

**CBSE
Class VII
Science Term 2
Sample Paper - 3**

Biology

Q1. How much of urine is passed out from the body of a normal adult in 24 hours?

- (a) 1 Liter
- (b) 2 Liters
- (c) 1 – 1.8 Liters
- (d) 1.4 – 2 Liters

Sol.

(c)

An adult human generally passes about 1-1.8 L of urine in 24 hours. Urea is the major excretory product in humans and it makes 2.5% of the urine.

Q2. Which one is not a feature of arteries?



- (a) Arteries are thick walled
- (b) Arteries carry oxygenated blood
- (c) Blood in the arteries flow at low pressure
- (d) Arteries have elastic walls

Sol.

(c)

Arteries are thick walled elastic blood vessels which carry oxygen rich blood from heart to all parts of the body.

Blood in the arteries flows at very high pressure.

Q3. Mammalian erythrocytes (red blood cells) have short life span due to absence of



- (a) Endoplasmic reticulum
- (b) Nucleus

- (c) Golgi complex
- (d) Mitochondria

Sol.

(b)

Q4. Vagus, the tenth cranial nerve, arises from the medulla and carries both afferent and efferent fibers.

Stimulation of the vagus nerve will make the heart beat _____.



- (a) Faster
- (b) Slower
- (c) Normal
- (d) 72 times per minute

Sol.

(b)

Q5. Which of the following animals use tentacles to catch its prey?

- (a) Hydra
- (b) Amoeba
- (c) Paramecium
- (d) Grasshopper

Sol.

(a)

It is hydra which uses the tentacles to ingest its prey. The stinging cells on the tentacles kill the actively moving tiny organism.

Q6. Carbohydrates play a critical role in the proper functioning of the immune system, fertilization, pathogenesis, blood clotting, and human development.

A deficiency of carbohydrates can lead to impaired functioning of all these systems. On the other hand, excessive consumption of carbohydrates, especially refined carbohydrates like sugar or corn syrup, can lead to obesity, type II diabetes, and cancer.

Where does the digestion of carbohydrates start in humans?

- (a) Stomach
- (b) Small intestine
- (c) Large intestine
- (d) Buccal cavity

Sol.

(d)

Salivary amylase in the buccal cavity starts acting upon the carbohydrates and digests them.

Q7. Where is the maximum water absorbed in the digestive tract?

- (a) Small intestine
- (b) Large intestine
- (c) Stomach
- (d) Oesophagus

Sol.

(b)

Maximum absorption of water takes place in the large intestine.

Q8. In the process of holozoic nutrition, which step is not correctly matched with its function?

- 1. Ingestion: The process of food intake by an animal.
- 2. Digestion: The process of breaking down of complex insoluble molecule into simple one.
- 3. Absorption: The process in which simple, soluble molecules present in the digested food passes into the body fluids.
- 4. Assimilation: The process of throwing out of undigested food from the animal body.

- (a) 1
- (b) 2
- (c) 3
- (d) 4

Sol.

(d)

Assimilation is the process by which animals use the absorbed simple and soluble molecule to get energy to perform all the activities of life process during their life spans.

Q9. The chest cavity _____ during exhalation

- (a) Contracts
- (b) Expands
- (c) Expands
- (d) Remains same

Sol.

(a)

During exhalation CO_2 is released out. To facilitate this, the volume of the chest cavity decreases. This results in the contraction of the chest cavity and thus, CO_2 is expelled out.

Q10. Which gas in the air helps in the breakdown of carbohydrates in the cells?

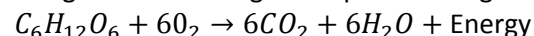


- (a) Carbon dioxide
- (b) Nitrogen
- (c) Oxygen
- (d) Argon

Sol.

(c)

Carbohydrates in cells are broken down by oxygen to give carbon dioxide, water and energy. This gaseous exchange take place through respiration process.



Q11. Coaches advise their athletes to take a hot shower after heavy workouts. Why?

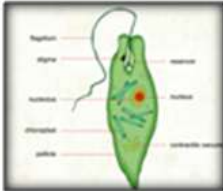


- (a) To enhance carbon dioxide supply
- (b) To improve blood circulation
- (c) To decrease glucose break down
- (d) To reduce pulse rate

Sol.

(a)
After doing vigorous exercise our body temperature is high the blood circulation is fast. Taking hot water both maintains our body temperature and improves the blood circulation to meet the energy needs of our body.

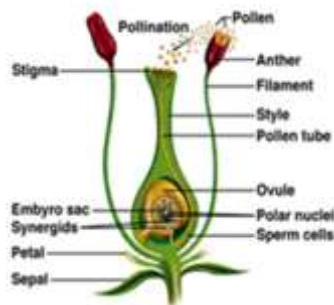
Q12. In most unicellular organisms



- (a) Oxygen is absorbed through lungs
- (b) Oxygen is absorbed through alveoli
- (c) Oxygen is diffused into cell
- (d) Oxygen is absorbed by spiracles

Sol.

(c)
Q13. When a male reproductive cell in a pollen tube enters the ovule and fuses with the female reproductive cell, _____ takes place.



- (a) Fertilisation
- (b) Pollination
- (c) Dispersion
- (d) Germination

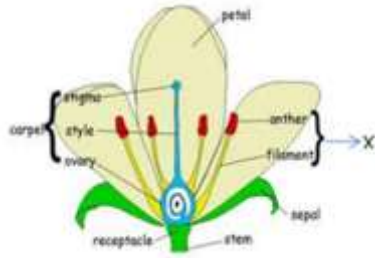
Sol.

(a)

Pollen grains land on the stigma from anther by the process of pollination. Each pollen grain produces a tube. Pollen tubes grow downwards through the style to reach the ovule in the ovary.

Male reproductive cell in the pollen tube fuses with the female reproductive cell in the ovule during fertilization

Q14. X stands for _____. It is a male organ and is made up of anther and filament.



- (a) Stamen
- (b) Pistil
- (c) Radicle
- (d) Ovule

Sol.

(a)

Facts:

Each stamen (male part) is made up of anther and filament. Anther contains the pollen grains and filament is a long thin stalk that holds the anther at the tip.

Q15. The Rafflesia plant produces the largest flower found on the Earth. How do the flowers get pollinated?



- (a) The flowers smell sweet and attract insects.
- (b) They smell like rotten meat and attract insects.
- (c) Flowers are wind pollinated
- (d) Flower are water pollinated

Sol.

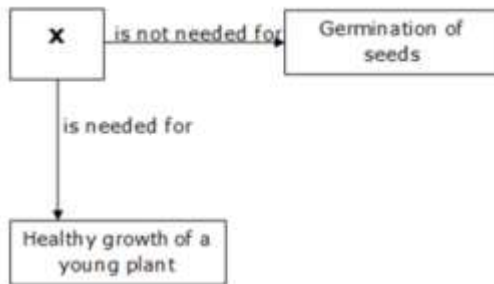
(b)

The flowers smell like rotten body. This odour attracts insects for pollination.

Facts:

Rafflesia is the world's largest flower. It is a parasitic plant with no leaves, roots or stem and does not contain chlorophyll and therefore incapable of photosynthesis.

Q16. Study the concept map carefully. What could x be?



- (a) Water
- (b) Air
- (c) Sunlight
- (d) Minerals

Sol.

(c)

X stands for sunlight.

Facts:

A seed has stored food for germination. Thus seeds can germinate in darkness as long as there are air, water and warmth.

A young plant needs sunlight to make food from carbon dioxide and water.

Q17. Suction pull helps in the upward movement of

- (a) Water & Food
- (b) Minerals & Food
- (c) Food
- (d) Water & Minerals

Sol.

(d)

In plants, water and minerals through suction pull are moved upward via xylem from the roots to all parts of a plant.

Q18. If you observe the leaf carefully, you will see hairs. What is the function of these hairs?

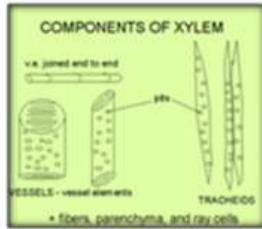


- (a) To enhance gaseous exchange
- (b) They have no specific function
- (c) To prevent guttation
- (d) To reduce transpiration

Sol.

(d)

- Q19. Xylem is made up of four different types of cells, tracheids, vessels, xylem fibres and xylem parenchyma.



- (a) Tracheids and vessels
(b) Tracheids and Xylem fibres
(c) Xylem fibres and Xylem parenchyma
(d) Tracheids and Xylem parenchyma
- Sol. (a)
The xylem vessels and tracheids together form long tubes that have a narrow diameter. They function as capillaries (narrow tubes) to transport water.
- Q20. Which of the following statements explains how the circulatory system in a plant works?
1. Xylem tubes transport oxygen to all parts of the plant
 2. Phloem tubes transport food from the leaves to all parts of the plant
 3. Phloem tubes transport water and mineral salts from then roots to the leaves
 4. Xylem tubes transport water and mineral salt from the leaves to the roots
- (a) 1
(b) 2
(c) 3
(d) 4
- Sol. (b)

Chemistry

- Q21. A first aid hand out suggests that wasp sting should be treated with vinegar. What is the chemical nature of wasp sting?



- (a) Basic
(b) Acidic
(c) Neutral
(d) Depends on the gender of wasp
- Sol. (a)
Wasp sting is basic in nature. To neutralize the effect of the same, it is suggested to rub it with vinegar, which is acidic.

Q22. Calamine solution is prescribed to neutralize the effect of ant sting which is acidic in nature. Which carbonate is present in calamine solution?

- (a) Zinc
- (b) Sodium
- (c) Potassium
- (d) Magnesium

Sol. (a)

Q23. What is the link between slaked lime and lime water?

- (a) Both are acids.
- (b) Both are indicators.
- (c) Both contain carbonates of calcium.
- (d) Both contain calcium hydroxide.

Sol. (d)

Slaked lime and lime water both contain calcium hydroxide and not calcium carbonate. Calcium hydroxide is basic in nature and does not give any colour changes differently with acid or base.

Q24. Which compound of potassium is used as an ingredient for making soap?

- 1. Potassium hydroxide
- 2. Potassium chloride
- 3. Potassium carbonate
- 4. Potassium sulphate

- (a) 1
- (b) 2
- (c) 3
- (d) 4

Sol. (a)

Soaps are basic in nature and require hydroxide of potassium or sodium for its formation. Potassium hydroxide is a base and is used for the formation of soaps.

Q25. Which of the following options does not represent copper sulphate?

- 1. Blue vitriol
- 2. $CuSO_4$
- 3. Green vitriol
- 4. Neela Thotha

- (a) 1
- (b) 2
- (c) 3
- (d) 4

Sol. (c)

Blue vitriol and neela thothal are the common names given to copper sulphate due to its blue colour and $CuSO_4$ is the formula for the same, whereas green vitriol is the common name for iron sulphate.

Q26. Which one of the following statements is incorrect?

1. Making of wine is a physical change
2. Crystallisation of sugar is a physical change
3. Chemical change is also called chemical reaction
4. Rusting leads to huge monetary loss

- (a) 1
- (b) 2
- (c) 3
- (d) 4

Sol.

(a)
Making of wine results in the formation of a new substance and is a chemical change. Therefore, first statement is the incorrect one.

Q27. Which of the following processes does not result in a chemical change?

1. Putting an iron nail in copper sulphate solution
2. Heating of magnesium
3. Keeping a slice of apple in open
4. All are examples of chemical change

- (a) 1
- (b) 2
- (c) 3
- (d) 4

Sol.

(d)
Putting iron nail in copper sulphate solution will result in a chemical reaction forming iron sulphate and copper.
Heating of magnesium ribbon will result in the formation of a new substance and thus, is a chemical change.
Keeping a slice of apple in open leads to oxidation of apple and will result in a chemical change.

Q28. In an experiment, a student dropped a blade in the solution of copper sulphate. He observed a change in the colour of solution from _____.

- (a) Blue to colourless
- (b) Blue to green
- (c) Blue to red
- (d) No change in colour

Sol.

(b)
Copper sulphate solution is blue in colour. Blade is made up of iron.
When iron is dropped in this solution, it reacts with copper sulphate resulting in the formation of iron sulphate and copper per the reaction.
Copper sulphate solution + Iron \rightarrow Iron sulphate solution + Copper
(blue) (green)
So, the colour change is from blue to green.

Q29. Size of silt particles is between the size of _____ and _____ particles.

- (a) Rocks and gravel
- (b) Sand and gravel
- (c) Sand and clay
- (d) Humus particle and gravel

Sol. (c)

Q30. _____ type of soil retains least amount of water and _____ type of soil percolates least amount of water?

- (a) Clayey and loamy soils
- (b) Clayey and sandy soil
- (c) Sandy and clayey soils
- (d) Sandy and loam soils

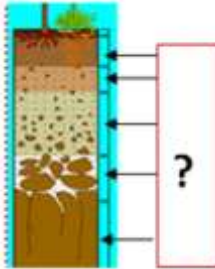
Sol. (c)

Q31. What are loams?

- (a) Soil having fine particles
- (b) Soil having mixture of sand clayey particles
- (c) Soil having big particles
- (d) Soil having light and loosely packed particles

Sol. (b)

Q32. What are the different layers observed through a section of the soil known as?



- (a) Horizons
- (b) Weathering
- (c) Soil profile
- (d) Soil sections

Sol. (a)

Q33. The density of sea water is _____ and its freezing point is _____ than fresh water

- (a) Higher, lower
- (b) Higher, higher
- (c) Lower, higher
- (d) Lower, lower

Sol. (a)

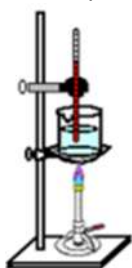
The density of sea water is higher and its freezing point is lower than fresh water due to dissolved salts

Q34. Which of the following can be part of the water cycle?

1. Melting of snow
 2. Sweating of animals
 3. Giving out water vapour by plants
 4. Evaporation of water from rivers
- (a) 1 and 2
(b) 1 and 2 and 3
(c) 2 and 3 and 4
(d) All of them

Sol. (d)

Q35. In an experiment, a student carried out the following steps.



1. He filled a beaker with water.
2. He added some sugar into the beaker of water and stirred it until all the sugar dissolved.
3. He then heated the solution until boiling point was reached.
4. Using a thermometer, he measured and recorded the boiling point of the sugar solution.
5. He repeated the experiment but this time with salt instead of sugar.

Choose the correct option on his observations

- (a) Adding sugar and salt to water does not affect the boiling point of water
(b) Adding of sugar decreases the boiling point of water
(c) Adding of salt decreases the boiling point of water
(d) Both sugar and salt when added to water increases its boiling point

Sol. (d)

Q36. Which of the following statement is not correct about the importance of water to living things?

1. It plays important role in human life processes.
2. It is used as good solvent in various industrial processes.
3. It is released by plant in the photosynthesis.
4. Rivers and seas serve as modes of transport.

- (a) 1
(b) 2
(c) 3
(d) 4

Sol. (c)

Q37. To which type of climate are animals in the tropical rainforests adapted?

- (a) Hot and humid
- (b) Wet and cold
- (c) Cold and dry
- (d) Hot and dry

Sol. (a)

Tropical regions support a wide variety of plants and animals because of the continuous warmth and rainfall in these regions.

Q38. The animal shown in the picture lives in the rainforest of western Ghats and also known as 'beard ape'.



Identify the animal.

- (a) Toucan
- (b) Siberian crane
- (c) Red-eyed frog
- (d) Lion tailed macaque

Sol. (d)

Q39. What is the average weather pattern of a place taken over a long period of time known as?

- (a) Weather
- (b) Climate
- (c) Weather forecast
- (d) None of the above

Sol. (b)

Weather of a place keeps changing on daily basis and the prediction of the weather of coming days is said to be weather forecast.

The average weather pattern taken over a long time is called climate of the place.

Q40. Penguins are excellent swimmers. Which of the following adaptations aid their swimming ability?

1. Streamlined body
2. Wide paws
3. Webbed feet
4. Thick and fatty skin

- (a) 1 and 2
- (b) 1 and 3
- (c) 2 and 3
- (d) 1 and 4

Sol. (b)

Just like polar bears, penguins are also good swimmers. They have two adaptations – a streamlined body and webbed feet.

Physics

- Q41. Choose the wrong statement
1. High speed winds are accompanied by increased air pressure
 2. Thunderstorms are same as cyclones
 3. Thunderstorms are always accompanied by lightning
 4. Earthquakes are rare and only affect the land mass
- (a) Only 1 and 2
(b) Only 1 2 and 3
(c) Only 3 and 4
(d) All are wrong

Sol. (d)
How do cyclones decrease the fertility of the soil in the coastal areas?

- Q42. How do cyclones decrease the fertility of the soil in the coastal areas?
- (a) By flooding the land with saline water
 - (b) By dissolving the water table of the place
 - (c) By increasing the water table of the place
 - (d) By decreasing the water table of the place

Sol. (a)
During cyclones, the sea waves rise high and flood the land making the soil saline which is harmful to plants.

- Q43. The winds of the earth do not flow in the exact “north to south” or “south to north” directions because
- (a) Of the seasons of the earth
 - (b) Of the shape of the earth
 - (c) Of the rotation of the earth
 - (d) All the above

Sol. (c)
The rotation of the earth from west to east changes the north-south winds to northeast-southeast direction and south-north winds to southeast-northwest direction.

- Q44. What is the size of the cloudy region of a cyclone?



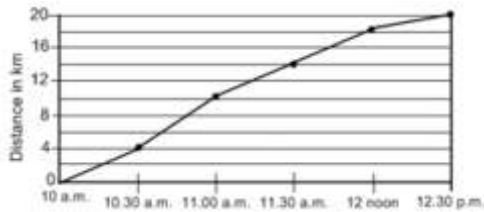
- (a) 50 – 70 km
- (b) About 200 km
- (c) More than 500 km
- (d) About 150 km

Sol. (d)
 Around the central calm and clear eye of a storm, there is a cloudy region of about 150 km in size.

- Q45. For the given velocity-time graph, which of the following statements is true?
 (a) The bod has a uniform acceleration, and its initial velocity is zero.
 (b) The body has some initial velocity, and undergoes uniform acceleration.
 (c) The body has zero initial velocity, and it has variable acceleration.
 (d) The body has some initial velocity, and undergoes uniform de-acceleration or negative acceleration.

Sol. (d)

- Q46. The graph below shows the distance a person jogged o Tuesday over a period of time. What was his average speed for the whole journey?



- (a) 6.5 km/hr
 (b) 10 km/hr
 (c) 12.5 km/hr
 (d) 8 km/hr

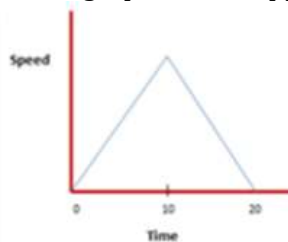
Sol. (d)

Total distance covered = 20 km

Total time taken = 2.5 hours

$$\therefore \text{Average speed} = \frac{20 \text{ km}}{2.5 \text{ hr}} = 8 \text{ km/hr}$$

- Q47. In this graph, what happens to the distance covered by a vehicle from 0 to 20 minutes?



- (a) It goes on increasing
 (b) It goes on decreasing
 (c) It first increases and then decreases
 (d) It first decreases and then increases

Sol. (a)

The speed is increasing first and then decreasing.

However, the distance keeps on increasing till the vehicle stops

Q48. Which order of magnitude is used to express the age of stars and planet?

- (a) Billions of years
- (b) Hundreds of year
- (c) Millions of years
- (d) Thousands of years

Sol. (a)

Q49. At 9:30 am odometer reading was 37, 625.0 km. What is the distance covered by the car if at 10: 40 am the reading was 37, 670.0 km.

Also, calculate the speed of the car in km/min.

- (a) 45 km; 0.21 km/min
- (b) 45 km; 38.57 km/min
- (c) 145 km/23.7 km/min
- (d) 45 km; 0.64 km/min

Sol. (d)

Here, reading of odometer = Distane travelled by vehicle

Reading of odometer at 9: 30 am = 37, 625 km

Reading of odometer at 10: 40 am = 37670 km

Difference in reading = 37, 670 km - 37,625 km = 45 km

∴ Distance travelled by car = 45 km

Difference in time = 10: 40 am - 9:30 am

= 1 hr 10 min

= 70 min

$$\therefore \text{Speed of car} = \frac{\text{Distance travelled in km}}{\text{Time in min}}$$

$$= \frac{45}{70} = \frac{9}{14} = 0.64 \text{ km/hr}$$

∴ Speed of car in km/min is 0.64 km/ min

Q50. Latent heat of vaporization of water boiling under normal pressure is

- (a) 470 cal/g
- (b) 540 cal/g
- (c) 580 cal/g
- (d) 640 cal/g

Sol. (b)

Q51. Roughly speaking, liquids expand about ____ times more than solids.

- (a) 50
- (b) 20
- (c) 10
- (d) 100

Sol. (d)

Q52. Two bodies A and B are at the same temperature (70°C). They are connected by a metal rod. The final result will be



- (a) Temperature of A becomes 100 degree centigrade
- (b) Temperature of B will become 100 degree centigrade
- (c) There will not be any temperature change
- (d) Temperature of both will become 100 degree centigrade

Sol.

(c)

Q53. Four containers were heated on a flame. Which one will absorb the greatest amount of heat?



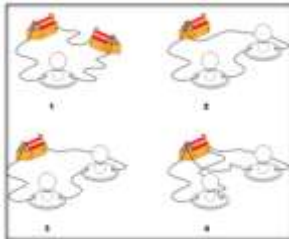
- (a) 1
- (b) 2
- (c) 3
- (d) 4

Sol.

(b)

The black container will absorb the greatest amount of heat. It is because darker objects absorb more radiant energy than the others.

Q54. In which circuit/s, the bulbs will not glow

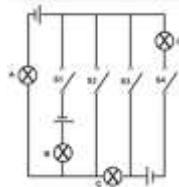


- (a) 1 and 2
- (b) 2 and 4
- (c) 3 only
- (d) 2 only

Sol.

(d)

Q55. An electric circuit using identical bulbs A, B, C and D was set up as shown in the figure. Which switch should be closed to light up only bulbs A and C?

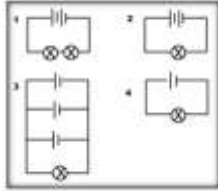


- (a) S1

- (b) S2
- (c) S3
- (d) S4

Sol. (c)

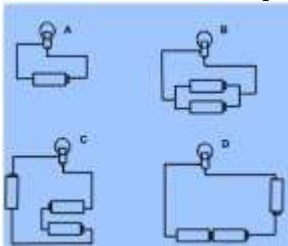
Q56. Which two circuits shown below should be used to compare how the numbers of batteries affect the brightness of the bulb?



- (a) 1 and 2
- (b) 1 and 3
- (c) 2 and 4
- (d) 1 and 4
- (e) 3 and 4

Sol. (c)

Q57. The batteries and the bulbs used in the circuits below are identical. In which of the above circuits do the bulbs produce light of equal brightness?



- (a) A and B only
- (b) C and D only
- (c) B and C only
- (d) B, C and D only

Sol. (a)

Q58. Which amongst the following diverges light?

- (a) Concave lens
- (b) Convex lens
- (c) Plane mirror
- (d) Plano convex lens

Sol. (a)

Q59. The outer surface of a stainless steel spoon acts as a ___ mirror.

- (a) Plane
- (b) Convex
- (c) Concave
- (d) Semi convex

Sol. (b)

Q60. The swift movement of the ___ water droplet along with the ___ air creates lightning and sound.

- (a) Falling , falling
- (b) Rising , rising
- (c) Rising , falling
- (d) Falling , rising

Sol. (d)