed that the yield of Sunflower is considerably came down. What is the reason?

(a)Reduction in pollinating insects.

(b)Usage of Chemical fertilizers.

(c)Drought conditions.

(d)None of the above.

Solution:

(a)Reduction in pollinating insects.