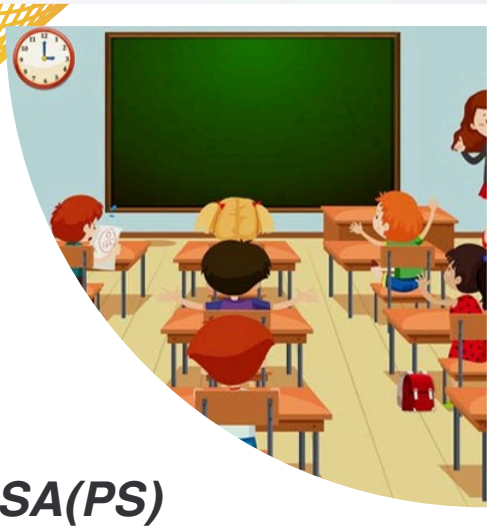
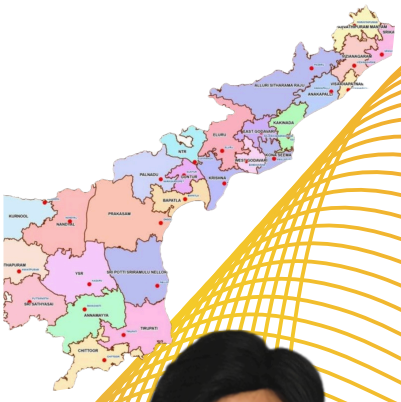
srini science mind

National Means Cum Merit Scholarship

Scholastic Aptitude Test

SCIENCE
35 MARKS





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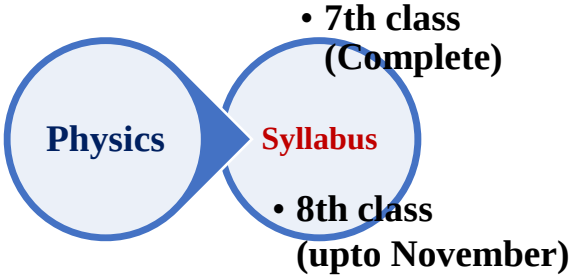
SCHOLASTIC APTITUDE TEST

Physics

91 -102 Questions

12 Marks



Chapter: Force and Pressure 8th CLASS

1. A force is defined as:
a) Energy applied b) Push or pull on an object
c) Product of mass and area d) Mass × velocity
Ans: b

2. Which of the following can a force NOT do?
a) Change shape b) Change speed
c) Change direction d) Change mass
Ans: d

3. When a football is kicked, the force applied is:
a) Contact force b) Non-contact force
c) Friction d) Magnetic
Ans: a

4. Which of these is a non-contact force?
a) Friction b) Muscular force
c) Gravitational force d) Normal reaction
Ans: c

5. The SI unit of force is:
a) Dyne b) Newton c) Pascal d) Joule
Ans: b

6. An example of balanced forces is:
a) Book lying on a table b) Kicking a ball
c) Pushing a cart d) Falling stone
Ans: a

7. Unbalanced forces cause:
a) Only rotation b) Only change in direction
c) Change in state of motion or shape
d) No change at all
Ans: c

8. Friction is a _____ force.
a) Non-contact b) Contact
c) Magnetic d) Gravitational
Ans: b

9. Which factor increases friction?
a) Smoothness of surfaces b) Lubrication
c) Roughness of surfaces d) Streamlining
Ans: c

10. Why are ball bearings used?
a) Increase friction b) Reduce friction
c) Increase weight d) Increase area
Ans: b

11. Pressure = _____.
a) Force × area b) Force ÷ area
c) Area ÷ force d) Mass ÷ volume
Ans: b

12. SI unit of pressure is:
a) N b) N/m c) N/m² (Pa) d) kg/m²
Ans: c

13. When area of contact decreases, pressure:
a) Decreases b) Increases
c) Constant d) Becomes zero
Ans: b

14. Camels have broad feet because:
a) Look attractive b) Increase pressure
c) Reduce pressure on sand d) Prevent heat loss
Ans: c

15. It is easier to cut with a sharp knife because:
a) It is longer b) It is heavier c) It is smoother
d) It has less area at the edge, hence more pressure
Ans: d

16. Why is the foundation of a building made broad?
a) To exert more pressure b) To save material
c) To reduce pressure on the ground
d) For decoration
Ans: c

17. A pointed nail is easier to push into wood than a blunt one because:
a) Area is large b) Pressure is less
c) Pressure is more for the same force
d) Weight is less
Ans: c

18. If a force of 20 N acts on area 4 m², pressure is:
a) 5 Pa b) 80 Pa c) 24 Pa d) 16 Pa
Ans: a (20 ÷ 4 = 5 Pa)

19. Pressure depends on:
a) Only area b) Only force
c) Both force and area d) Neither
Ans: c

20. High-heeled shoes exert:
a) Less pressure b) More pressure
c) Same pressure d) Zero pressure
Ans: b

21. Pressure in liquids:
a) Same at all depths b) Decreases with depth
c) Increases with depth d) Acts upward only
Ans: c

22. The upward force exerted by liquid on an object is:
a) Thrust b) Buoyant force c) Gravity d) Drag
Ans: b

23. Dams are made thicker at bottom because:
a) More stones available b) To support fish
c) Water pressure increases with depth
d) To save cement
Ans: c

24. A floating object displaces water equal to:
a) Its weight b) Its mass c) Its volume d) Zero
Ans: a

25. Which liquid exerts the highest pressure at the same depth?
a) Water b) Kerosene c) Mercury d) Oil
Ans: c (highest density)

26. Bubbles rise in water because:
a) Pressure is less at top b) Weight of air pushes them
c) Buoyant force acts upward
d) Temperature difference
Ans: c

27. If depth of water doubles, pressure:
a) Halves b) Doubles c) Same d) Becomes zero
Ans: b

28. Which of the following shows pressure of gases?
a) Inflated balloon b) Air in tyre
c) Spray can d) All of these
Ans: d

29. Why do astronauts wear space suits?
a) For looks b) To feel warm
c) To withstand lack of atmospheric pressure
d) To breathe oxygen only
Ans: c

30. Suction cups stick to glass because:
a) Weight of cup holds it b) Adhesive is present
c) Atmospheric pressure presses from outside
d) Cup's own pressure is high
Ans: c

31. Standard atmospheric pressure at sea level is about:
a) 760 mm Hg b) 600 mm Hg
c) 1 mm Hg d) 2000 mm Hg
Ans: a

32. Who invented the mercury barometer?
a) Newton b) Torricelli c) Pascal d) Boyle
Ans: b

33. When we climb a mountain, atmospheric pressure:
a) Increases b) Decreases c) Constant d) Doubles
Ans: b

34. Drinking through a straw is possible due to:
a) Gravity b) Adhesion
c) Atmospheric pressure on liquid
d) High temperature
Ans: c

35. A vacuum inside a glass makes it break because:
a) Gravity is high b) Air pressure outside is greater
c) Glass weakens d) Heat expands air
Ans: b

36. The reason water does not fall from an inverted glass covered with card is:
a) Surface tension b) Air inside is heavier
c) Atmospheric pressure acts upward d) Gravity stops
Ans: c

37. Why can't we live on very high mountains without oxygen cylinders?
a) No sunlight b) Temperature is high
c) Air pressure and oxygen content are low
d) Heavy snow
Ans: c

38. The instrument to measure air pressure is:
a) Manometer b) Thermometer
c) Barometer d) Anemometer
Ans: c

39. When a sealed tin is heated then cooled quickly, it gets crushed because:
a) Air inside expands b) Tin becomes soft
c) Gravity acts
d) Pressure inside decreases and atmospheric pressure crushes it
Ans: d

40. Vacuum-sealed packets of chips puff up on mountains because:
a) Air inside expands as outside pressure decreases
b) Chips grow c) Gravity acts less
d) Temperature rises
Ans: a

41. Hydraulic brakes work on:
a) Conservation of energy b) Friction only
c) Pressure is transmitted equally in liquids(Pascal's law)
d) Elasticity
Ans: c (Pascal's law)

42. A syringe works because of:
a) Gravitational force b) Air pressure
c) Pressure transmitted through liquid d) Cohesion
Ans: c

43. Shape of a fish helps it to:
a) Reduce air resistance b) Reduce water resistance
c) Increase drag d) Increase friction
Ans: b

44. Rockets work on:
a) Gravitational pull b) Atmospheric pressure
c) Newton's third law of motion d) Pascal's law
Ans: c

45.The force opposing motion of a body through fluids is:
a) Buoyancy b) Drag c) Magnetic force d) Gravity
Ans: b

46. Why are sleepers placed below railway tracks?
a) Increase weight b) Reduce pressure on ground
c) Beautify d) Increase speed
Ans: b

47. When a car moves, which force acts between tyres and road to produce motion?
a) Gravity b) Normal reaction
c) Friction d) Electrostatic
Ans: c

48. A parachute descends slowly because:
a) Weight is less
b) Air resistance balances weight partly
c) Parachute is colourful d) Gravity acts less
Ans: b

49. Which of the following is a result of muscular force?
a) Falling stone b) Writing with pen
c) Attraction of iron by magnet
d) Water rising in plants
Ans: b

50. A man presses an inflated balloon until it bursts. The balloon bursts because:
a) Area increases b) Balloon becomes heavy
c) Friction is zero
d) Pressure of air inside exceeds atmospheric pressure
Ans: d

Assertion & Reason Questions

1. Assertion (A): A force can change the direction of a moving object.
Reason (R): Force is a push or pull that can change the speed or direction of motion.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

2. Assertion (A): A body remains at rest when all the forces acting on it are balanced.
Reason (R): Balanced forces cancel each other's effects and do not change the state of motion.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

3. Assertion (A): A sharp knife cuts better than a blunt one.
Reason (R): The smaller area of the sharp edge exerts more pressure on the object.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

4. Assertion (A): Liquids exert pressure in all directions at a given depth.
Reason (R): The weight of the liquid acts only vertically downward.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: c) A is true, R is false

5. Assertion (A): We do not get crushed under the weight of atmospheric air.
Reason (R): Atmospheric pressure is balanced by the pressure of air and fluids present inside our body.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

Matching

1. Types of Force & Examples

Type of Force	Example
(i) Muscular force	Lifting a bucket
(ii) Magnetic force	Attracting paper clips
(iii) Electrostatic force	Picking bits of paper with a charged scale
(iv) Friction	Motion of planets

Choose the correct option
a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iv) only
Ans: a) (i), (ii), (iii) only

2. Contact vs Non-contact Forces

Contact Force	Non-contact Force
(i) Friction	(iii) Gravity
(ii) Muscular force	(iv) Magnetic force

Choose the correct option
a) (i), (ii) are contact; (iii), (iv) are non-contact b) (i), (iii) are contact; (ii), (iv) are non-contact
c) All are contact forces d) (ii), (iii) are non-contact; (i), (iv) are contact
Ans: a) (i), (ii) are contact; (iii), (iv) are non-contact

3. Pressure in Daily Life

Situation	Reason
(i) Wide tyres of tractors	Reduce pressure on soil
(ii) Sharp knife edge	Increases pressure for easy cutting
(iii) Broad camels' feet	Reduce pressure on sand
(iv) High-heeled shoes	Reduce pressure on floor

Choose the correct option

a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iii), (iv) only

Ans: a) (i), (ii), (iii) only

4. Instruments & Their Uses

Instrument	Use
(i) Manometer	Measuring pressure of gas
(ii) Barometer	Measuring atmospheric pressure
(iii) Spring balance	Measuring weight of an object
(iv) Thermometer	Measuring wind speed

Choose the correct option

a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iii) only

Ans: a) (i), (ii), (iii) only

5. Effects of Force

Effect	Example
(i) Change the state of motion	Kicking a football
(ii) Change shape of object	Pressing a rubber ball
(iii) Change direction of motion	Hitting a moving car from side
(iv) Change mass of object	Stretching a spring

Choose the correct option

a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iii), (iv) only

Ans: a) (i), (ii), (iii) only

Choose the Correct/Incorrect Sentence/Statement

1. Which of the following are correct?

a) Pressure = Force ÷ Area b) Pressure increases when the area of application decreases for the same force

c) Pressure exerted by liquids acts only downward d) Force can change the shape or motion of a body

A) a, b and d B) b and c C) a and c D) c and d

Ans: A) a, b and d

2. Which of the following are correct?

a) A sharp knife cuts easily because it applies more pressure b) Pressure in liquids increases with depth

c) Pressure is the same at all depths in a liquid d) Pressure is inversely proportional to the area

A) a, b and d B) a and c C) b and c D) c and d

Ans: A) **a, b and d**

3. Which of the following are correct?

a) Liquids exert pressure in all directions b) Gases exert pressure in all directions

c) Pressure depends only on the volume of the object d) Smaller area of contact leads to higher pressure

A) a, b and d B) a and c C) b and c D) c and d

Ans: A) **a, b and d**

4. Which of the following are correct?

a) Pressure = Force × Area b) Force can change the motion of a body

c) Force can change the shape of a body d) Pressure in liquids is independent of depth

A) a, b and c B) b and c C) a and d D) c and d

Ans: B) **b and c**

5. Which of the following are correct?

a) A blunt knife applies less pressure than a sharp knife b) Pressure is a scalar quantity

c) Pressure in a liquid is equal in all directions at a given depth d) Pressure does not depend on force

A) a, b and c B) a and c C) b and d D) c and d

Ans: A) **a, b and c**

Chapter: Friction

8th CLASS

1. Friction is a:
a) Non-contact force b) Contact force
c) Electrostatic force d) Magnetic force
Ans: b

2. Friction always acts:
a) Along motion b) Opposite to motion
c) At right angle to motion
d) In same direction as force applied
Ans: b

3. The main cause of friction between two surfaces is:
a) Mass of objects b) Smoothness only
c) Interlocking of irregularities d) Colour of surface
Ans: c

4. On a smooth surface, friction is:
a) Zero b) Minimum c) Maximum d) Infinite
Ans: b

5. Friction between two solids is called:
a) Rolling b) Sliding c) Fluid d) Air drag
Ans: b

6. Which surface produces highest friction?
a) Ice b) Sandpaper c) Polished glass d) Wet marble
Ans: b

7.When we increase the weight of an object, friction:
a) Decreases b) Increases
c) Remains constant d) Becomes zero
Ans: b

8. Friction is necessary because:
a) It wastes energy
b) It allows us to walk and hold objects
c) It damages machines d) It slows motion
Ans: b

9. If there were no friction, we would not be able to:
a) Stand and walk b) Drink water
c) Sleep d) Breathe
Ans: a

10. When a body starts moving, friction is called:
a) Rolling friction b) Sliding friction
c) Static friction d) Limiting friction
Ans: c

11. Friction experienced by a ball on a floor is:
a) Rolling friction b) Sliding friction
c) Static friction d) Air resistance
Ans: a

12. Rolling friction is _____ sliding friction.
a) Equal to b) Greater than
c) Much smaller than d) Zero compared to
Ans: c

13.The least friction is offered by:
a) Sliding b) Rolling c) Fluid d) Static
Ans: b

14. Drag is the friction offered by:
a) Solids b) Liquids and gases c) Vacuum d) None
Ans: b

15. Friction offered by air is also called:
a) Thrust b) Resistance c) Air drag d) Lift
Ans: c

16. A fish can move easily in water because of its:
a) Weight b) Streamlined shape
c) Scales d) Bones
Ans: b

17. The friction between two stationary objects is:
a) Rolling b) Sliding c) Static d) Drag
Ans: c

18. Which of the following is an example of sliding friction?
a) Car tyre rolling b) Sled sliding on snow
c) Boat moving on water d) Falling feather
Ans: b

19. The friction experienced while writing with a chalk on board is:
a) Rolling friction b) Sliding friction
c) Static friction d) Fluid friction
Ans: b

20. The motion of raindrops is opposed by:
a) Rolling friction b) Static friction
c) Air drag (fluid friction) d) Sliding friction
Ans: c

21. Friction helps in:
a) Stopping vehicles b) Producing heat
c) Holding objects d) All of these
Ans: d

22. Which is a disadvantage of friction?
a) Helps brakes work b) Produces unwanted heat
c) Allows walking d) Enables writing
Ans: b

23. Spark is produced in matchstick due to:
a) Gravity b) Heat from friction
c) Magnetism d) Electric force
Ans: b

24. Which part of a vehicle is most affected by friction?
a) Steering b) Tyres and brakes
c) Seats d) Glass
Ans: b

25. Wearing out of machine parts is mainly because of:
a) Pressure b) Friction c) Weight d) Force of gravity
Ans: b

26. Why do meteors burn on entering Earth's atmosphere?
a) Due to speed b) Due to friction with air
c) Due to sunlight d) Due to gravity only
Ans: b

27. Friction causes loss of:
a) Time b) Temperature
c) Energy as heat d) Pressure
Ans: c

28. The soles of shoes are grooved to:
a) Reduce weight b) Increase friction and grip
c) Look attractive d) Reduce cost
Ans: b

29. We sprinkle fine powder on carrom board to:
a) Increase friction b) Reduce friction
c) Increase weight of striker d) Make it colourful
Ans: b

30. Oil is applied on machine parts to:
a) Reduce friction b) Increase friction
c) Cool machine only d) Remove rust
Ans: a

31. To reduce friction, surfaces should be made:
a) Rough b) Smooth c) Heavy d) Uneven
Ans: b

32. Ball bearings are used in wheels to:
a) Increase rolling friction b) Reduce sliding friction
c) Reduce rolling friction further
d) Create static friction
Ans: b

33. Grease is applied to bicycle chains to:
a) Attract dust b) Reduce friction
c) Increase weight d) Increase speed only
Ans: b

34. Gymnasts apply chalk on their hands to:
a) Reduce friction b) Increase friction for better grip
c) Make hands soft d) Keep hands warm
Ans: b

35. Brakes in vehicles work on:
a) Gravity b) Friction between brake pad and wheel
c) Pressure d) Air drag
Ans: b

36. Tyres of racing cars are made smooth because:
a) Smooth tyres produce less friction at high speed
b) They look stylish c) Grip is unnecessary
d) Reduce weight
Ans: a

37. Which increases friction?
a) Oil b) Polishing
c) Using rough surfaces d) Ball bearings
Ans: c

38. Streamlining reduces:
a) Rolling friction b) Sliding friction
c) Fluid friction d) Static friction
Ans: c

39. Which of the following is used to reduce friction in engines?
a) Water b) Oil c) Sand d) Metal plates
Ans: b

40. Sole of trekking shoes is made rough to:
a) Look good b) Reduce friction
c) Increase friction for grip d) Increase weight
Ans: c

41. The direction of frictional force is:
a) Same as motion b) Opposite to relative motion
c) At 90° to motion d) Upwards
Ans: b

42. Which force helps to stop a bicycle when brakes are applied?
a) Air resistance only b) Rolling friction only
c) Weight d) Friction between brake shoe & rim
Ans: b

43. Friction between tyre and road enables:
a) Braking b) Acceleration
c) Turning d) All of these
Ans: d

44. When we stop pedalling a bicycle, it slows down due to:
a) Gravity b) Friction in parts and air drag
c) Loss of balance d) Engine
Ans: b

45. Water slides in amusement parks are smooth and sprinkled with water to:
a) Increase speed by reducing friction b) Absorb heat
c) Slow down motion d) Remove dirt
Ans: a

46. A boat moves faster in water when its bottom is:
a) Flat b) Streamlined c) Rough d) Wide
Ans: b

47. A matchstick lights because of:
a) Electricity b) Magnetism
c) Heat produced by friction with rough surface
d) Chemical reaction only
Ans: c

48. Which friction is adjustable by changing surface roughness?
a) Static friction b) Rolling friction
c) Drag d) None
Ans: a

49. Why is it difficult to push a heavy box at rest?
a) Sliding friction acts
b) Static friction is more than sliding friction
c) Weight is more d) Air resistance
Ans: b

50. Friction between fluids and solid surfaces is called:
a) Drag b) Rolling c) Sliding d) Static
Ans: a

Assertion & Reason Questions

1. Assertion (A): Friction always opposes the relative motion between two surfaces in contact.
Reason (R): Friction acts in the same direction as the applied force.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: c) A is true, R is false

2. Assertion (A): Friction is greater between rough surfaces than between smooth surfaces.
Reason (R): Rough surfaces have more irregularities that interlock when they come into contact.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

3. Assertion (A): Rolling friction is smaller than sliding friction.
Reason (R): In rolling friction, only a small area of the object is in contact with the surface at a time.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

4. Assertion (A): Streamlined shapes of vehicles and animals help reduce fluid friction.
Reason (R): A streamlined body allows the fluid to flow smoothly over its surface, reducing resistance.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

5. Assertion (A): Friction is called a necessary evil.
Reason (R): Friction helps us in walking, writing, and holding objects, but it also causes wear and tear.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

Matching

1. Types of Friction & Examples

Type of Friction	Example
(i) Static friction	A book just about to slide on a table
(ii) Sliding friction	Rubbing a block over the floor
(iii) Rolling friction	Wheels of a cart
(iv) Magnetic friction	Iron nail attracted to a magnet

Choose the correct option
a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iv) only
Ans: a) (i), (ii), (iii) only

2. Factors Affecting Friction

Factor	Relation with Friction
(i) Nature of surfaces	Rougher surface → more friction
(ii) Weight of object	Heavier object → more friction
(iii) Smooth polishing	Reduces friction
(iv) Increasing speed	Always increases friction

Choose the correct option
a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iii), (iv) only
Ans: a) (i), (ii), (iii) only

3. Uses of Friction

Use	Example
(i) Helps in walking	Grip between shoes & ground
(ii) Enables writing	Pencil on paper
(iii) Allows vehicles to move	Tyres on road
(iv) Makes sliding easy	Smooth ice surface

Choose the correct option
a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iv) only
Ans: a) (i), (ii), (iii) only

4. Methods to Reduce Friction

Method	Example
(i) Lubrication	Oil on machine parts
(ii) Use of ball bearings	In bicycle hubs
(iii) Streamlining	Aeroplanes
(iv) Using rough tyres	Cars on road

Choose the correct option

a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iii), (iv) only

Ans: a) (i), (ii), (iii) only

5. Advantages vs Disadvantages of Friction

Advantage	Disadvantage
(i) Enables braking in vehicles	Wears out machine parts
(ii) Allows nails to hold in wood	Produces unwanted heat
(iii) Helps in climbing	Causes energy loss
(iv) Allows free movement of engines	Stops rolling objects

Choose the correct option

a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (ii), (iii) only

Ans: d) (i), (ii), (iii) only

Choose the Correct Sentence/Statement

1. Which of the following are correct?

a) Friction opposes the relative motion between two surfaces in contact

b) Friction can be both helpful and harmful c) Lubricants increase friction

d) Smooth surfaces always produce more friction than rough surfaces

A) a, b B) b and c C) a, c and d D) c and d

Ans: A) **a, b**

2. Which of the following are correct?

a) Friction depends on the nature of the surfaces in contact b) Friction depends on the force pressing the surfaces together

c) Friction can be eliminated completely d) Friction can cause wear and tear of machine parts

A) a, b and d B) a and c C) b and c D) c and d

Ans: A) **a, b and d**

3. Which of the following are correct?

a) Polishing a surface increases friction b) Using ball bearings reduces friction

c) Friction is necessary for walking and driving vehicles d) Friction always slows down motion

A) b, c and d B) a, b and c C) b and c D) c and d

Ans: C) **b and c**

4. Which of the following are correct?

a) Friction generates heat when surfaces rub against each other b) Friction helps in writing with a pen or pencil

c) Friction is not present in liquids and gases d) Friction can be reduced by lubrication

A) a, b and d B) a and c C) b and c D) c and d

Ans: A) **a, b and d**

5. Which of the following are correct?

a) Friction can be harmful in machines b) Rough surfaces always decrease friction

c) Sand on icy roads increases friction d) Friction depends on the weight of the object

A) a, c and d B) a and b C) b and c D) c and d

Ans: A) **a, c and d**

6. Choose the correct statement

(a) Rolling friction is always greater than sliding friction. (b) Sliding friction is smaller than static friction.

(c) Static friction is least among all. (d) Rolling friction is the highest.

Ans: (b)

Chapter: Sound

8th CLASS

1. Sound is produced by:
a) Flow of water b) Vibrations of objects
c) Reflection of light d) Rotation of Earth
Ans: b

2. The back-and-forth motion of an object is called:
a) Friction b) Vibration c) Rotation d) Pressure
Ans: b

3. Which of these is NOT a medium for sound?
a) Air b) Vacuum c) Water d) Steel
Ans: b

4. The speed of sound is greatest in:
a) Air b) Water c) Steel d) Vacuum
Ans: c

5. Unit of frequency is:
a) m/s b) Hertz (Hz) c) Newton (N) d) Joule (J)
Ans: b

6. Time taken for one complete vibration is called:
a) Amplitude b) Pitch c) Time period d) Loudness
Ans: c

7. The number of vibrations in one second is called:
a) Speed b) Wavelength
c) Frequency d) Amplitude
Ans: c

8. High frequency sound has:
a) Low pitch b) High pitch
c) No pitch d) Zero amplitude
Ans: b

9. Which is a mechanical wave?
a) Light b) Sound c) Radio d) X-rays
Ans: b

10. The maximum displacement of vibrating body from mean position is:
a) Pitch b) Amplitude c) Time period d) Speed
Ans: b

11. Sound travels fastest in:
a) Solids b) Liquids c) Gases d) Vacuum
Ans: a

12. Which property of sound decides how shrill or flat it is?
a) Amplitude b) Frequency (Pitch)
c) Loudness d) Echo
Ans: b

13. Loudness depends on:
a) Amplitude of vibration b) Frequency
c) Medium d) Pitch
Ans: a

14. Which quantity remains constant when sound changes from one medium to another?
a) Speed b) Wavelength c) Frequency d) Amplitude
Ans: c

15. The distance between two consecutive compressions is:
a) Frequency b) Time period
c) Wavelength d) Amplitude
Ans: c

16. Sound cannot travel through:
a) Water b) Steel c) Vacuum d) Air
Ans: c

17. Greater amplitude means:
a) Louder sound b) Softer sound
c) Shrill sound d) No sound
Ans: a

18. Human ear can hear sound in range:
a) 20–20,000 Hz b) 2–200 Hz
c) 200–2000 Hz d) 2,000–2,000,000 Hz
Ans: a

19. Sound of frequency below 20 Hz is called:
a) Audible b) Ultrasonic c) Infrasonic d) Megasonic
Ans: c

20. Sound of frequency above 20,000 Hz is:
a) Audible b) Supersonic
c) Ultrasonic d) Sonic boom
Ans: c

21. The bouncing back of sound is called:
a) Refraction b) Echo
c) Reflection of sound d) Resonance
Ans: c

22. Minimum distance for an echo to be heard (at 25°C):
a) 5 m b) 17 m c) 34 m d) 50 m
Ans: b

23. Device based on reflection of sound:
a) Telescope b) Stethoscope
c) Kaleidoscope d) Periscope
Ans: b

24. SONAR is used to:
a) Measure wind speed b) Detect objects under water
c) Measure blood pressure d) Produce light
Ans: b

25. Time taken by sound to travel to an object and back in SONAR is 2 s. If speed is 1500 m/s, distance is:
a) 750 m b) 1500 m c) 3000 m d) 600 m
Ans: a

26. Sound board in auditorium works on:
a) Refraction b) Reflection
c) Diffraction d) Absorption
Ans: b

27.The persistence of sound after source is stopped is
a) Reverberation b) Echo c) Vibration d) Noise
Ans: a

28. Reverberation is reduced by:
a) Smooth walls b) Curtains & carpets
c) Polished floor d) Empty hall
Ans: b

29. Bats locate prey by:
a) Light signals b) Smell
c) Echolocation (ultrasonic sound) d) Touch
Ans: c

30. The phenomenon used in stethoscope:
a) Echo b) Multiple reflection of sound
c) Refraction d) Absorption
Ans: b

31. Vibrations in tabla are produced by:
a) String b) Membrane c) Air column d) Reed
Ans: b

32. In flute, sound is produced by:
a) Membrane vibration b) Air column vibration
c) String vibration d) Magnetic effect
Ans: b

33. Which part of human body vibrates to produce voice?
a) Tongue b) Vocal cords c) Teeth d) Nose
Ans: b

34. Voice of women is usually:
a) Low pitch b) High pitch
c) No pitch d) Same as men
Ans: b

35. Which instrument produces sound by vibrating strings?
a) Sitar b) Drum c) Flute d) Harmonium reeds
Ans: a

36. A stretched rubber band produces sound when:
a) Released slowly b) Plucked and allowed to vibrate
c) Kept still d) Frozen
Ans: b

37. Loudness of sound is measured in:
a) Hertz b) Newton c) Decibel (dB) d) Pascal
Ans: c

38. Higher tension in string produces:
a) Softer sound b) Lower pitch
c) Higher pitch d) No effect
Ans: c

39. The sound produced in guitar is due to:
a) Friction b) Vibration of stretched strings
c) Flow of current d) Blowing air
Ans: b

40. Which of the following has highest pitch?
a) Lion's roar b) Man's voice
c) Baby's cry d) Drumbeat
Ans: c

41. Speed of sound in air at 20°C is about:
a) 150 m/s b) 330 m/s c) 500 m/s d) 1000 m/s
Ans: b

42. The medium of sound in drum is:
a) Air only b) Membrane only
c) Membrane & air inside d) Vacuum
Ans: c

43. "Noise pollution" is caused by:
a) Music at low volume b) Chirping birds
c) Loud horns & machinery d) Whistling breeze
Ans: c

44. Safe limit of noise for human ears is:
a) 30 dB b) 80 dB c) 120 dB d) 150 dB
Ans: b

45. Excessive loud sound may cause:
a) Fever b) Ear damage / hearing loss
c) Brightness in eyes d) Better concentration
Ans: b

46. Which is NOT a characteristic of sound?
a) Pitch b) Speed c) Loudness d) Colour
Ans: d

47. Sound is a form of:
a) Electrical energy b) Kinetic energy
c) Magnetic energy d) Heat energy
Ans: b

48. In a hospital, soundproofing is done to:
a) Increase noise b) Reduce reverberation & noise
c) Produce echo d) Amplify sound
Ans: b

49. Which of these animals use ultrasonic sound for communication?
a) Cats b) Dogs c) Bats and dolphins d) Lions
Ans: c

50. The statement "Sound needs a medium to travel" is proved by:
a) Tuning fork experiment in air and vacuum
b) Bouncing ball experiment
c) SONAR use in sea d) Candle burning in air
Ans: a

Assertion & Reason Questions

1. Assertion (A): Sound is produced when an object vibrates.
Reason (R): Vibration means rapid to-and-fro motion of particles of a medium.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

2. Assertion (A): Sound cannot travel through vacuum.
Reason (R): Sound requires a material medium for its propagation.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

3. Assertion (A): The loudness of a sound depends on the amplitude of vibration.
Reason (R): Greater the amplitude of vibration, louder is the sound produced.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

4. Assertion (A): The pitch of a sound depends on its frequency.
Reason (R): Higher frequency vibrations produce sound of a higher pitch.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

5. Assertion (A): Sound travels faster in solids than in gases.
Reason (R): Solids have particles packed closely together, which transmit vibrations quickly.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

Matching

1. Types of Musical Instruments & Vibrating Part

Instrument	Part that Vibrates
(i) Guitar	Stretched string
(ii) Flute	Air column
(iii) Tabla	Stretched membrane
(iv) Sitar	Air trapped inside body

Choose the correct option
a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iii), (iv) only
Ans: a) (i), (ii), (iii) only

2. Sound Characteristics & Their Units

Characteristic	Unit
(i) Loudness	Decibel (dB)
(ii) Pitch	Hertz (Hz)
(iii) Frequency	Hertz (Hz)
(iv) Amplitude	Metres/second

Choose the correct option
a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (ii), (iii) only
Ans: d) (i), (ii), (iii) only

3. Sounds & Their Sources

Source	Type of Sound
(i) Human larynx	Voice
(ii) Vibrating tuning fork	Musical note
(iii) Thunder	Natural sound
(iv) Stethoscope	Produces sound waves

Choose the correct option
a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iv) only
Ans: a) (i), (ii), (iii) only

4. Mediums & Sound Propagation

Medium	Property
(i) Air	Sound travels at ~343 m/s
(ii) Water	Faster than in air
(iii) Vacuum	Cannot transmit sound
(iv) Iron	Slower than air

Choose the correct option
a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (ii), (iii) only

Ans: d) (i), (ii), (iii) only

5. Applications of Reflection of Sound (Echo)

Application	Explanation
(i) SONAR	Locates underwater objects
(ii) Stethoscope	Uses reflection inside tube
(iii) Ultrasonography	Imaging of organs
(iv) Loudspeaker	Works on echo principle

Choose the correct option

a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iii), (iv) only

Ans: a) (i), (ii), (iii) only

Choose the Correct or incorrect Sentence/Statement

1. Choose the correct statement

(a) Sound can travel through solids, liquids, and gases. (b) Sound can travel through a vacuum.
(c) Sound travels only through liquids. (d) Sound needs no medium.

Ans: (a)

2. Choose the correct statement

(a) Frequency is the number of vibrations per second. (b) Frequency is measured in Hertz (Hz).
(c) Higher frequency means higher pitch. (d) All of these.

Ans: (d)

3. Choose the correct statement

(a) The loudness of a sound depends on its frequency. (b) The loudness of a sound depends on its amplitude.
(c) Loudness and pitch mean the same. (d) Loudness is independent of vibration strength.

Ans: (b)

4. Choose the correct statement

(a) Sound travels faster in air than in water. (b) Sound travels fastest in solids.
(c) Sound has the same speed in all media. (d) Sound is slowest in solids.

Ans: (b)

5. Choose the correct statement

(a) Echoes are heard when sound reflects from a surface and returns. (b) Echo is an example of sound reflection.
(c) For an echo, the distance must be at least 17 m in air. (d) All are correct.

Ans: (d)

6. Choose the correct statement

(a) Human ears can hear sounds from 20 Hz to 20,000 Hz. (b) Bats produce and hear ultrasonic sound.
(c) Elephants can hear infrasonic sound. (d) All of these.

Ans: (d)

7. Choose the correct statement

(a) The sound of a flute differs from that of a drum because of pitch only.
(b) The sound of a flute differs due to quality or timbre.
(c) Both instruments have same quality but different loudness. (d) Quality does not matter in music.

Ans: (b)

8. Choose the correct statement

(a) Sound waves are longitudinal in nature. (b) Particles of the medium oscillate perpendicular to wave direction.
(c) Sound waves need no particles to move. (d) Sound is a transverse mechanical wave.

Ans: (a)

9. Choose the correct statement

(a) Sound produced by an object is related to its vibration. (b) If vibration stops, sound stops.
(c) Both (a) and (b) are correct. (d) None is correct.

Ans: (c)

10. Choose the correct statement

(a) SONAR is used by ships to locate objects underwater. (b) SONAR uses sound reflection to measure distance.
(c) SONAR works on the principle of sound absorption. (d) Both (a) and (b) are correct.

Ans: (d)

Chapter: Heat

7th CLASS

1. Which one of the following is a reliable measure?
(a) Hotness (b) Coldness
(c) Temperature (d) None of these
Ans: (c) Temperature

2. Name the device which is used to measure the hotness or coldness of an object.
(a) Picometer (b) Barometer
(c) Manometer (d) Thermometer
Ans: (d) Thermometer

3. Which one is filled in the bulb of a thermometer?
(a) Mercury (b) Lead (c) Copper (d) Silver
Ans: (a) Mercury

4. What is the normal temperature of a healthy person?
(a) 37°C (b) 37°F (c) 37 K (d) None of these
Ans: (a) 37°C

5. Heat always flows
(a) from a colder object to a hotter object
(b) from a hotter object to a colder object
(c) in both the directions
(d) heat never flows from one object to other
Ans: (b) from a hotter object to a colder object

6. Conduction is the method of transfer of heat in
(a) liquids (b) solids (c) gases (d) vacuum
Ans: (b) solids

7. Heat from the sun reaches to us by
(a) radiation (b) conduction
(c) convection (d) all of these
Ans: (a) radiation

8. A beggar wrapped himself with a few layers of newspaper on a cold winter night. This helped him to keep himself warm because:
(a) friction between the layers of newspaper produces heat.
(b) air trapped between the layers of newspaper is a bad conductor of heat.
(c) newspaper is a conductor of heat.
(d) newspaper is at a higher temperature than the temperature of the surrounding.
Ans: (b) air trapped between the layers of newspaper is a bad conductor of heat.

9. A marble tile would feel cold as compared to a wooden tile on a winter morning, because the marble tile:
(a) is a better conductor of heat than the wooden tile.
(b) is polished while wooden tile is not polished.
(c) reflects more heat than wooden tile.
(d) is a poor conductor of heat than the wooden tile.
Ans: (a) is a better conductor of heat than the wooden tile.

10. Which of the following is a insulator
(a) Graphite (b) Air
(c) Aluminium rod (d) Copper rod
Ans: (b) Air

11. Stainless steel pans are usually provided with copper bottom. The reason for this could be that:
(a) copper bottom makes the pan more durable
(b) such pans appear colourful
(c) copper is easier to clean than stainless steel
(d) copper is a better conductor of heat than the stainless steel
Ans: (d) copper is a better conductor of heat than the stainless steel

12. The correct method of reading a clinical thermometer is:
(a) holding the thermometer by bulb
(b) before use the mercury level should be below 39°C
(c) don't hold the thermometer by bulb
(d) none of these
Ans: (c) don't hold the thermometer by bulb

13. The substances which conduct heat easily are called:
(a) convection (b) radiation
(c) conductors (d) none of these
Ans: (c) conductors

14. The phenomenon involved in the formation of land and sea breeze is:
(a) conduction (b) convection
(c) radiation (d) all of these
Ans: (b) convection

15. Which thermometer is used to measure temperature of different things and places?
(a) Laboratory thermometer (b) Clinical thermometer
(c) Minimum and maximum thermometer
(d) None of these
Ans: (a) Laboratory thermometer

16. Which of the following substance is not a bad conductor of heat?
(a) Rubber (b) Aluminium (c) Glass (d) Plastic
Ans: (b) Aluminium

17. Land breeze blows from
(a) lower surface to upper surface (b) sea to land
(c) upper surface to lower surface (d) land to sea
Ans: (d) land to sea

18. Which type of cloth is preferred in summer?
(a) Silk clothes (b) Cotton clothes
(c) Nylon clothes (d) Polyester clothes
Ans: (b) Cotton clothes

19. Which colour absorbs more heat?
(a) Black (b) White (c) Blue (d) Red
Ans: (a) Black

20. Light coloured clothes are preferred during:
(a) winter (b) summer (c) rain (d) none of these
Ans: (b) summer

21. Which thermometer records the highest and lowest temperature during a period of time?
(a) Clinical thermometer (b) Laboratory thermometer
(c) Minimum and maximum thermometer
(d) None of these
Ans: (c) Minimum and maximum thermometer

22. Heat is a form
(a) Power (b) Work (c) Temperature (d) Energy
Ans: (d) Energy

23. 10°C is equal to
(a) 173 K (b) 273 K (c) 283 K (d) 183 K
Ans: (c) 283 K

24. Thermos flask keeps hot liquid hot and cold liquid cold by
(a) Cooling (b) Using coolant
(c) Preventing heat loss (d) Heating
Ans: (c) Preventing heat loss

25. Process of change of state from gaseous state to liquid state is called
(a) freezing (b) sublimation
(c) boiling (d) condensation
Ans: (d) condensation

26. Amani and Roja measured their body temperatures. Amani found her to be 98.6 degree Fahrenheit and Roja recorded 37° Celsius. Which of the following statement is true?
(a) Amani has a higher body temperature than Roja
(b) Amani has a lower body temperature than Roja.
(c) Both have normal body temperature
(d) Both are suffering from fever
Ans: (c) Both have normal body temperature

27. Raju wonders why the level of mercury should change at all when the bulb of the thermometer is brought in contact with another object.
(a) Because mercury is a liquid material
(b) Because bulb have no kink
(c) Temperature of object may not same as mercury
(d) Every object has different temperature
Ans: (c) Temperature of object may not same as mercury

28. Vamsi wants to know that when a cold steel spoon is dipped in a cup of hot milk. It transfer heat to its other end by the process of
(a) Conduction (b) Convection
(c) Radiation (d) Semi convection
Ans: (a) Conduction

29. Which of the following is a poor conductor of heat?
(a) Silver (b) Aluminum (c) Brass (d) Tungsten
Ans: (d) Tungsten

30. Convection may occur through
(a) Solids, liquids (b) Liquids, gases
(c) Solids, gases (d) Solids, liquids, gases
Ans: (b) Liquids, gases

31. Which of the following statement is or are incorrect?
(a)Radiation is transferred in the form of electromagnet
(b) Conduction waves is transferred with the help of particles of materials
(c) A land which is surrounded by water heated by convection
(d) None of the above
Ans: (c) A land which is surrounded by water heated by convection

32. Which type of heat transfer is actually minimized when using a thermo flask?
(a) Conduction (b) Convection
(c) Radiation (d) All the above.
Ans: (c) Radiation

33. Srinu wants to know that why it is advised to use digital thermometer?
(a) It is cheap and available everywhere.
(b) As a digital it does not require any contact to measuring temperature.
(c) It does not use of mercury.
(d) Every point can be seen by a "beep sound".
Ans: (c) It does not use of mercury.

34. Ramu wants to know that is it possible to construct building which are not affected by heat?
(a) Building made by soil
(b) Wooden bricks are used in the building
(c) Hollow bricks are used for making building
(d) White colored cement bricks are used in building
Ans: (c) Hollow bricks are used for making building

35. One litre of water at 30 degree Celsius is mixed with one litre of water at 50 degree Celsius. The temperature of the mixture will be
(a) 80^0 Celsius (b) 20^0 Celsius
(b) More than 50^0 Celsius but less than 80^0 Celsius
(d) Between 30^0 Celsius and 50^0 Celsius
Ans: (d) Between 30^0 Celsius and 50^0 Celsius

36. Why should we avoid keeping the thermometer in the sun or near a flame?
(a) It measures flame temperature
(b) Sun temperature can be measured
(c) Automatically it may break
(d) Vapour can create under thermometer
Ans: (c) Automatically it may break

37. Stainless steel pans are usually provided with copper bottoms. The reason for this could be
(a) Copper bottom makes the pan more durable
(b) Such pans appear colorful
(c) Copper is a better conductor of heat than the stainless steel
(d) Copper is easier to clean than the stainless steel
Ans: (c) Copper is a better conductor of heat than the stainless steel

38. A clinical thermometer reads temperature from
(a) 35°C to 42°C (b) 36°C to 43°C
(c) 30°C to 40°C (d) 31°C to 38°C
Ans: (a) 35°C to 42°C

39. The range of Laboratory thermometers is usually From
(a) –20°C to 100°C (b) –10°C to 110°C
(c) –10°C to 120°C (d) –20°C to 130°C
Ans: (b) –10°C to 110°C

40. Mohan has three thermometers. He wants to measure the temperature of his body and that of boiling water. Which thermometer(s) should he choose?
(a) Clinical thermometer for measuring body temperature and laboratory thermometer for measuring the temperature of boiling water
(b) Clinical thermometer for measuring temperature of both
(c) Laboratory thermometer for measuring temperature of both.
(d) Digital thermometer for measuring temperature of both
Ans: (a)

Assertion & Reason Questions

1. Assertion (A): Temperature measures how hot or cold an object is.
Reason (R): Temperature depends on the quantity of heat present in the object.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: b) Both A and R are true, but R is not the correct explanation of A

2. Assertion (A): A metal spoon becomes hot when its one end is kept in hot tea.
Reason (R): Metals are good conductors of heat.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

3. Assertion (A): Water in a beaker gets heated faster at the top when heated from below.
Reason (R): Warm water becomes lighter and rises, while cold water sinks, setting up convection currents.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

4. Assertion (A): We wear light-coloured cotton clothes in summer.
Reason (R): Light colours absorb more heat and keep us cool.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: c) A is true, R is false

5. Assertion (A): A black surface absorbs more heat radiation than a white surface.
Reason (R): Black surfaces are better absorbers and emitters of heat than light-coloured surfaces.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

MATCHING

1. Heat Transfer & Methods

Mode of Heat Transfer	Example
(i) Conduction	Metal spoon getting hot in a pan
(ii) Convection	Warm air rising near a heater
(iii) Radiation	Feeling warmth of the Sun
(iv) Filtration	Cooling of tea

Choose the correct option
a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iv) only
Ans: a) (i), (ii), (iii) only

2. Laboratory Thermometer & Its Features

Feature	Correct Description
(i) Temperature range	–10 °C to 110 °C
(ii) Bulb	Contains mercury/alcohol
(iii) Never tilt thermometer	To avoid mercury breakage
(iv) Readings taken holding the bulb	

Choose the correct option
a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iii), (iv) only
Ans: a) (i), (ii), (iii) only

3. Conductors & Insulators

Material	Type
(i) Copper	Good conductor
(ii) Aluminium	Good conductor
(iii) Wood	Insulator
(iv) Iron rod	Insulator

Choose the correct option

a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (ii), (iii) only

Ans: d) (i), (ii), (iii) only

4. Effects of Heat

Effect	Example
(i) Expansion	Railway tracks gaps
(ii) Change of state	Ice melting to water
(iii) Increase in temperature	Heating water
(iv) Change in colour	Chalk turning pink when heated

Choose the correct option

a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iii), (iv) only

Ans: a) (i), (ii), (iii) only

5. Clinical vs Laboratory Thermometers

Thermometer	Property
(i) Clinical thermometer	Range: 35 °C to 42 °C
(ii) Laboratory thermometer	Range: –10 °C to 110 °C
(iii) Clinical thermometer	Has kink to prevent mercury fall
(iv) Laboratory thermometer	Has kink

Choose the correct option

a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iii) only

Ans: a) (i), (ii), (iii) only

Choose the Correct or incorrect Sentence/Statement

1. Which of the following are correct?

a) Sound is produced by vibrating objects b) Sound needs a medium to travel

c) Sound can travel through vacuum d) Sound travels fastest in solids

A) a, b and d B) b and c C) a and c D) c and d

Ans: A) a, b and d

2. Which of the following are correct?

a) High-pitched sounds have a higher frequency b) Low-pitched sounds have a lower frequency

c) Loudness depends on the amplitude of vibration d) Frequency affects loudness

A) a, b and c B) a and d C) b and d D) c and d

Ans: A) a, b and c

3. Which of the following are correct?

a) Echo is reflected sound b) Echo is heard immediately after the sound is produced

c) Sound cannot reflect from surfaces d) Echo is used in SONAR

A) a, b and d B) a and c C) b and c D) c and d

Ans: A) a, b and d

4. Which of the following are correct?

a) Ultrasound has frequency above 20 kHz b) Infrasound has frequency below 20 Hz

c) Ultrasound cannot be used for medical imaging d) Bats use ultrasound to locate prey

A) a, b and d B) a and c C) b and c D) c and d

Ans: A) a, b and d

5. Which of the following are correct?

a) Sound travels fastest in air b) Sound travels faster in water than in air

c) Sound travels slowest in solids d) Sound energy can be converted to electrical signals in microphones

A) a, b and d B) a and c C) b and d D) c and d

Ans: C) b and d

Chapter – 9: Motion and Time

7th CLASS

1. A bus travels 54 km in 90 minutes. The speed of the bus is
(a) 0.6 m/s (b) 10 m/s (c) 5.4 m/s (d) 3.6 m/s
Ans: (b) 10 m/s

2. Nearly all the clocks make use of
(a) straight line motion (b) periodic motion
(c) random motion (d) circular periodic motion
Ans: (d) circular periodic motion

3. A simple pendulum takes 32s to complete 20 oscillations, what is the time period of the pendulum?
(a) 1.6 s (b) 2.6 s (c) 3.6 s (d) 4.8 s
Ans: (a) 1.6 s

4. Time period of a simple pendulum depends upon its
(a) weight of bob (b) length
(c) both (a) and (b) (d) None of these
Ans: (b) length

5. Which of the following cannot be used for measurement of time?
(a) A leaking tap (b) Simple pendulum
(c) Shadow of an object during the day
(d) Blinking of eyes
Ans: (d) Blinking of eyes

6. On which axis is dependent variable represented?
(a) x-axis (b) y-axis
(c) On any axis (d) Depends on the data
Ans: (b) y-axis

7. Raju walks to his school which is at a distance of 3 km from his home in 30 minutes. On reaching he finds that the school is closed and comes back by a bicycle with his friend and reaches home in 20 minutes. His average speed in km/h is
(a) 8.3 (b) 7.2 (c) 5 (d) 3.6
Ans: (b) 7.2

8. The most well known periodic motion is that of
(a) sundial (b) stop watch
(c) simple pendulum (d) sand clock
Ans: (c) simple pendulum

9. A particle vibrates 10 times in 1 sec. What is the time period of vibration of the particle?
(a) 10 sec (b) 1 sec (c) 0.1 sec (d) 0.01 sec
Ans: (c) 0.1 sec

10. The rate of change of displacement is called
(a) velocity (b) Acceleration (c) Rest (d) Motion
Ans: (a) velocity

11. The speed of the vehicle is recorded by
(a) Ammeter (b) Odometer
(c) Speedometer (d) Voltmeter
Ans: (c) Speedometer

12. The clock used now a days are:
(a) quartz (b) minute (c) second (d) all of these
Ans: (a) quartz

13. Physical quantity which we can't obtain from a distance- time graph is
(a) speed (b) time taken
(c) change in position (d) Velocity
Ans: (d) Velocity

14. A horse pulling a cart has:
(a) oscillatory motion (b) circular motion
(c) linear motion (d) none of these
Ans: (a) oscillatory motion

15. If the velocity of a body does not change with time, its acceleration is
(a) zero (b) infinite (c) unity (d) None of these
Ans: (a) zero

16. The distance travelled by the vehicles is recorded by
(a) monometer (b) odometer
(c) speedometer (d) motometer
Ans: (b) odometer

17. The times taken by a pendulum to complete one oscillation is:
(a) oscillation period (b) 1 second
(c) time period (d) frequency
Ans: (c) time period

18. Watch used to measure short interval of time is
(a) Stop watch (b) Pendulum watch
(c) Atom watch (d) Quartz watch
Ans: a) Stop watch

19. If the speed of an object along a straight line keeps changing, its motion is said to be
(a) uniform motion (b) non-uniform motion
(c) linear motion (d) none of these
Ans: (b) non-uniform motion

20. The time taken by a pendulum of given length to complete one oscillation is
(a) Different at different times (b) Same at all times
(c) Increases at different times
(d) Decreases at different times
Ans: b) Same at all times

21. The to and fro motion of the particle about its mean position is called:
(a) intervals (b) vibration (c) pendulum (d) can't say
Ans: (b) vibration

22. The distance-time graph of an object under uniform motion is a
(a) curved line (b) straight line (c) circle (d) parabola
Ans: (b) straight line

23. The correct symbol to represent the speed of an object is:
(a) 5 m/s (b) 5 mp (c) 5 m/s-1 (d) 5 s/m
Ans: (a) 5 m/s

24. The basic unit of speed is
(a) Km/min (b) m/min (c) km/h (d) m/s
Ans: (d) m/s

25. An ancient Time measuring device SUNDIAL at Jantar Mantar is in
(a) Ahmedabad (b) Bombay (c) Jaipur (d) Lucknow
Ans: (c) Jaipur

Assertion & Reason Questions

1. Assertion (A): A body is said to be in uniform motion if it covers equal distances in equal intervals of time.
Reason (R): In uniform motion, the speed of the body remains constant.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

2. Assertion (A): The formula for speed is distance divided by time.
Reason (R): Speed measures how fast an object is moving.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

3. Assertion (A): A distance–time graph for an object at rest is a straight horizontal line.
Reason (R): The distance covered by an object at rest changes with time.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: c) A is true, R is false

4. Assertion (A): The odometer of a vehicle measures the distance travelled.
Reason (R): The speedometer of a vehicle records the distance travelled per hour.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: c) A is true, R is false

5. Assertion (A): The time taken by a pendulum for one complete oscillation is called its time period.
Reason (R): The time period of a pendulum depends on its length.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

MATCHING

1. Types of Motion & Examples

Type of Motion	Example
(i) Rectilinear	Car moving on a straight road
(ii) Circular	Hands of a clock
(iii) Periodic	Swing of a pendulum
(iv) Rotatory	Apple falling from tree

Choose the correct option
a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (ii), (iii) only
Ans: d) (i), (ii), (iii) only

2. Units & Instruments of Measurement

Quantity	Standard Unit / Instrument
(i) Distance	Metre
(ii) Time	Second
(iii) Speed	Metre/second
(iv) Speed	Stop watch

Choose the correct option
a) (i), (ii), (iii) only b) (i), (ii), (iv) only c) All (i–iv) d) (i), (iii), (iv) only
Ans: a) (i), (ii), (iii) only

3. Speed, Distance, Time Relations

Formula	Meaning
(i) Speed = Distance ÷ Time	How fast an object moves
(ii) Distance = Speed × Time	Path covered
(iii) Time = Speed ÷ Distance	
(iv) Average speed = Total distance ÷ Total time	The overall rate of motion, over a specific time interval

Choose the correct option

a) (i), (ii), (iv) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iii), (iv) only

Ans: a) (i), (ii), (iv) only

4. Time Measuring Devices

Device	Use
(i) Pendulum clock	Periodic motion for timekeeping
(ii) Digital clock	Displays hours, minutes, seconds
(iii) Stop watch	Measures short intervals
(iv) Scale	Measures speed

Choose the correct option

a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iii), (iv) only

Ans: a) (i), (ii), (iii) only

5. Distance–Time Graph Interpretations

Graph Feature	Meaning
(i) Straight line with positive slope	Uniform motion
(ii) Curved line	Non-uniform motion
(iii) Horizontal line	Body at rest
(iv) Line falling downwards	Increasing speed

Choose the correct option

a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iii), (iv) only

Ans: a) (i), (ii), (iii) only

Choose the Correct or incorrect Sentence/Statement

1. Which of the following are correct?

a) The distance covered by an object in unit time is called speed.
b) A speedometer measures the instantaneous speed of a vehicle.
c) A distance–time graph of a body moving with uniform speed is a straight line.
d) Speed and velocity are exactly the same physical quantity.

A) a, b and c B) a, c and d C) b and d D) c and d

Ans: A) a, b and c

2. Which of the following are correct?

a) Uniform motion means covering equal distances in equal intervals of time.
b) A pendulum moving to and fro is an example of oscillatory motion.
c) The basic unit of speed in the SI system is m/s. d) Oscillatory motion is always non-repetitive.

A) b and c B) b, c and d C) a, b and c D) a, c and d

Ans: C) a, b and c

3. Which of the following are correct?

a) The time taken for one complete oscillation of a pendulum is called its time period. b) The SI unit of time is second.
c) A simple pendulum of fixed length has the same time period at any place on Earth.
d) The length of a pendulum affects its time period.

A) a, b and c B) a, b and d C) b, c and d D) a, c and d

Ans: B) a, b and d

4. Which of the following are correct?

a) Speed = Distance ÷ Time. b) Average speed is the ratio of total distance to total time.
c) The slope of a distance–time graph gives speed. d) If speed is constant, the distance–time graph is a curve.

A) a, b and c B) b and d C) a and d D) c and d

Ans: A) a, b and c

5. Which of the following are correct?

a) Non-uniform motion means unequal distances covered in equal intervals of time.
b) A clock is a device used to measure time accurately.
c) The pendulum of a wall clock has a very short time period compared to a second's pendulum.
d) Uniform motion cannot be represented by a straight line on a distance–time graph.

A) a, b and c B) a, c and d C) b and d D) a, b and d

Ans: A) a, b and c

Chapter – 10: Electric Current and its Effects 7th CLASS

1. In making a battery
(a) positive terminal of one cell is connected to the negative terminal of the next cell
(b) positive terminal of one cell is connected to the positive terminal of the next cell
(c) negative terminal of one cell is connected to the negative terminal of the next cell
(d) none of the above
Ans: (a) positive terminal of one cell is connected to the negative terminal of the next cell

2. Where can the key or switch be placed in the circuit?
(a) Left side of the battery (b) Right side of the battery
(c) Can be placed anywhere in the circuit
(d) Near the positive terminal of the bulb
Ans: (c) Can be placed anywhere in the circuit

3.The coil of wire contained in an electric heater is known as
(a) component (b) element (c) circuit (d) spring
Ans: (b) element

4. Which mark is necessary on electric appliances?
(a) AGMARK (b) ISI (c) FICCI (d) KSK
Ans: (b) ISI

5. When a switch is in OFF position.
(i) circuit starting from the positive terminal of the cell stops at the switch.
(ii) circuit is open. (iii) no current flows through it.
(iv) current flows after some time.
Choose the combination of correct answer from the following
(a) all are correct (b) (ii) and (iii) are correct
(c) only (iv) is correct (d) only (i) and (ii) are correct
Ans: (b) (ii) and (iii) are correct

6. Which of the following precautions need not be taken while using electric gadgets / appliances/circuit?
(a) We should never touch a lighted electric bulb connected to the mains.
(b) We should never experiment with the electric supply from the mains or a generator or an inverter.
(c) We should never use just any wire or strip of metal in place of a fuse.
(d) We should never turn the switch in ON position
Ans: (d) We should never turn the switch in ON position

7. The soft-iron core of an electromagnet loses its magnetism once the current passing through the electromagnetic coil stops because.
(a) Domains lose their alignment when the current is stopped
(b) Iron cannot hold alignment for longer time even when the current is passing through the coil
(c) Magnetic properties of iron are weak
(d) Domains inside the iron get aligned in north to south direction
Ans: (a) Domains lose their alignment when the current is stopped

8. A __ is used in torches.
(a) Generator (b) Fuse (c) Secondary cell (d) Dry cell
Ans: (d) Dry cell

9. An element measure the flowing an electric current is:
(a) voltmeter (b) filament (c) circuit (d) ammeter
Ans: (d) ammeter

10. Electromagnet is used in
(a) Battery (b) Dry cell (c) Electric bell (d) Fuse
Ans: (c) Electric bell

11. The bulb glows only when .....flows through it.
(a) Current (b) Light (c) Air (d) Water
Ans: (a) Current

12. An element measure the potential difference between two points in an electric circuit is:
(a) voltmeter (b) filament (c) circuit (d) ammeter
Ans: (a) voltmeter

13. A device which prevents or allows the current to flow through it
(a) Motor (b) Terminal (c) Conductor (d) Switch
Ans: (d) Switch

14. Electric current has energy called:
(a) voltmeter (b) filament
(c) electrical energy (d) none of these
Ans: (c) electrical energy

15. The metal which is poor conductor of electricity is
(a) Gold (b) Iron (c) Aluminium (d) tungsten
Ans: (d) tungsten

16. The amount of heat produced in a wire depends on its material
(a) Length (b) Thickness
(c) Length and thickness (d) None of these
Ans: (c) Length and thickness

17. If a piece of soft iron is placed inside the coil n number of turns and current is passed in the coil from a battery, what name is then given to the device so obtained?
(a) spectrometer (b) gravitometer
(c) barometer (d) electromagnet
Ans: (d) electromagnet

18. If the coil in a simple generator is wound around a soft iron core then:
(a) strength of magnetic field increases.
(b) current produced will be increased.
(c) voltage produced will be increased (d) all
Ans: (d) all

19. In a bulb there is a thin wire called
(a) filament (b) coil (c) element (d) fuse wire
Ans: (a) filament

20. A glowing bulb becomes warm due to the
(a) heating effect of current
(b) magnetic effect of current
(c) chemical effect of current
(d) physical effect of current
Ans: (a) heating effect of current

21. Which of the following is being used in place of fuses?
(a) MCB (b) Nichrome (c) Filament (d) Switch
Ans: (a) MCB

22. When electric current passes through a wire, it behave like a
(a) battery (b) magnet (c) fuse (d) compass needle
Ans: (b) magnet

23. Fuse wire is generally made of
(a) tin and lead (b) nickel and chromium
(c) nickel and copper (d) chromium and silver
Ans: (a) tin and lead

24. Coils of heating devices are made up of
(a) Mercury (b) Nichrome (c) Copper (d) Tungsten
Ans: (b) Nichrome

25. When electric current flows through a conductor, some amount of:
(a) electrical energy is converted into heat energy
(b) electrical energy is converted into mechanical energy
(c) mechanical energy is converted into electrical energy
(d) heat energy is converted into electrical energy
Ans: (a) electrical energy is converted into heat energy

26. An electric fuse works on the:
(a) Chemical effect of current (b) Magnetic effect of current
(c) Lighting effect of current (d) Heating effect of current
Ans: (d) Heating effect of current

27. Circuit Breaker Device which can be used in place of fuse in domestic electric wiring is called:
(a) CBD (b) DCB (c) MCD (d) MCB
Ans: Option D

28. Which of the following characteristic is not suitable for a fuse wire?
(a) Thin and short (b)Thick and short
(c) Low melting point
(d) Higher resistance than rest of wiring
Ans: (b)Thick and short

29. An MCB which cuts off the electricity supply in domestic circuit in case of short circuiting and overloading works on the:
(a) Chemical effect of current (b) Heating effect of current
(c) Magnetic effect of current (d) Lighting effect of current
Ans: (c) Magnetic effect of current

30. Which of the following does not work on the heating effect of current?
(a) Electric bulb (b) Miniature circuit breaker
(c) Electric fuse (d) Immersion rod
Ans: (b) Miniature circuit breaker

31. The compact fluorescent electric lamp has:
(a) Nichrome filament (b) Chromium filament
(c) Tungsten filament (d) No filament
Ans: (d) No filament

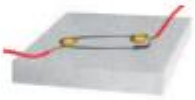
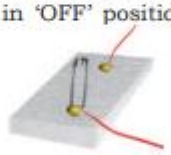
32. choose the incorrect statement:
(a) MCB stand for miniature circuit breaker.
(b) MCB works on the magnetic effect of current.
(c)MCB does not work on the heating effect of current.
(d)None of the above
Ans: (d)None of the above

33. Choose the statement which is/ are incorrect?
(a) A fuse works on the heating effect of current.
(b) A fuse consists of a short length of a thin, tin-plated copper wire having low melting point.
(c) A fuse is a safety device which prevents electric fires and damage to electrical appliances due to excessive flow of current.
(d) None of the above
Ans: (d) None of the above

34. The element of an electric iron is made of:
(a) Iron (b) Nickel (c) Nichrome (d) Tungsten
Ans: (c) Nichrome

35. The magnetic effect of electric current was discovered by:
(a) Maxwell (b) Darwin (c) Oersted (d) Newton
Ans: (c) Oersted

Practice Symbols

S.No.	Electric component	Symbol
1.	Electric cell 	
2.	Electric bulb 	
3.	Switch in 'ON' position 	
4.	Switch in 'OFF' position 	
5.	Battery 	
6.	Wire 	

Assertion & Reason Questions

1. Assertion (A): When electric current flows through a resistance wire, it becomes hot.
Reason (R): Electric current produces heat because electrical energy is converted into heat energy.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

2. Assertion (A): A soft iron nail becomes a magnet when current flows through a coil wound around it.
Reason (R): Current-carrying conductors produce a magnetic field around them.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

3. Assertion (A): A fuse is connected in series with the electrical circuit.
Reason (R): The fuse wire melts and breaks the circuit when the current exceeds the safe limit.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

4. Assertion (A): A compass needle placed near a current-carrying conductor gets deflected.
Reason (R): Electric current through a conductor produces a magnetic field around it.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

5. Assertion (A): Electric irons and heaters work on the heating effect of current.
Reason (R): High resistance wires in these appliances convert electrical energy into heat energy.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

Matching

1. Heating Effect of Electric Current

Statement	Example
(i) Heating effect is used in electric iron	✔
(ii) Heating effect is used in electric bulb filament	✔
(iii) Heating effect is used in electric bell	✗
(iv) Heating effect is used in geyser	✔

Choose the correct option
a) (i), (ii), (iv) only b) (i), (iii), (iv) only c) All (i–iv) d) (ii), (iii) only
Ans: a) (i), (ii), (iv) only

2. Symbols of Electrical Components

Symbol	Component
(i) —o/ o—	Switch (open)
(ii) —●/●—	Switch (closed)
(iii) ⊖ ⊕	Cell
(iv) Zig-zag line	Resistor/heating element

Choose the correct option
a) (i), (ii), (iii) only b) (i), (ii), (iv) only c) All (i–iv) d) (ii), (iii), (iv) only
Ans: c) All (i–iv)

3. Magnetic Effect of Electric Current

Device	Principle
(i) Electric bell	Magnetic effect
(ii) Electromagnet	Magnetic effect

(iii) Immersion rod heater	Heating effect
(iv) Fuse	Heating effect (melting wire)

Choose the correct option

a) (i), (ii) only b) (ii), (iii), (iv) only c) (i), (ii), (iv) only d) (i), (ii), (iii) only

Ans: a) (i), (ii) only

4. Conductors and Insulators

Material	Category
(i) Copper	Conductor
(ii) Plastic	Insulator
(iii) Aluminium	Conductor
(iv) Rubber	Conductor

Choose the correct option

a) (i), (ii), (iii) only b) (i), (iii), (iv) only c) (i), (ii), (iv) only d) All (i–iv)

Ans: a) (i), (ii), (iii) only

5. Uses of Electromagnets

Use	Device
(i) Lifting scrap iron	Electromagnet
(ii) Loudspeaker	Electromagnet
(iii) Torch bulb filament	Electromagnet
(iv) Electric bell	Electromagnet

Choose the correct option

a) (i), (ii), (iv) only b) (i), (iii), (iv) only c) All (i–iv) d) (ii), (iii) only

Ans: a) (i), (ii), (iv) only

Choose the Correct or incorrect Sentence/Statement

1. Which of the following are correct?

a) A current-carrying wire behaves like a magnet.
b) The magnetic effect of current is called the heating effect.
c) A compass needle gets deflected when placed near a current-carrying conductor.
d) The strength of the magnetic field depends on the amount of current.

A) a, c and d B) b and d C) a, b and c D) b and c

Ans: A) a, c and d

2. Which of the following are correct?

a) An electric bulb glows because of the heating effect of current.
b) The filament of a bulb is usually made of tungsten.
c) Electric current produces both heating and magnetic effects.
d) The heating effect of current is used in electric heaters.

A) a, b and c B) a, b and d C) a, c and d D) a, b, c and d

Ans: D) a, b, c and d

3. Which of the following are correct?

a) A fuse is a safety device that melts and breaks the circuit when excess current flows.
b) A fuse wire is made of an alloy with a low melting point.
c) A fuse should be connected in parallel with the device.
d) The rating of a fuse depends on the maximum safe current.

A) a, b and d B) a, b and c C) b, c and d D) a, c and d

Ans: A) a, b and d

4. Which of the following are correct?

a) Electromagnets are made by winding an insulated copper wire on a soft iron core.
b) Electromagnets are stronger when more turns of wire are used.
c) Electromagnets lose their magnetism when the current is switched off.
d) Electromagnets are permanent magnets.

A) a, b and c B) a, c and d C) b, c and d D) a and d

Ans: A) a, b and c

Chapter – 9: Light

7th CLASS

1. The path of the light is
(a) always a straight line (b) a curved line
(c) a zig-zag line (d) depends on the medium
Ans: (a) always a straight line

2. Which one shows lateral inversion?
(a) Plane mirror (b) Convex mirror
(c) Concave mirror (d) All of these
Ans: (a) Plane mirror

3. Image formed by a plane mirror is
(a) virtual and erect (b) real and erect
(c) virtual and inverted (d) real and inverted
Ans: (a) virtual and erect

4. Boojho and Paheli were given one mirror each by their teacher. Boojho found his image to be erect and of the same size whereas Paheli found her image erect and smaller in size. This means that the mirrors of Boojho and Paheli are, respectively
(a) plane mirror and concave mirror
(b) concave mirror and convex mirror
(c) plane mirror and convex mirror
(d) convex mirror and plane mirror
Ans: (c) plane mirror and convex mirror

5. Which of the following can be used to form a real image?
(a) Concave mirror only (b) Plane mirror only
(c) Convex mirror only
(d) Both concave and convex mirrors
Ans: (b) Plane mirror only

6. If an object is placed at a distance of 0.5 m in front of a plane mirror, the distance between the object and the image formed by the mirror will be
(a) 2 m (b) 1 m (c) 0.5 m (d) 0.25 m
Ans: (b) 1 m

7. You are provided with a concave mirror, a convex mirror, a concave lens and a convex lens. To obtain an enlarged image of an object you can use either
(a) concave mirror or convex mirror
(b) concave mirror or convex lens
(c) concave mirror or concave lens
(d) concave lens or convex lens
Ans: (b) concave mirror or convex lens

8. An erect and enlarged image can be formed by
(a) only a convex mirror (b) only a concave mirror
(c) only a plane mirror
(d) both convex and concave mirror
Ans: (b) only a concave mirror

9. An image formed by a lens is erect. Such an image could be formed by a
(a) convex lens provided the image is smaller than object
(b) concave lens provided the image is smaller than object
(c) concave lens provided the image is larger than object
(d) concave lens provided the image is of the same size
Ans: (b) concave lens provided the image is smaller than object

10. Change in the path of light after striking a mirror is called
(a) reflection of light (b) Rectilinear propagation of light
(c) Lateral inversion (d) Dispersion
Ans: (a) reflection of light

11. Splitting of white light into seven colours is called
(a) reflection of light (b) Rectilinear propagation of light
(c) Lateral inversion (d) Dispersion
Ans: (d) Dispersion

12. When white light is passed into a prism it splits into
(a) Seven colours (b) Eight colours
(c) Five colours (d) Three colours
Ans: (a) Seven colours

13. The middle colour in sunlight spectrum is:
(a) yellow (b) green (c) blue (d) orange
Ans: (b) green

14. The image formed by a convex mirror is:
(a) erect and diminished (b) erect and enlarged
(c) inverted and diminished (d) inverted and enlarged
Ans: (a) erect and diminished

15. The image which can be caught on a screen is called
(a) Real image (b) Virtual image
(c) Shadow (d) Impression
Ans: (a) Real image

16. The object in which seven colours spread over it appears to be white in colour when rotated is Called
(a) Galileo's disc (b) Newton's disc
(c) Rutherford's disc (d) Faraday's disc
Ans: (b) Newton's disc

17. When the Newton's disc is rotated what happens
(a) The colours fade to white
(b) The colours fade to black
(c) Rutherford's disc (d) Faraday's disc
Ans: (b) The colours fade to black

18. Rectilinear propagation is
(a) mode of travelling in curved lines
(b) mode of travelling in straight lines
(c) ability to bend around obstacles
(d) displaying the phenomenon of diffraction
Ans: (b) mode of travelling in straight lines

19. Which of the following is used as a side view mirror?
(a) Plane mirror (b) Concave mirror
(c) Convex mirror (d) Convex lens
Ans: (c) Convex mirror

20. Looking through a lens at the sun or a bright light is:
(a) easy (b) dangerous (c) difficult (d) good
Ans: (b) dangerous

21. Which colour of light scattered least
(a) Green (b) Yellow (c) Red (d) Blue
Ans: (c) Red

22. The coloured band of light obtained by dispersion of light is called
(a) image (b) spectrum
(c) convergence (d) scattering
Ans: (b) spectrum

23. Light is a form of
(a) Energy (b) Power (c) Heat (d) Temperature
Ans: (a) Energy

24. .....refers to collection of rays.

(a) Shadow (b) Photon (c) Beam (d) Image
Ans: (c) Beam

25. Concave lens is also known as
(a) Converging lens (b) Diverging lens
(c) Bifocal length (d) Biconcave lens
Ans: (b) Diverging lens

26. If an object is placed at a distance of 0.5 meter in front of a plane mirror, the distance between the object and the image formed by the mirror will be:
(a) 2 m (b)1 m (c) 0.5 m (d) 0.25 m
Ans: (b)1 m

27. A virtual image larger than the object can be produced by a:
(a) Concave lens (b) Concave mirror
(c) Convex mirror (d) Plane mirror
Ans: (b) Concave mirror

28. The image formed by a concave mirror is seen to be virtual, erect and larger than the object. The position of object must then be:
(a) Between focal length and twice the focal length
(b) Far off (many times the focal length)
(c) Close to concave mirror (at less than focal length)
(d) Greater than twice the focal length
Ans: (c) Close to concave mirror (at less than focal length)

29. If the image formed is always virtual, the mirror can be
(a) Concave or convex (b) Concave or plane
(c) Convex or plane (d) Only convex
Ans: (c) Convex or plane

30. A concave mirror cannot be used as:
(a) A magnifying mirror (b) A torch reflector
(c) A dentist's mirror (d) A rear view mirror
Ans: (d) A rear view mirror

31. Read the following sentences carefully, and choose the incorrect one:
(a) The process of sending back the rays of light which fall on the surface of an object is called reflection of light.
(b) The ray of light which falls on an object is called incident ray.
(c) And the ray of light which is sent back by an object is called reflected ray.
(d) The objects having polished, shining surfaces reflect less light than objects having unpolished dull surfaces.
Ans: (d)

32. A rainbow can be seen in the sky
(a) When the sun is in front of you
(b) When the sun is behind you
(c) When the sun is overhead (d) Only at time of sunrise
Ans: (b) When the sun is behind you

33. The image formed by a plane mirror is:
(a) Virtual, behind the mirror and enlarged
(b) Virtual, behind the mirror and of the same size as the object
(c) Real, at the surface of the mirror and enlarged
(d) Real, behind the mirror and of the same size as the Object
Ans: (b) Virtual, behind the mirror and of the same size as the Object.

34. Which of the following always diverge light rays?
(a) Convex mirror and plane mirror
(b) Concave mirror and convex lens
(c) Concave lens and concave mirror
(d) Concave lens and convex mirror
Ans: (d) Concave lens and convex mirror

35. An image formed by a lens is erect. Such an image could be formed by a:
(a) Convex lens provided the image is smaller than object
(b) Concave lens provided the image is smaller than object
(c) Concave lens provided the image is larger than object
(d) Concave lens provided the image is same of the image.
Ans: (b)

Assertion & Reason Questions

1. Assertion (A): The angle of incidence is always equal to the angle of reflection.
Reason (R): According to the laws of reflection, the incident ray, reflected ray, and the normal lie in the same plane.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

2. Assertion (A): The image formed by a plane mirror is laterally inverted.
Reason (R): A plane mirror reverses the sides of an object from left to right.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

3. Assertion (A): A shadow is formed only when an opaque object blocks light.
Reason (R): Light travels in a straight line.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

4. Assertion (A): A periscope uses mirrors placed parallel to each other.
Reason (R): Periscopes work on the principle of multiple reflection of light.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

5. Assertion (A): A prism splits white light into seven colours.
Reason (R): Different colours of light bend by different amounts on passing through a prism.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

Matching

1. Types of Mirrors and Their Uses

Mirror	Common Use
(i) Plane mirror	Looking glass
(ii) Concave mirror	Shaving mirror
(iii) Convex mirror	Rear-view mirror
(iv) Concave mirror	Security in shops

Choose the correct option
a) (i), (ii), (iii) only b) (i), (iii) only c) All (i–iv) d) (i), (ii), (iii) only
Ans: a) (i), (ii), (iii) only

2. Lenses and Their Uses

Lens	Application
(i) Convex lens	Magnifying glass
(ii) Concave lens	Spectacles for short-sightedness
(iii) Convex lens	Simple microscope
(iv) Concave lens	Concentrates sunlight to a point

Choose the correct option
a) (i), (ii), (iii) only b) (i), (iii), (iv) only c) (i), (ii), (iii) only d) All (i–iv)
Ans: c) (i), (ii), (iii) only

3. Reflection and Related Concepts

Concept	Example
(i) Regular reflection	Image in a plane mirror
(ii) Diffused reflection	Light from a wall
(iii) Multiple reflection	Kaleidoscope
(iv) Irregular reflection	Shiny stainless steel plate

Choose the correct option
a) (i), (ii), (iii) only b) (i), (ii), (iv) only c) All (i–iv) d) (ii), (iii), (iv) only
Ans: a) (i), (ii), (iii) only

4. Properties of Images in a Plane Mirror

Property	Correct/Incorrect
(i) Image is erect	Correct
(ii) Image is real	Incorrect
(iii) Image is laterally inverted	Correct
(iv) Image is of the same size	Correct

Choose the correct option
a) (i), (iii), (iv) only b) (i), (ii), (iv) only c) All (i–iv) d) (ii), (iii) only
Ans: a) (i), (iii), (iv) only

5. Devices Using Reflection of Light

Device	Principle
(i) Kaleidoscope	Multiple reflection
(ii) Periscope	Reflection from plane mirrors
(iii) Solar cooker	Reflection from concave mirror
(iv) Microscope	Reflection only

Choose the correct option

a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iii), (iv) only

Ans: a) (i), (ii), (iii) only

Choose the Correct or incorrect Sentence/Statement

1. Which of the following are correct?

a) A mirror changes the direction of light that falls on it. b) The image formed by a plane mirror is laterally inverted.
c) A plane mirror always forms a virtual and erect image. d) A plane mirror forms an image smaller than the object.

A) a, b and c B) b and d C) a and d D) c and d

Ans: A) a, b and c

2. Which of the following are correct?

a) Light travels in a straight line in a homogeneous medium.
b) A pinhole camera shows an inverted image of objects.
c) Shadows are formed because light bends around objects.
d) The size of a shadow depends on the distance between the source and the object.

A) a, b and d B) b, c and d C) a and c D) a, c and d

Ans: A) a, b and d

3. Which of the following are correct?

a) Concave mirrors can form real as well as virtual images. b) Convex mirrors always form virtual and diminished images.
c) Concave mirrors are used as shaving mirrors. d) Convex mirrors are used as rear-view mirrors in vehicles.

A) a, b and c B) a, b and d C) a, c and d D) a, b, c and d

Ans: D) a, b, c and d

4. Which of the following are correct?

a) The image formed by a convex lens can be real or virtual. b) A concave lens always forms a virtual and erect image.
c) Lenses refract light rays passing through them. d) A concave lens can form a magnified real image.

A) a, b and c B) b and d C) a, c and d D) a, b and d

Ans: A) a, b and c

5. Which of the following are correct?

a) Dispersion of light produces a spectrum of seven colours.
b) The band of colours formed by dispersion is called a rainbow on paper.
c) A prism splits white light into its component colours. d) Violet light is deviated the least in a prism.

A) a, b and c B) a, c and d C) b, c and d D) a, b and d

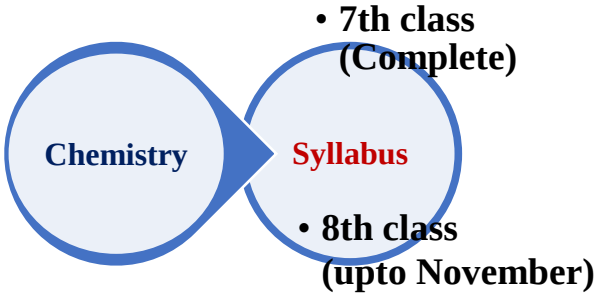
Ans: B) a, c and d

SCHOLASTIC APTITUDE TEST

Chemistry

103 -113 Questions

11 Marks



Chapter: Coal and Petroleum

8th CLASS

1. Which of the following is an example of a fossil fuel?
a) Coal b) Petroleum c) Natural gas d) All of these
Ans: d) All of these

2. Fossil fuels are formed from:
a) Minerals in rocks b) Water and air
c) Dead plants and animals buried for millions of years
d) Volcanic ash
Ans: c

3. Coal is formed mainly from:
a) Dead marine animals b) Dead plants buried under soil
c) Volcanic gases d) Minerals in rocks
Ans: b

4. Petroleum is formed from:
a) Remains of plants in forests b) Sand and stones
c) Solidified lava d) Remains of tiny marine organisms
Ans: d

5. The slow process of conversion of dead vegetation into coal is called:
a) Refining b) Carbonisation
c) Cracking d) Filtration
Ans: b

6. Natural gas is found along with:
a) Sandstone only b) Coal
c) Petroleum deposits d) Minerals
Ans: c

7. Fossil fuels are called non-renewable because:
a) They are very costly b) They cannot be reused
c) They take millions of years to form
d) They are easy to exhaust
Ans: c

8. The process of separating petroleum into its components is called:
a) Fractional distillation b) Filtration
c) Carbonisation d) Distillation under pressure
Ans: a

9. Which of these is not a fossil fuel?
a) Coal b) Petroleum
c) LPG from petroleum d) Firewood
Ans: d

10. Natural gas is stored and supplied under:
a) Low pressure b) High pressure
c) Vacuum d) At room temperature without pressure
Ans: b

11. The purest form of coal is:
a) Lignite b) Anthracite c) Bituminous d) Peat
Ans: b

12. Coke is obtained from:
a) Petroleum b) Destructive distillation of coal
c) Wood d) Charcoal
Ans: b

13.Which coal product is used as a reducing agent in steel industry?
a) Coke b) Coal tar c) Coal gas d) Anthracite
Ans: a

14. Coal tar is:
a) A pure liquid fuel
b) A black viscous mixture of substances
c) A form of coal d) A petroleum product
Ans: b

15. Which of the following is used in making paints and perfumes?
a) Coke b) Coal tar c) Coal gas d) Petroleum jelly
Ans: b

16. Coal gas is mainly used as:
a) Fuel for heating b) Industrial reducing agent
c) Lubricant d) Engine oil
Ans: a

17. The main constituent of coal gas is:
a) Carbon dioxide b) Hydrogen and methane
c) Sulphur dioxide d) Oxygen
Ans: b

18. Coal tar contains about:
a) 20 substances b) 100 substances
c) 200 substances d) 300 substances
Ans: c

19. Which coal product is hard, porous and almost pure carbon?
a) Coal gas b) Coke c) Coal tar d) Bitumen
Ans: b

20. Bitumen is used for:
a) Making plastics b) Surfacing roads
c) Reducing friction d) Making steel
Ans: b

21. Petroleum is called "black gold" because:
a) It is black and valuable b) It shines like gold
c) It contains gold particles d) It is used for ornaments
Ans: a

22. Petroleum refining is done in:
a) Thermal plants b) Mines c) Chemical labs only
d) Fractionating columns in refineries
Ans: d

23. The lightest fraction obtained from petroleum is:
a) Diesel b) Petrol (gasoline)
c) Kerosene d) Bitumen
Ans: b

24. Diesel is used in:
a) Scooters b) Cars only
c) Trucks, tractors and buses d) Lamps only
Ans: c

25. Kerosene is mainly used as:
a) Aviation fuel and domestic fuel b) Road surfacing
c) Making synthetic fibres d) Grease
Ans: a

26. Paraffin wax is used in:
a) Road tarring b) Making candles,ointments,polishes
c) Brakes of cars d) Detergents
Ans: b

27. LPG stands for:
a) Liquid Petroleum Gas b) Low Pressure Gas
c) Liquid Petrol Gas d) Light Petroleum Gas
Ans: a

28. The thickest residue of petroleum refining is:
a) Bitumen b) Diesel c) Petrol d) Paraffin wax
Ans: a

29. Which fraction is used to prepare vaseline?
a) Petrol b) Paraffin wax c) Diesel d) Bitumen
Ans: b

30. Aviation fuel is mainly:
a) Diesel b) Kerosene c) Bitumen d) Paraffin
Ans: b

31. The main constituent of natural gas is:
a) Propane b) Ethane c) Methane d) Butane
Ans: c

32. Compressed natural gas is written as:
a) C.L.G b) C.N.G c) L.P.G d) G.N.C
Ans: b

33. CNG is widely used in vehicles because it:
a) Is cheap and clean fuel b) Is heavier than petrol
c) Produces much smoke d) Is solid fuel
Ans: a

34. Which is the cleanest fuel among the following?
a) Petrol b) Diesel c) Coal d) Natural gas
Ans: d

35. Natural gas is used in:
a) Producing electricity b) Fuel for transport
c) Manufacturing chemicals and fertilizers
d) All of these
Ans: d

36. Why should we use fossil fuels judiciously?
a) They pollute air only b) They are unlimited
c) They take millions of years to form and are limited
d) They are cheap
Ans: c

37. Which of these is not a measure to save fossil fuels?
a) Using solar cooker b) Carpooling
c) Walking or cycling for short distances
d) Wasting LPG
Ans: d

38. An eco-friendly alternative to fossil fuel for cooking is
a) Wood b) Solar energy or biogas
c) Coal d) Petrol
Ans: b

39. Petroleum and natural gas were formed under:
a) Soil layers only b) Mountains c) Ocean water
d) Clay and sand under high temperature & pressure
Ans: d

40. Why is CNG preferred over petrol/diesel?
a) Cheaper, less polluting, gives better mileage
b) Produces more smoke c) Difficult to store
d) None
Ans: a

41. Excessive use of fossil fuels causes:
a) Global warming b) Air pollution
c) Acid rain d) All of these
Ans: d

42. Which gas is mainly released on burning fossil fuels?
a) Nitrogen b) Oxygen c) Carbon dioxide d) Helium
Ans: c

43. Sulphur dioxide released from burning coal can cause
a) Smog b) Acid rain
c) Depletion of ozone d) None
Ans: b

44. Which greenhouse gas is mainly produced by combustion of fossil fuels?
a) Methane b) Carbon dioxide
c) Nitrogen d) Ozone
Ans: b

45. Which is an alternative source of energy to replace fossil fuels?
a) Solar energy b) Wind energy
c) Hydroelectric power d) All of these
Ans: d

46. To save fossil fuels we should:
a) Switch off lights/fans when not in use
b) Use energy-efficient appliances
c) Adopt public transport d) All of these
Ans: d

47. What is called "liquid fuel of the 21st century"?
a) Petrol b) Diesel
c) Biofuel (ethanol/biodiesel) d) Kerosene
Ans: c

48. Which of these is not derived from coal?
a) Coke b) Coal gas c) Paraffin wax d) Coal tar
Ans: c

49. Why are petroleum resources called exhaustible?
a) They are infinite b) They get exhausted if overused
c) They are renewable d) They are man-made
Ans: b

50. Which statement is true?
a) Fossil fuels are eco-friendly
b) Fossil fuels take millions of years to form but are used rapidly
c) Fossil fuels are inexhaustible
d) Fossil fuels are synthetic substances
Ans: b

Assertion & Reason

1. Assertion (A): Coal is formed from the remains of plants that lived millions of years ago.
Reason (R): Heat and pressure on dead vegetation converted it into peat and then into coal.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true

Ans: a) Both A and R are true, and R is the correct explanation of A

2. Assertion (A): Petroleum and natural gas are formed from the remains of tiny marine organisms.
Reason (R): Layers of sand and clay compressed the dead organisms, forming petroleum and gas under high pressure and temperature.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

3. Assertion (A): Refining is the process of separating petroleum into useful fractions.
Reason (R): Different components of petroleum have the same boiling point, so they are separated by sedimentation.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: c) A is true, R is false

4. Assertion (A): Fossil fuels should be used judiciously.
Reason (R): They are non-renewable resources and may get exhausted if overused.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

5. Assertion (A): Coke, coal tar, and coal gas are obtained from coal.
Reason (R): Coal is processed by destructive distillation to obtain useful products.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

Matching

1. Products of Coal and Their Uses

Product	Common Use
(i) Coke	Fuel in blast furnace
(ii) Coal tar	Source of dyes, paints
(iii) Coal gas	Fuel for street lighting (old days)
(iv) Petroleum	Making steel

Choose the correct option
a) (i), (ii), (iii) only b) (i), (ii), (iv) only c) All (i–iv) d) (ii), (iii), (iv) only
Ans: a) (i), (ii), (iii) only

2. Petroleum Fractions and Uses

Fraction	Use
(i) LPG	Cooking fuel
(ii) Petrol	Motor fuel
(iii) Diesel	Running trucks/buses
(iv) Bitumen	Lubricating oil

Choose the correct option
a) (i), (ii), (iii) only b) (i), (ii), (iv) only c) All (i–iv) d) (ii), (iii), (iv) only
Ans: a) (i), (ii), (iii) only

3. Natural Resources and Classification

Resource	Type
(i) Coal	Exhaustible, fossil fuel
(ii) Petroleum	Exhaustible, fossil fuel
(iii) Air	Inexhaustible
(iv) Forests	Exhaustible, renewable

Choose the correct option
a) (i), (ii), (iii) only b) (i), (ii), (iv) only c) All (i–iv) d) (ii), (iii), (iv) only
Ans: c) All (i–iv)

4. Steps in Petroleum Refining

Step	Description
(i) Fractional distillation	Separation of crude oil into fractions
(ii) Cracking	Breaking heavy hydrocarbons into lighter ones
(iii) Sedimentation	Settling suspended solids
(iv) Polymerisation	Joining small molecules into big ones

Choose the correct option

a) (i), (ii), (iii) only b) (i), (ii), (iv) only c) All (i–iv) d) (ii), (iii), (iv) only

Ans: a) (i), (ii), (iii) only

5. Conservation of Fossil Fuels

Method	Purpose
(i) Using public transport	Reduce consumption
(ii) Switching off lights/fans when not needed	Save electricity (indirectly saves coal)
(iii) Using solar cookers	Alternative energy
(iv) Burning more coal for faster cooking	Save coal

Choose the correct option

a) (i), (ii), (iii) only b) (i), (iii), (iv) only c) All (i–iv) d) (ii), (iii), (iv) only

Ans: a) (i), (ii), (iii) only

Choose the Correct Sentence/Statement

1. Choose the correct sentence.

(a) Coal, petroleum, and natural gas are fossil fuels. (b) They take millions of years to form.
(c) They are formed from dead organisms under heat and pressure. (d) All of these.

Ans: (d)

2. Choose the correct sentence.

(a) Refining is done in petroleum mines. (b) Refining is done in petroleum refineries.
(c) Refining means burning petroleum. (d) Refining is done to remove coal from petroleum.

Ans: (b)

3. Choose the correct sentence.

(a) Coal tar is a mixture of substances with many uses. (b) Coal tar is pure carbon.
(c) Coal tar is used to make dyes, explosives, and naphthalene balls. (d) Both (a) and (b).

Ans: (d)

4. Choose the correct sentence.

(a) LPG is obtained during refining of petroleum and natural gas. (b) LPG is a clean domestic fuel.
(c) LPG is highly inflammable. (d) All are correct.

Ans: (d)

5. Choose the correct sentence.

(a) Fossil fuels are limited and exhaustible. (b) We should use them judiciously.
(c) Excessive use pollutes air and harms environment. (d) All are correct.

Ans: (d)

6. Choose the correct sentence.

(a) Coal is used as a reducing agent in steel manufacturing. (b) Coke, derived from coal, is also used in metallurgy.
(c) Coal is used only for electricity generation. (d) (a) and (b) are correct.

Ans: (d)

7. Choose the correct sentence.

(a) Petroleum is a complex mixture of hydrocarbons. (b) Paraffin wax, petrol, diesel, kerosene are its products.
(c) Petroleum is renewable in a few decades. (d) Only (a) and (b) are correct.

Ans: (d)

8. Choose the correct sentence.

(a) CNG is safer and less polluting fuel for vehicles. (b) CNG means Compressed Natural Gas.
(c) CNG is a solid form of natural gas. (d) (a) and (b) are correct.

Ans: (d)

9. Choose the correct sentence.

(a) Bitumen is a residue left after distillation of petroleum. (b) It is used for making plastics only.
(c) Bitumen is used for road surfacing. (d) (a) and (c) are correct.

Ans: (d)

Chapter: Chemical Effects of Electric Current 8th CLASS

1. The flow of electrons in a conductor is called:
a) Resistance b) Electric current
c) Charge d) Magnetism
Ans: b

2. Good conductors of electricity are:
a) Rubber, glass b) Copper, aluminium
c) Wood, plastic d) Chalk, wax
Ans: b

3. Liquids that allow current to pass through are called:
a) Non-conductors b) Electrolytes
c) Semiconductors d) Resistors
Ans: b

4. The solution of copper sulphate conducts electricity because it contains:
a) Pure water b) Free electrons
c) Ions d) Non-metals
Ans: c

5. Poor conductor among the following is:
a) Lemon juice b) Vinegar
c) Distilled water d) Tap water
Ans: c

6. When electric current passes through a solution, it is called:
a) Heating effect b) Magnetic effect
c) Chemical effect d) Physical effect
Ans: c

7. The passage of electric current through a liquid is tested with:
a) Pencil b) Compass
c) LED/bulb with battery d) Magnet only
Ans: c

8. Electrodes are:
a) Liquids used for conduction d) Switches in circuit
c) Non-metals used for heating
d) Plates/rods that conduct current into a solution
Ans: d

9. A device used to test conduction of electricity through liquids is:
a) Galvanometer b) Conduction tester
c) Rheostat d) Ammeter only
Ans: b

10.The chemical effect of electric current depends on
a) Temperature only b) Voltage and nature of solution
c) Shape of wires d) Weight of electrodes
Ans: b

11. The process of depositing a layer of metal on another metal by electricity is called:
a) Refining b) Electroplating
c) Galvanising d) Painting
Ans: b

12. In electroplating, the object to be plated is:
a) Anode b) Cathode
c) Both electrodes d) Electrolyte
Ans: b

13.In electroplating, the metal that forms the coating is made the:
a) Cathode b) Anode
c) Electrolyte d) Battery terminal only
Ans: b

14. Electroplating prevents:
a) Weight of metal b) Rust and corrosion
c) Colour of solution d) Heat loss
Ans: b

15. Which is NOT an object commonly electroplated?
a) Taps and door handles b) Kitchen gas stove
c) Gold ornaments d) Plastic chair
Ans: d

16. During electroplating of copper on iron, which solution is used?
a) Iron sulphate b) Copper sulphate
c) Zinc sulphate d) Sodium chloride
Ans: b

17. In electrolysis of water, gas released at cathode is
a) Oxygen b) Hydrogen
c) Carbon dioxide d) Nitrogen
Ans: b

18. Gas collected at anode during electrolysis of water is:
a) Oxygen b) Hydrogen
c) Helium d) Carbon dioxide
Ans: a

19. Which metal is used for electroplating jewellery to make them shiny and less expensive?
a) Copper b) Gold or silver c) Zinc d) Iron
Ans: b

20. The thin layer of chromium on taps and bicycle parts protects from:
a) Bending b) Rust and scratches
c) Electricity d) Air bubbles
Ans: b

21. Liquids that are poor conductors are called:
a) Electrolytes b) Non-electrolytes
c) Alloys d) Bases
Ans: b

22. The strength of current in a solution depends on:
a) Colour of solution b) Concentration of ions
c) Shape of beaker d) Size of electrodes only
Ans: b

23. Tap water is a good conductor because it has:
a) Salt and minerals (ions) b) Sand
c) Air bubbles d) None
Ans: a

24. Which liquid is an insulator?
a) Lemon juice b) Vinegar
c) Distilled water d) Sea water
Ans: c

25. Conductivity of liquids increases if:
a) Temperature decreases
b) Add more ions (like salt, acid)

c) Remove all minerals d) Use wooden electrodes
Ans: b

26. LEDs are preferred over bulbs for testing liquids because:
a) They consume more energy b) They need high current
c) They glow even in weak current d) They are heavy
Ans: c

27. A solution of copper sulphate becomes colourless after some time in electroplating because:
a) Copper is deposited on object b) Water evaporates
c) Solution freezes d) Gas forms
Ans: a

28. Electrolysis of brine produces:
a) Hydrogen, oxygen, chlorine b) Sodium and oxygen
c) Hydrogen only d) Carbon dioxide
Ans: a

29. Which statement is false about electroplating?
a) Improves appearance b) Protects from corrosion
c) Makes metal heavier
d) Prevents scratches sometimes
Ans: c

30. In an electroplating circuit, battery is connected to:
a) Solution only b) Anode & cathode
c) Outer covering d) Glass rod
Ans: b

31. Silvering of mirrors is done by:
a) Painting b) Spraying
c) Electroplating with silver d) Heating
Ans: c

32. Tin cans used for food storage are made by electroplating:
a) Tin on iron b) Iron on tin
c) Aluminium on copper d) Zinc on tin
Ans: a

33. Chromium is used for plating because it is:
a) Lustrous and corrosion-resistant b) Cheap and heavy
c) Soft and light d) Non-metal
Ans: a

34. Which process is used for purifying metals?
a) Distillation b) Electrolytic refining
c) Sublimation d) Filtration
Ans: b

35. Electroplating is widely used in:
a) Agriculture b) Industry and ornaments
c) Cooking only d) Woodwork
Ans: b

36. Galvanisation is different from electroplating because
a) It uses paint b) Uses gold coating
c) It is coating of zinc on iron (not electric current)
d) It is coating using zinc but not always electricity
Ans: d

49. An important precaution in electroplating is:
a) Use strong current always b) Clean object before plating
c) Keep solution dirty d) Use rusted metal
Ans: b

37. In electroplating, a thin layer of metal is deposited on:
a) Glass b) Plastic (if pre-treated) or metal
c) Wood d) Paper
Ans: b

38. The process of electrolytic refining of copper removes
a) Rust b) Impurities like silver, gold
c) Colour d) Heat
Ans: b

39. Electroplating is done using:
a) High voltage current only
b) Weak electric current for uniform layer
c) Magnetism d) Heat energy
Ans: b

40. For electroplating silver on spoons, electrolyte is:
a) Silver nitrate solution
b) Copper sulphate solution
c) Zinc chloride solution
d) Sodium hydroxide
Ans: a

41. Electroplating industries must treat waste because:
a) Wastewater contains toxic metals
b) Wastewater is clean c) It has only air bubbles
d) It is harmless
Ans: a

42. Excessive use of chromium in plating may:
a) Cause water pollution b) Make water pure
c) Remove salts d) Increase oxygen
Ans: a

43. To prevent rust on bicycle handles, they are:
a) Painted only b) Electroplated with chromium
c) Oiled d) Kept dry
Ans: b

44. Electroplating adds value because:
a) Makes products attractive & long-lasting
b) Decreases cost only c) Makes them heavy
d) Reduces market demand
Ans: a

45. Waste from electroplating units should be:
a) Thrown in rivers b) Dumped in soil
c) Treated before disposal d) Mixed with oil
Ans: c

46. Electroplating is avoided on cooking utensils inside because:
a) Coating may react with food b) It looks shiny
c) It keeps utensils heavy d) It is expensive
Ans: a

47. In electroplating of copper on iron, iron acts as:
a) Anode b) Cathode
c) Electrolyte d) Conductor only
Ans: b

48. The source of current in electroplating is:
a) Dry cell or battery b) Candle
c) Magnet d) Solar heat only
Ans: a

50. Which of these is an everyday application of chemical effects of current?
a) Electroplating taps & ornaments b) Cleaning rooms
c) Washing clothes d) Grinding cereals
Ans: a

Assertion & Reason

1. Assertion (A): Most metals are good conductors of electricity.
Reason (R): Metals have free electrons that allow the flow of electric current.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

2. Assertion (A): Electroplating is done to deposit a thin layer of metal on another object.
Reason (R): A layer of metal is deposited at the cathode during electrolysis when current is passed through a salt solution of that metal.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

3. Assertion (A): Passing an electric current through a solution can produce chemical changes.
Reason (R): Electric current breaks down the solution into its components in a process called electrolysis.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

4. Assertion (A): Pure distilled water is a good conductor of electricity.
Reason (R): Distilled water contains a large number of ions that carry current.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: d) A is false, R is true

5. Assertion (A): When electric current is passed through acidified water, it decomposes into hydrogen and oxygen gases.
Reason (R): Electricity splits water molecules into hydrogen and oxygen in the process of electrolysis.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

Matching

1. Electrolysis and Its Examples

Statement	Example
(i) Decomposition of water	Produces hydrogen and oxygen gases
(ii) Electroplating	Coating objects with metal like silver/copper
(iii) Electrorefining	Purification of metals
(iv) Heating of wire	Produces light

Choose the correct option
a) (i), (ii), (iii) only b) (i), (iii), (iv) only c) All (i–iv) d) (ii), (iii), (iv) only
Ans: a) (i), (ii), (iii) only

2. Electrolytes and Non-Electrolytes

Substance	Property
(i) Dilute H_2SO_4	Electrolyte
(ii) NaCl solution	Electrolyte
(iii) Sugar solution	Non-electrolyte
(iv) Distilled water	Non-electrolyte

Choose the correct option
a) (i), (ii) only b) (i), (ii), (iii) only c) (i), (ii), (iv) only d) All (i–iv)
Ans: c) (i), (ii), (iv) only

3. Electrodes and Products

Electrodes	Product
(i) Copper plate in $CuSO_4$ solution	Copper deposited

(ii) Electrolysis of water	H_2 at cathode, O_2 at anode
(iii) Zinc plate in $ZnSO_4$ solution	Zinc dissolves
(iv) Copper wire	Produces gas

Choose the correct option

a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (ii), (iv) only

Ans: a) (i), (ii), (iii) only

4. Uses of Chemical Effects of Electric Current

Use	Device/Application
(i) Electroplating	Jewelry & metals
(ii) Purification of metals	Electrorefining
(iii) Production of H_2 & O_2	Water electrolysis
(iv) Heating iron in electric iron	Not chemical effect

Choose the correct option

a) (i), (ii), (iii) only b) (i), (iii), (iv) only c) All (i–iv) d) (ii), (iii), (iv) only

Ans: a) (i), (ii), (iii) only

5. Conductors vs Electrolytes

Substance	Conduction Type
(i) Metals like copper	Metallic conductor
(ii) Salt solution	Ionic conductor
(iii) Sugar solution	Non-conductor
(iv) Distilled water	Poor conductor

Choose the correct option

a) (i), (ii), (iv) only b) (i), (ii), (iii) only c) All (i–iv) d) (ii), (iii), (iv) only

Ans: a) (i), (ii), (iv) only

Choose the Correct Sentence/Statement

1. Choose the correct sentence.

(a) Chemical effect of current is observed when current passes through a conducting solution.

(b) No effect is seen in insulators. (c) Gas bubbles may be released at electrodes. (d) All of these.

Ans: (d)

2. Choose the correct sentence.

(a) Good conductors of electricity in liquids are called electrolytes. (b) Electrolytes produce ions in solution.

(c) Electrolytes are always acids. (d) Only (a) and (b).

Ans: (d)

3. Choose the correct sentence.

(a) Distilled water contains no salts and is a poor conductor. (b) Tap water conducts because of dissolved salts.

(c) Both statements are true. (d) None is true.

Ans: (c)

4. Choose the correct sentence.

(a) Electroplating is used on car parts, jewellery, kitchen utensils. (b) Electroplating uses electrolysis

(c) Electroplating protects against rust and enhances look. (d) All of these.

Ans: (d)

5. Choose the correct sentence.

(a) In electrolysis, cations move to the cathode and anions move to the anode.

(b) Cations are positively charged ions. (c) Both (a) and (b). (d) None of these.

Ans: (c)

6. Choose the correct sentence.

(a) LED should be connected observing proper polarity.

(b) LED glows only when current flows in the correct direction.

(c) LED needs high current to work. (d) Only (a) and (b).

Ans: (d)

7. Choose the correct sentence.

(a) Chromium is electroplated on car bumpers for decoration and durability.

(b) Chromium layer prevents scratches and rust. (c) Both (a) and (b). (d) None.

Ans: (c)

Chapter: Acids, Bases and Salts 7th CLASS

1. An oxide is acidic and has a pungent odour. It could be
(a) sulphur dioxide (b) carbon dioxide
(c) sodium oxide (d) nitrogen dioxide
Ans: (d) nitrogen dioxide

2. Out of these gases which one is used in fire extinguishers
(a) CO_2 (b) SO_2 (c) NO_2 (d) H_2S
Ans: (a) CO_2

3. The correct way of making a solution of acid in water is to
(a) add water to acid (b) add acid to water
(c) mix acid and water simultaneously
(d) add water to acid in a shallow container
Ans: (b) add acid to water

4. Products of a neutralisation reaction are always:
(a) an acid and a base (b) an acid and a salt
(c) a salt and water (d) a salt and a base
Ans: (c) a salt and water

5. Turmeric is a natural indicator. On adding its paste to acid and base separately, which colours would be observed.
(a) Yellow in both acid and base
(b) Yellow in acid and red in base
(c) Pink in acid and yellow in base
(d) Red in acid and blue in base
Ans: (b) Yellow in acid and red in base

6. Phenolphthalein is a synthetic indicator and its colours in acidic and basic solutions, respectively are:
(a) red and blue (b) blue and red
(c) pink and colourless (d) colourless and pink
Ans: (d) colourless and pink

7. When the soil is too basic, plants do not grow well in it. To improve its quality what must be added to the soil?
(a) Organic matter (b) Quick lime
(c) Slaked lime (d) Calamine solution
Ans: (a) Organic matter

8. Which of the following set of substances contain acids?
(a) Grapes, lime water (b) Vinegar, soap
(c) Curd, milk of magnesia (d) Curd, vinegar
Ans: (d) Calamine solution

9. On adding phenolphthalein indicator to a colourless solution, no change is observed. What is the nature of this solution?
(a) Basic (b) Either acidic or basic
(c) Either acidic or neutral (d) Either basic or neutral
Ans: (c) Either acidic or neutral

10. Which of the following is an acid-base indicator?
(a) Vinegar (b) Lime water
(c) Turmeric (d) Baking soda
Ans: (c) Turmeric

11. Which of the following is not a indicator?
(a) Phenolphthalein (b) Methyl orange
(c) Litmus (d) Methyl chloride
Ans: (d) Methyl chloride

12. When CO2 gas is passed through lime water, it turns milky. Which of the following compounds is responsible for this milkiness?
(a) Calcium oxide (b) Calcium chloride
(c) sodium carbonate (d) Calcium carbonate
Ans: (d) Calcium carbonate

13. The reaction in which an acid react with a base to form salt and water is called as
(a) Addition reaction (b) Displacement reaction
(c) Neutralisation reaction (d) Substitution reaction
Ans: (c) Neutralisation reaction

14. Which of the following ion is responsible for the acidic nature of hydrochloric acid?
(a) Hydrogen ion (b) Hydroxide ion
(c) Chloride ion (d) Hydrochloride ion
Ans: a) Hydrogen ion

15. Acid present in soured curd is
(a) Lactic acid (b) Acetic acid
(c) Tartaric acid (d) Oxalic add
Ans: (a) Lactic acid

16. Distilled water is:
(a) acidic (b) basic (c) neutral (d) none of these
Ans: (c) neutral

17. Ammonia that turns red litmus blue is:
(a) acidic (b) basic (c) neutral (d) none of these
Ans: (b) basic

18. An antacid tablet is given to a person when he suffers from:
(a) obesity (b) acidity (c) dog bite (d) none of these
Ans: (b) acidity

19. Ant's bite injects:
(a) acetic acid (b) formic acid
(c) hydrochloric acid (d) none of these
Ans: (b) formic acid

20. Litmus is extracted from
(a) curd (b) grapes (c) lichens (d) cabbage
Ans: (c) lichens

21.Acid used in eye wash is
(a) carbonic acid (b) acetic acid
(c) benzoic acid (d) boric acid
Ans: (d) boric acid

22. Magnesium hydroxide is found in:
(a) soap (b) lime water
(c) milk of magnesia (d) vegetable
Ans: (c) milk of magnesia

23. Calcium hydroxide is found in
(a) window cleaner (b) lime water
(c) soap (d) lime juice
Ans: (b) lime water

24. Acid present in cold drinks (soft drinks) is
(a) Carbonic acid (b) Citric acid
(c) Tartaric acid (d) Sulphuric acid
Ans: (a) Carbonic acid

25. Which of the following is a strong Base?
(a) Copper hydroxide (b) Sodium hydroxide
(c) Iron hydroxide (d) Calcium oxide
Ans: (b) Sodium hydroxide

Assertion & Reason Questions

1. Assertion (A): Litmus is a natural indicator used to detect acids and bases.
Reason (R): Acids turn blue litmus red, while bases turn red litmus blue.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

2. Assertion (A): When an acid reacts with a base, a salt and water are formed.
Reason (R): This reaction is called a neutralisation reaction.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

3. Assertion (A): Magnesium hydroxide is used in antacid tablets.
Reason (R): It neutralises excess acid in the stomach and relieves indigestion.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

4. Assertion (A): Acid rain is harmful to buildings made of marble.
Reason (R): Acids in rain react with calcium carbonate in marble and corrode it.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

5. Assertion (A): Baking soda is used in making cakes soft and fluffy.
Reason (R): On heating, baking soda releases carbon dioxide, which helps the cake to rise.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

Matching

1. Common Acids and Their Uses

Acid	Use
(i) Hydrochloric acid (HCl)	In stomach, cleaning metals
(ii) Sulfuric acid (H_2SO_4)	Manufacture of fertilizers, lead-acid battery
(iii) Nitric acid (HNO_3)	Making explosives
(iv) Acetic acid (CH_3COOH)	Fuel in engines

Choose the correct option
a) (i), (ii), (iii) only b) (i), (iii), (iv) only c) All (i–iv) d) (ii), (iii), (iv) only
Ans: a) (i), (ii), (iii) only

2. Common Bases and Their Uses

Base	Use
(i) Sodium hydroxide (NaOH)	Soap manufacture
(ii) Ammonium hydroxide (NH_4OH)	Cleaning agent
(iii) Calcium hydroxide (slaked lime)	Soil treatment, whitewashing
(iv) Magnesium hydroxide	Fertilizer for crops

Choose the correct option
a) (i), (ii), (iii) only b) (i), (ii), (iv) only c) All (i–iv) d) (ii), (iii), (iv) only
Ans: a) (i), (ii), (iii) only

3. Indicators and Their Color Changes

Indicator	Colour in Acid/Base
(i) Litmus	Red in acid, blue in base
(ii) Methyl orange	Red in acid, yellow in base

(iii) Phenolphthalein	Colourless in acid, pink in base
(iv) Turmeric	Yellow in acid, unchanged in base

Choose the correct option

a) (i), (ii), (iii) only b) (i), (ii), (iv) only c) All (i–iv) d) (ii), (iii), (iv) only

Ans: c) All (i–iv)

4. Salts and Their Examples

Salt	Base Used
(i) Sodium chloride (NaCl)	Sodium hydroxide (NaOH)
(ii) Sodium sulfate (Na_2SO_4)	Sodium hydroxide (NaOH)
(iii) Calcium carbonate ($CaCO_3$)	Calcium hydroxide (slaked lime)
(iv) Potassium nitrate (KNO_3)	Potassium hydroxide (KOH)

Choose the correct option

a) (i), (ii), (iii) only b) (i), (ii), (iv) only c) All (i–iv) d) (ii), (iii), (iv) only

Ans: c) All (i–iv)

5. Neutralization and Applications

Reaction/Application	Example
(i) Acid + Base → Salt + Water	HCl + NaOH → NaCl + H_2O
(ii) Treating acidity in stomach	Antacids like $Mg(OH)_2$
(iii) Making soap	Fat + NaOH
(iv) Photosynthesis	HCl + NaOH reaction

Choose the correct option

a) (i), (ii), (iii) only b) (i), (iii), (iv) only c) All (i–iv) d) (ii), (iii), (iv) only

Ans: a) (i), (ii), (iii) only

Choose the Correct Sentence/Statement

1. Which of the following statements are correct?

a) Acids turn blue litmus red. b) Bases turn red litmus blue.

c) Bases have a sour taste. d) Vinegar is an acidic substance.

A) a, b and d B) b and c C) a and c D) c and d

Ans: A) **a, b and d**

2. Which of the following statements are correct?

a) Lemon juice contains citric acid. b) Baking soda is a base.

c) Milk of magnesia is acidic in nature. d) Soap is a base and feels slippery.

A) a, b and d B) b and c C) a and c D) c and d

Ans: A) **a, b and d**

3. Which of the following statements are correct?

a) Bases turn blue litmus red. b) Acids have a sour taste. c) Soap is a base. d) Lemon juice is basic in nature.

A) a, b and c B) b and c C) a and d D) c and d

Ans: B) **b and c**

4. Which of the following statements are correct?

a) Acetic acid is found in vinegar. b) Bases neutralize acids to form salt and water.

c) Hydrochloric acid is found in lemon juice. d) Citric acid is found in tamarind.

A) a and b B) b and c C) a, b and d D) c and d

Ans: A) **a and b**

5. Which of the following statements are correct?

a) Humus increases soil fertility. b) Dead leaves and animal droppings form humus.

c) Lemon juice turns red litmus blue. d) Vinegar is an acid.

A) a, b and d B) b and c C) a and c D) c and d

Ans: A) **a, b and d**

Chapter: Physical and Chemical Changes 7th CLASS

1. In which type of change a new substance is formed?
(a) In physical change (b) In chemical change
(c) In both (a) and (b) (d) In neither of these
Ans: (b) In chemical change

2. Which among the following is a physical change?
(a) Cutting a log of wood in small pieces
(b) Burning of wood (c) Ripening of fruit
(d) Cooking of food
Ans: (a) Cutting a log of wood in small pieces

3. Which is a method to prevent rust?
(a) Crystallization (b) Sedimentation
(c) Galvanisation (d) None of these
Ans: (c) Galvanisation

4. How crystal of pure substances are obtained?
(a) By crystallization (b) By chromatography
(c) By peptization (d) By all these methods
Ans: (a) By crystallization

5. What is the formula of rust?
(a) Fe_2O_3 (b) Fe_3O_4 (c) FeO (d) None of these
Ans: (a) Fe_2O_3

6. When carbon dioxide is passed through lime water, it turns milky due to the formation of
(a) calcium hydroxide (b) calcium carbonate
(c) calcium oxide (d) None of these
Ans: (b) calcium carbonate

7. Iron pillar near the Qutub Minar in Delhi is famous for the following facts. Which of these facts is responsible for its long stability?
(a) It is more than 7 metres high
(b) It weighs about 6000 kg
(c) It was built more than 1600 years ago
(d) It has not rusted after such a long period
Ans: (d) It has not rusted after such a long period

8. Galvanisation is a process used to prevent the rusting of which of the following?
(a) Iron (b) Zinc (c) Aluminium (d) Copper
Ans: (a) Iron

9. Paheli mother made a concentrated sugar syrup by dissolving sugar in hot water. On cooling, crystals of sugar got separated. This indicates a:
(a) physical change that can be reversed
(b) chemical change that can be reversed
(c) physical change that cannot be reversed
(d) chemical change that cannot be reversed
Ans: (a) physical change that can be reversed

10. Which of the following is an example of physical change?
(a) A bud turning into a flower (b) Rusting of iron
(c) Boiling of water (d) Ripening of a tomato
Ans: (c) Boiling of water

11. Properties like size, shape, colour, state of a substance are
(a) chemical properties (b) mental properties
(c) physical properties (d) physicochemical properties
Ans: (c) physical properties

12. Ships suffer a lot of damage from rusting in spite of being painted because:
(a) sea water contains many salts (b) sea water is bitter
(c) sea water is sour (d) sea water is sweet
Ans: (a) sea water contains many salts

13. When you leave a piece of iron in the open for some time, it acquires a film of brownish substance. The substance is called:
(a) acid (b) base (c) rust (d) none of these
Ans: (c) rust

14. Which of the following changes is accompanied by sound?
(a) Photosynthesis (b) Spoilage of food
(c) Explosion of fireworks (d) None of these
Ans: (c) Explosion of fireworks

15. Which characteristic best describes a physical change?
(a) Composition changes
(b) Composition stays the same
(c) Form stays the same (d) Mass is lost
Ans: (c) Form stays the same

16. Which among the following is a physical change?
(a) Burning of wood (b) Ripening of fruit
(c) Cutting a log of wood in small pieces
(d) Cooking of food
Ans: (c) Cutting a log of wood in small pieces

17. A change that affects iron articles and slowly destroys them is:
(a) Rusting (b) Galvanisation
(c) Chemical change (d) Crystallisation
Ans: (a) Rusting

18. Which of these is the smallest particle?
(a) A molecule (b) An atom
(c) A speck of dust (d) A water drop
Ans: (b) An atom

19. In chemical change
(a) Change is reversible
(b) Molecules of a substance change
(c) Molecules of the substance do not change
(d) Substance remain same
Ans: (b) Molecules of a substance change

20. Which of the following is a reversible change?
(a) Melting of ice (b) Germination of seed
(c) Burning of matchstick
(d) Changing of milk into curd
Ans: (a) Melting of ice

21. Rusting of iron is a chemical change because:
(a) it is temporary
(b) it can be cleaned and the original substance recovered
(c) Burning of matchstick
(d) a new substance is formed
Ans: (d) a new substance is formed

22. Which of the following statement is incorrect for a chemical reaction?
(a) Heat may be given out but never absorbed
(b) Sound may be produced

(c) A colour change may take place
(d) A gas may be evolved

Ans: (a) Heat may be given out but never absorbed

23. Rusting occurs when iron is exposed to

(a) oxygen and water (b) soil and rain
(c) breeze and sunlight (d) salt water and clouds

Ans: (a) oxygen and water

24. Which is the formula of ozone?

(a) Fe_2O_3 (b) Fe_3O_2 (c) O_2 (d) O_3

Ans: (d) O_3

25. The reddish brown deposit formed on iron nails kept in a solution of copper sulphate is:

(a) Cu_2O (b) Cu (c) CuO (d) CuS

Ans: (b) Cu

26. A chemical change may involve:

(a) Change in colour only (b) Change in temperature only
(c) Evolution of gas only (d) All of these

Ans: (d) All of these

Assertion & Reason Questions

1. Assertion (A): Rusting of iron occurs when iron is exposed to moist air.
Reason (R): Rusting requires the presence of both water and oxygen.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true

Ans: a) Both A and R are true, and R is the correct explanation of A

2. Assertion (A): Burning of a magnesium ribbon is a chemical change.
Reason (R): It forms a new substance, magnesium oxide, which cannot be reversed to magnesium easily.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true

Ans: a) Both A and R are true, and R is the correct explanation of A

3. Assertion (A): Melting of ice is a chemical change.
Reason (R): It produces water, which has a different composition than ice.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true

Ans: d) A is false, R is true

4. Assertion (A): Crystallisation is used to purify solids like salt and sugar.
Reason (R): Impurities remain dissolved in the solution while pure crystals separate out on cooling.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true

Ans: a) Both A and R are true, and R is the correct explanation of A

5. Assertion (A): Boiling of water is a physical change.
Reason (R): During boiling, no new substance is formed; only the state of water changes from liquid to gas.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true

Ans: a) Both A and R are true, and R is the correct explanation of A

Matching

1. Examples of Physical Changes

Change	Type
(i) Melting of ice	Physical
(ii) Boiling of water	Physical
(iii) Tearing of paper	Physical
(iv) Burning of paper	Chemical

Choose the correct option
a) (i), (ii), (iii) only b) (i), (iii), (iv) only c) All (i–iv) d) (ii), (iii), (iv) only

Ans: a) (i), (ii), (iii) only

2. Examples of Chemical Changes

Change	Observation
(i) Rusting of iron	Formation of new substance

(ii) Cooking food	Permanent change in properties
(iii) Ripening of fruit	Change in taste, color, texture
(iv) Freezing water	Physical change

Choose the correct option

a) (i), (ii), (iii) only b) (i), (ii), (iv) only c) All (i–iv) d) (ii), (iii), (iv) only

Ans: a) (i), (ii), (iii) only

3. Physical Properties Affected / Not Affected

Change	**Affected Properties**
(i) Dissolving salt in water	Only physical properties
(ii) Breaking glass	Shape, size, not chemical composition
(iii) Burning candle	Chemical composition changes
(iv) Bending metal wire	Only shape changes

Choose the correct option

a) (i), (ii), (iv) only b) (i), (ii), (iii) only c) All (i–iv) d) (ii), (iii), (iv) only

Ans: a) (i), (ii), (iv) only

4. Indicators of Chemical Change

Observation	**Example**
(i) Gas formation	Vinegar + baking soda
(ii) Color change	Ripening fruit, rusting iron
(iii) Precipitate formation	Mixing solutions of $AgNO_3$ + NaCl
(iv) Melting	Ice → Water

Choose the correct option

a) (i), (ii), (iii) only b) (i), (ii), (iv) only c) All (i–iv) d) (ii), (iii), (iv) only

Ans: a) (i), (ii), (iii) only

5. Reversible vs Irreversible Changes

Change	**Type**
(i) Freezing water	Reversible
(ii) Dissolving sugar in water	Reversible
(iii) Burning paper	Irreversible
(iv) Rusting of iron	Irreversible

Choose the correct option

a) (i), (ii), (iii) only b) (i), (ii), (iv) only c) All (i–iv) d) (ii), (iii), (iv) only

Ans: b) (i), (ii), (iv) only

Choose the Correct Sentence/Statement

1. Which of the following are correct?

a) Rusting of iron is a chemical change. b) Moist air is necessary for rusting to occur.

c) Rusting can be prevented by painting or greasing. d) Rusting makes iron stronger.

A) a, b and c B) b and d C) a and d D) c and d

Ans: A) a, b and c

2. Which of the following are correct?

a) Melting of ice is a physical change. b) Burning of paper is a chemical change.

c) Freezing of water is a chemical change. d) Evaporation of water is a physical change.

A) a, c and d B) a, b and d C) b and c D) a, b, c and d

Ans: B) a, b and d

3. Which of the following are correct?

a) Crystallisation is used to obtain pure crystals from a solution. b) Crystallisation is a chemical change.

c) Sugar crystals can be prepared by crystallisation. d) Crystallisation is a physical change.

A) a and b B) b, c and d C) a, c and d D) b and d

Ans: C) a, c and d

4. Which of the following are correct?

a) Formation of curd from milk is a chemical change. b) Digestion of food is a physical change.

c) Cooking of food is a chemical change. d) Tearing a piece of paper is a chemical change.

A) a and c B) a, b and d C) a, c and d D) b and d

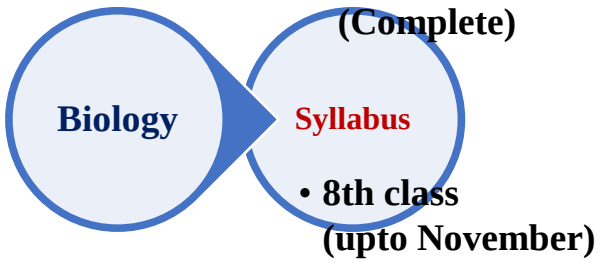
Ans: A) a and c

SCHOLASTIC APTITUDE TEST

Biology

114 -125 Questions

12 Marks



Chapter: Microorganisms: Friend and Foe — 8th CLASS

1. Microorganisms are also called:
a) Big animals b) Microbes
c) Organisms with lungs d) Fossils
Ans: b) Microbes

2. Which of these is not a microorganism?
a) Amoeba b) Earthworm c) Virus d) Algae
Ans: b

3. Which microorganism can prepare its own food?
a) Virus b) Bacteria c) Algae d) Protozoa
Ans: c

4. Fungi are:
a) Autotrophic b) Heterotrophic
c) Only parasitic d) Producers of oxygen
Ans: b

5. Viruses reproduce:
a) Only inside the host cell b) On dead wood
c) In distilled water d) In sunlight
Ans: a

6. Rhizobium is an example of:
a) Protozoa b) Bacteria c) Fungi d) Algae
Ans: b

7. Yeast is a:
a) Bacterium b) Fungus c) Protozoan d) Virus
Ans: b

8. Amoeba belongs to which group?
a) Protozoa b) Bacteria c) Virus d) Algae
Ans: a

9. Which microorganism lives in the intestine of humans and helps in digestion?
a) Lactobacillus b) Amoeba
c) Penicillium d) Rhizopus
Ans: a

10. The microorganism which is smaller than bacteria is:
a) Yeast b) Virus c) Algae d) Fungi
Ans: b

11. The microorganism used in production of alcohol is:
a) Penicillium b) Lactobacillus
c) Yeast d) Rhizobium
Ans: c

12. Antibiotic "penicillin" is obtained from:
a) Algae b) Virus c) Fungus d) Bacteria
Ans: c

13. Bacteria that fix nitrogen in soil are:
a) Lactobacillus b) Rhizobium c) Plasmodium d) Yeast
Ans: b

14. Vaccines protect us from diseases by:
a) Killing all microbes in body b) Developing immunity
c) Supplying antibiotics d) Producing vitamins
Ans: b

15. Lactobacillus converts milk into:
a) Butter b) Curd c) Cheese only d) Yoghurt and curd
Ans: b

16. Alcoholic fermentation of sugar is carried out by:
a) Fungi (yeast) b) Protozoa
c) Blue-green algae d) Virus
Ans: a

17. A vaccine for smallpox was discovered by:
a) Louis Pasteur b) Edward Jenner
c) Robert Koch d) Alexander Fleming
Ans: b

18. The process of making food items by action of microbes is:
a) Fermentation b) Putrefaction
c) Sterilisation d) Decay
Ans: a

19. Microorganisms are used in producing:
a) Bread, alcohol, antibiotics b) Paper, stones, ink
c) Plastic, glass d) Oil, petrol
Ans: a

20. Which microorganism is used in making antibiotics and organic acids?
a) Virus b) Algae c) Fungi & bacteria d) Protozoa
Ans: c

21.The disease caused by *Plasmodium* is:
a) Dengue b) Malaria c) Cholera d) Polio
Ans: b

22. Tuberculosis is caused by:
a) Virus b) Bacterium c) Protozoa d) Fungi
Ans: b

23. Cholera spreads through:
a) Mosquito bite b) Contaminated water & food
c) Air d) Touch only
Ans: b

24. Measles is caused by:
a) Virus b) Bacterium c) Protozoan d) Fungus
Ans: a

25. Food poisoning is mainly caused by:
a) Lactobacillus b) Salmonella / Clostridium
c) Yeast d) Rhizobium
Ans: b

26. The microorganism causing leprosy is:
a) Virus b) Bacterium c) Protozoan d) Fungus
Ans: b

27. Carriers of malaria parasite are:
a) Houseflies b) Cockroaches
c) Female Anopheles mosquitoes d) Bees
Ans: c

28. Polio spreads through:
a) Contaminated water b) Air c) Mosquito bite d) Touch
Ans: a

29. Anthrax is a dangerous disease of:
a) Plants only b) Humans and animals
c) Soil microbes d) Fish
Ans: b

30. A viral disease prevented by oral drops in children is:
a) Measles b) Polio c) Dengue d) Chickenpox
Ans: b

31. The process of keeping food safe from microbial attack is called:
a) Decomposition b) Preservation
c) Putrefaction d) Distillation

Ans: b

32. Common salt is used to preserve:
a) Bread b) Pickles and fish c) Milk d) Butter only
Ans: b

33. Which method removes moisture from food?
a) Boiling b) Drying c) Freezing d) Pasteurisation
Ans: b

34. Heating milk at 70°C for 15–30 s and then cooling quickly is called:
a) Sterilisation b) Pasteurisation
c) Dehydration d) Fermentation
Ans: b

35. The process of cooling food to slow microbial growth is:
a) Pasteurisation b) Refrigeration
c) Drying d) Canning
Ans: b

36.Which chemical is used to preserve jam and squashes?
a) Sodium chloride b) Sugar c) Oil d) Alcohol
Ans: b

37. Oil and vinegar are used to preserve:
a) Vegetables and pickles b) Bread c) Curd d) Honey
Ans: a

38. Canning preserves food by:
a) Heating & sealing in air-tight containers b) Freezing
c) Drying d) Fermentation
Ans: a

39. Keeping food in deep freezer slows microbial growth because:
a) Oxygen increases b) Temperature is very low
c) Moisture increases d) Air circulation
Ans: b

40. Milk is preserved naturally by adding:
a) Salt b) Sugar
c) Lactobacillus culture (curd) d) Vinegar
Ans: c

41. Blue-green algae (cyanobacteria) improve soil fertility by:
a) Making humus b) Fixing nitrogen
c) Adding salt d) Producing oxygen only
Ans: b

42. A virus that infects bacteria is called:
a) Retrovirus b) Bacteriophage
c) Fungivirus d) Protozoophage
Ans: b

43. Biofertilisers contain:
a) Only manure b) Sand and soil
c) Chemical fertilisers
d) Living microorganisms like Rhizobium, Azotobacter
Ans: d

44. Edward Jenner developed the first vaccine for:
a) Polio b) Smallpox c) Rabies d) Tetanus
Ans: b

45. The first antibiotic discovered was:
a) Tetracycline b) Penicillin
c) Streptomycin d) Chloramphenicol
Ans: b

46. Microorganisms that spoil food grow faster in:
a) Dry places b) Moist and warm places
c) Refrigerator d) Salty solution
Ans: b

47. Yeast produces alcohol and carbon dioxide from sugar in:
a) Photosynthesis b) Fermentation
c) Respiration in air only
d) Anaerobic respiration (fermentation)
Ans: d

48. Houseflies contaminate food by:
a) Carrying microbes on legs and mouth b) Eating food
c) Laying eggs only d) Cutting food
Ans: a

49. Which microorganism is used in the production of antibiotics like streptomycin?
a) Virus b) Streptomyces (bacterium)
c) Algae d) Protozoa
Ans: b

50. Sprouting of seeds increases nutrition because of the activity of:
a) Yeast b) Enzymes & microbes
c) Fungi only d) Viruses
Ans: b

Assertion & Reason

1. Assertion (A): Rhizobium bacteria help in increasing soil fertility.
Reason (R): They convert atmospheric nitrogen into soluble forms that plants can absorb.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

2. Assertion (A): Yeast is used in baking bread and cakes.
Reason (R): Yeast releases carbon dioxide during respiration, which makes the dough rise.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

3. Assertion (A): Houseflies are carriers of pathogens that cause cholera and typhoid.
Reason (R): They lay eggs in the human intestine, which leads to these diseases.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false
d) A is false, R is true
Ans: c) A is true, R is false

4. Assertion (A): Vaccines protect us from diseases by stimulating the body to produce antibodies.
Reason (R): Vaccines contain dead or weakened microorganisms that help develop immunity.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false
d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

5. Assertion (A): Salting and pickling are methods to preserve food.
Reason (R): Salt and oil prevent the growth of microorganisms in food.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false
d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

Matching

1. Uses of Microorganisms

Match **microorganisms** with their **uses**:

Column A	Column B
(a) Yeast	1. Production of antibiotics
(b) Lactobacillus	2. Alcoholic fermentation
(c) Penicillium	3. Curd formation
(d) Rhizobium	4. Nitrogen fixation

A) a-2, b-3, c-1, d-4 B) a-3, b-4, c-1, d-2 C) a-2, b-4, c-3, d-1 D) a-1, b-2, c-4, d-3
Ans: A) a-2, b-3, c-1, d-4

2. Diseases Caused by Microorganisms

Match **disease** with the **causative organism**:

Column A	Column B
(a) Tuberculosis	1. Plasmodium
(b) Malaria	2. Mycobacterium
(c) Polio	3. Virus
(d) Anthrax	4. Bacillus anthracis

A) a-2, b-1, c-3, d-4 B) a-4, b-1, c-2, d-3 C) a-1, b-2, c-3, d-4 D) a-2, b-3, c-1, d-4
Ans: A) a-2, b-1, c-3, d-4

3. Food Spoilage Agents

Match **food item** with the microorganism that commonly spoils it:

Column A	Column B
(a) Bread	1. Rhizopus (bread mould)
(b) Pickles	2. Fungi
(c) Curd	3. Lactobacillus
(d) Citrus fruits	4. Penicillium

A) a-1, b-2, c-3, d-4 B) a-2, b-1, c-4, d-3 C) a-1, b-4, c-3, d-2 D) a-3, b-1, c-2, d-4
Ans: A) a-1, b-2, c-3, d-4

4. Industrial Products

Match **product** with the **microorganism** producing it:

Column A	Column B
(a) Alcohol	1. Yeast
(b) Antibiotics (Penicillin)	2. Penicillium
(c) Organic acids	3. Aspergillus
(d) Vaccines	4. Dead or weakened microbes

A) a-1, b-2, c-3, d-4 B) a-3, b-1, c-4, d-2 C) a-1, b-4, c-2, d-3 D) a-2, b-3, c-1, d-4

Ans: A) a-1, b-2, c-3, d-4

5. Methods of Food Preservation

Match **method** with its **purpose / example**:

Column A	Column B
(a) Pasteurisation	1. Heating milk at 70°C then cooling quickly
(b) Refrigeration	2. Slows microbial growth
(c) Pickling	3. Preserves by salt and oil
(d) Drying	4. Removes moisture from food

A) a-1, b-2, c-3, d-4 B) a-2, b-1, c-4, d-3 C) a-1, b-4, c-2, d-3 D) a-3, b-2, c-1, d-4

Ans: A) a-1, b-2, c-3, d-4

Choose the Correct or Incorrect Sentence/Statement

1. Which of the following statements about the usefulness of microorganisms are correct?

a) Yeast is used in baking and brewing industries. b) Lactobacillus converts milk into curd.

c) Penicillium is used in making an antibiotic. d) Rhizobium damages the roots of leguminous plants.

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

Ans: A) a, b and c

2. Find the incorrect statement.

a) Protozoa such as Plasmodium cause malaria. b) Virus causes tuberculosis.

c) Bacteria cause cholera. d) Fungi can cause skin infections.

A) Only b B) a and b C) b and c D) a and d

Ans: A) Only b

3. Choose the correct statements regarding food preservation.

a) Drying removes moisture and prevents growth of microbes.

b) Pasteurisation is heating milk to kill harmful microorganisms.

c) Salting and sugaring draw out water from food items. d) Adding excess water prevents growth of microorganisms.

A) a, b and c B) a and d C) b, c and d D) a, b, c and d

Ans: 1) a, b and c

4. Which of the following are correct about Rhizobium?

a) It lives freely in the soil and fixes nitrogen without plants.

b) It forms a symbiotic association with roots of leguminous plants.

c) It converts atmospheric nitrogen into usable compounds. d) It causes root rot in legumes.

A) b and c B) a, b and c C) a and d D) b and d

Ans: A) b and c

5. Find the incorrect statement about harmful effects of microorganisms.

a) Spoilage of food is caused by the growth of microorganisms.

b) Some microorganisms produce toxic substances in food.

c) All microorganisms are harmful to humans. d) Certain fungi cause plant diseases.

A) Only c B) a and b C) b and c D) c and d

Ans: A) Only c

Chapter: Crop Production and Management — 8th CLASS

1. Cultivation of crops for food and other products is called:
a) Horticulture b) Agriculture
c) Apiculture d) Pisciculture
Ans: b

2. The first step in crop production is:
a) Harvesting b) Irrigation
c) Preparation of soil d) Weeding
Ans: c

3. Loosening and turning of soil is called:
a) Leveling b) Hoeing
c) Ploughing (tilling) d) Sowing
Ans: c

4. Tool used for ploughing traditionally is:
a) Cultivator b) Tractor
c) Wooden plough d) Harrow
Ans: c

5. The practice of growing two or more crops on the same field simultaneously is:
a) Crop rotation b) Intercropping
c) Monoculture d) Mixed farming
Ans: b

6. Sowing is done with:
a) Seed drill / funnel b) Hoe c) Sickle d) Shovel
Ans: a

7. Which is not a kharif crop?
a) Paddy b) Wheat c) Maize d) Soyabean
Ans: b

8. A rabi crop among these is:
a) Cotton b) Barley c) Paddy d) Groundnut
Ans: b

9. Good quality seeds should be:
a) Diseased and broken b) Healthy and viable
c) Hollow d) Over-dried
Ans: b

10. Which is a cash crop?
a) Wheat b) Cotton c) Gram d) Maize
Ans: b

11. Adding nutrients to soil through decayed organic matter is called:
a) Fertiliser application b) Manuring
c) Liming d) Composting
Ans: b

12. Urea, NPK and superphosphate are:
a) Organic manures b) Chemical fertilisers
c) Biofertilisers d) Pesticides
Ans: b

13. Excessive use of chemical fertilisers may:
a) Improve soil structure b) Increase humus
c) Kill useful microbes & pollute water
d) Stop weeds completely
Ans:c

14. The supply of water to crops at regular intervals is:
a) Irrigation b) Weeding c) Harvesting d) Sowing
Ans: a

15. Drip irrigation is most suitable for:
a) Paddy fields b) Sandy soils & orchards
c) Wheat fields only d) Flooded areas
Ans: b

16. Canal irrigation is mainly used in:
a) Rocky areas b) Plains with rivers
c) Deserts only d) Hills
Ans: b

17. Sprinkler irrigation is useful for:
a) Uneven lands
b) Waterlogging areas
c) Salt farms
d) Deep ponds
Ans: a

18. Manure improves soil by:
a) Adding only one nutrient
b) Increasing organic matter & water-holding capacity
c) Reducing microbes d) Making soil acidic only
Ans: b

19. Biofertilisers contain:
a) Living nitrogen-fixing microbes b) Dead plants
c) Only animal waste d) Lime and gypsum
Ans: a

20. The source of green manure is:
a) Dry straw b) Leguminous plants ploughed into soil
c) Farmyard waste d) Rotten bread
Ans: b

21. Removal of weeds is called:
a) Harvesting b) Hoeing c) Weeding d) Threshing
Ans: c

22. Chemicals used to kill weeds are called:
a) Pesticides b) Herbicides
c) Fungicides d) Rodenticides
Ans: b

23.The method of controlling weeds without chemicals is:
a) Using sickle or hoe b) Irrigation
c) Crop rotation d) Both (a) & (c)
Ans: d

24. Which one is a pest?
a) Earthworm b) Locust c) Honeybee d) Cow
Ans: b

25. Insects, rodents and fungi mainly damage:
a) Soil texture b) Stored grains
c) Farmyard manure d) Water channels
Ans: b

26. Grain silos and godowns are disinfected to prevent:
a) Germination b) Pest attack & spoilage
c) Photosynthesis d) Soil erosion
Ans: b

27. Pesticides must be used carefully because:
a) They add vitamins to crops
b) They may pollute soil, water & harm health
c) They increase humus only
d) They stop irrigation
Ans: b

28. The stage of cutting mature crop is called:
a) Harvesting b) Sowing c) Ploughing d) Threshing
Ans: a

29. Separation of grain from chaff is called:
a) Harvesting b) Winnowing
c) Threshing d) Storage
Ans:: c

30.Drying harvested grains before storage is important to
a) Increase weight b) Prevent growth of moulds
c) Remove nutrients d) Reduce seed germination
Ans: b

31. Rearing of animals for milk, meat, eggs etc. is called:
a) Agriculture b) Animal husbandry
c) Poultry d) Fisheries
Ans: b

32. Rearing of honey bees is:
a) Apiculture b) Sericulture
c) Pisciculture d) Horticulture
Ans: a

33. Sericulture is related to:
a) Silkworm rearing b) Fish rearing
c) Goat farming d) Bee keeping
Ans: a

34. Poultry farming gives:
a) Wool b) Meat & eggs c) Honey d) Silk
Ans: b

35. Composite fish culture means:
a) Only one variety of fish b) Deep-sea fishing
c) Growing several compatible species in one pond
d) Catching wild fish
Ans: c

36. White revolution is related to:
a) Egg production b) Fish production
c) Milk production d) Wool production
Ans: c

37. Which feed is rich in proteins for cattle?
a) Straw b) Oil cakes & legumes
c) Dry grass d) Silica soil
Ans: b

38. Vaccines are given to farm animals to:
a) Increase weight only
b) Protect from infectious diseases
c) Improve fertility only d) Change colour
Ans: b

39. Rearing, breeding and caring of sheep for wool is called:
a) Poultry b) Sheep husbandry
c) Sericulture d) Pig farming
Ans: b

40. The process of removing fleece of sheep is:
a) Shearing b) Sorting c) Scouring d) Carding
Ans: a

41. Crop rotation helps in:
a) Soil erosion b) Pest resistance & soil fertility
c) Flood control d) None
Ans: b

42. Cereals are rich in:
a) Proteins b) Fats
c) Carbohydrates d) Minerals only
Ans: c

43. Pulses are good source of:
a) Starch b) Protein c) Fat only d) Minerals only
Ans: b

44. Leguminous plants enrich soil by:
a) Adding humus
b) Fixing atmospheric nitrogen via Rhizobium
c) Reducing pH d) Absorbing water
Ans: b

45. The process of supplying nutrients to plants through irrigation water is:
a) Spraying b) Fertigation c) Manuring d) Mulching
Ans: b

46. Hybrid seeds are produced by:
a) Cloning b) Crossing two different varieties
c) Sprouting d) Germinating
Ans: b

47. The main food crops of India are:
a) Wheat, rice, millets, pulses b) Coffee & tea
c) Rubber & cotton d) Apple & mango
Ans: a

48. The practice of supplying nutrients through dead & decayed matter is:
a) Composting b) Fertilisation
c) Humidification d) None
Ans: a

49. Sickle is used for:
a) Harvesting crops b) Weeding only
c) Ploughing d) Irrigation
Ans: a

50. Storage structures like silos, bins and granaries are used to:
a) Grow crops
b) Store grains safely from pests & moisture
c) Mix manure d) Prepare compost
Ans: b

Assertion & Reason

1. Assertion (A): Loosening and turning of soil is called tilling or ploughing.
Reason (R): It helps roots to penetrate deeply and facilitates growth of earthworms and microbes.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true

Ans: a) Both A and R are true, and R is the correct explanation of A

2. Assertion (A): Manure improves soil texture and water-holding capacity.
Reason (R): Manure is a chemical substance rich in nitrogen, phosphorus and potassium.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true

Ans: c) A is true, R is false

3. Assertion (A): Sprinkler irrigation is suitable for sandy soil and uneven land.
Reason (R): It supplies water drop by drop directly to the roots of plants.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true

Ans: b) Both A and R are true, but R is not the correct explanation of A

4. Assertion (A): Dried and cleaned grains should be stored in jute bags or metal bins.
Reason (R): Removing moisture and dirt prevents attack by insects, fungi and bacteria.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true

Ans: a) Both A and R are true, and R is the correct explanation of A

5. Assertion (A): Weedicides are sprayed to destroy weeds in crop fields.
Reason (R): Weeds compete with crops for nutrients, light, water and space.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true

Ans: a) Both A and R are true, and R is the correct explanation of A

Matching

1. Agricultural Practices

Match the practice with its purpose:

Column A	Column B
(a) Ploughing	1. Turning and loosening soil
(b) Sowing	2. Putting seeds into the soil
(c) Manuring	3. Adding nutrients to soil
(d) Irrigation	4. Supplying water to crops

A) a-1, b-2, c-3, d-4 B) a-3, b-1, c-4, d-2 C) a-1, b-4, c-2, d-3 D) a-2, b-1, c-3, d-4

Ans: A) a-1, b-2, c-3, d-4

2. Sources of Irrigation

Match the source with the type of irrigation:

Column A	Column B
(a) Canal	1. Surface water
(b) Tube well	2. Underground water
(c) River lift	3. Surface water
(d) Rainwater harvesting	4. Storage & recharge

A) a-1, b-2, c-3, d-4 B) a-3, b-2, c-4, d-1 C) a-1, b-4, c-2, d-3 D) a-2, b-1, c-3, d-4

Ans: A) a-1, b-2, c-3, d-4

3. Manure and Fertiliser

Match the item with its description:

Column A	Column B
(a) Compost	1. Decayed plant & animal waste
(b) Green manure	2. Ploughed-in leguminous plants
(c) Urea	3. Nitrogen-rich chemical fertiliser
(d) Superphosphate	4. Phosphorus fertiliser

A) a-1, b-2, c-3, d-4 B) a-2, b-1, c-4, d-3 C) a-3, b-4, c-2, d-1 D) a-1, b-4, c-2, d-3

Ans: A) a-1, b-2, c-3, d-4

4. Tools Used in Agriculture

Match the tool with its use:

Column A	Column B
(a) Plough	1. Tilling soil & adding manure
(b) Hoe	2. Removing weeds & loosening soil
(c) Seed drill	3. Sowing seeds uniformly
(d) Sprayer	4. Applying pesticides/fertilisers

A) a-1, b-2, c-3, d-4 B) a-2, b-3, c-1, d-4 C) a-1, b-4, c-2, d-3 D) a-3, b-2, c-4, d-1

Ans: A) a-1, b-2, c-3, d-4

5. Harvesting and Storage

Match the process with its meaning:

Column A	Column B
(a) Harvesting	1. Cutting mature crop
(b) Threshing	2. Separating grains from stalks
(c) Winnowing	3. Removing husk/chaff from grain
(d) Storage	4. Keeping grains in safe, dry place

A) a-1, b-2, c-3, d-4 B) a-2, b-3, c-1, d-4 C) a-1, b-3, c-4, d-2 D) a-4, b-1, c-2, d-3

Ans: A) a-1, b-2, c-3, d-4

Choose the Correct or Incorrect Sentence/Statement

1. Which of the following statements about agricultural practices are correct?

a) Ploughing helps in turning and loosening the soil. b) Sowing should be done at proper depth and distance.
c) Manuring replenishes nutrients in the soil. d) Harvesting means adding fertilizers to crops.

A) a, b and c B) a, c and d C) b and d D) a, b, c and d

Ans: A) a, b and c

2. Identify the incorrect statement about irrigation.

a) Sprinkler system is useful for sandy soil. b) Drip irrigation conserves water.
c) Excess irrigation improves soil fertility. d) Irrigation is essential for proper growth of crops.

A) Only c B) a and c C) b and c D) Only a

Ans: A) Only c

3. Which of the following are correct about fertilizers and manure?

a) Fertilizers are chemical substances rich in nutrients. b) Manure improves soil fertility and water retention.
c) Continuous use of fertilizers increases soil fertility. d) Organic manure is environment-friendly.

A) a, b and d B) a, c and d C) b, c and d D) a, b, c and d

Ans: A) a, b and d

4. Find the incorrect statement.

a) Dried grains can be stored for longer periods. b) Grains are stored in silos and granaries.
c) Fumigation protects grains from pests. d) Moist grains are best for long storage.

A) Only a B) Only d C) c and d D) b and d

Ans: B) Only d

5. Choose the correct statements.

a) Kharif crops are sown in June–July and harvested in September–October.
b) Wheat, mustard, and gram are examples of Rabi crops.
c) Paddy, maize, and cotton are examples of Kharif crops. d) Rabi crops are grown during the rainy season.

A) a, b and c B) b and d C) a and d D) a, b, c and d

Ans: A) a, b and c

Chapter: Reproduction in Animals 8th CLASS

1. The process by which living organisms produce new individuals is called:
a) Regeneration b) Reproduction
c) Fertilisation d) Budding
Ans: b) Reproduction

2. Organisms that reproduce by binary fission:
a) Amoeba & Paramecium b) Frog & Fish
c) Birds d) Human beings
Ans: a

3. Hydra reproduces asexually by:
a) Fragmentation b) Budding
c) Spore formation d) Regeneration
Ans: b

4. Asexual reproduction produces:
a) Variations in offspring b) Identical offspring (clones)
c) Only females d) Gametes
Ans: b

5. Sexual reproduction requires:
a) Only one parent b) Two parents & gametes
c) Buds and spores d) Only fertilised eggs
Ans: b

6. Which of the following is an oviparous animal?
a) Cow b) Cat c) Hen d) Dog
Ans: c

7. Animals giving birth to young ones directly are called:
a) Oviparous b) Viviparous
c) Metamorphic d) Incubatory
Ans: b

8. Which of the following shows external fertilisation?
a) Cat b) Hen c) Frog d) Dog
Ans: c

9. Internal fertilisation occurs in:
a) Fish b) Amphibians
c) Birds & mammals d) Frogs only
Ans: c

10. Zygote is formed by fusion of:
a) Two sperms b) Egg & sperm
c) Egg & ovary d) Ovum & uterus
Ans: b

11. Male reproductive cells are called:
a) Eggs b) Sperms c) Zygotes d) Larvae
Ans: b

12. Female reproductive cells are:
a) Sperms b) Embryos c) Eggs (ova) d) Larvae
Ans: c

13. Sperm is produced in:
a) Testes b) Ovary c) Uterus d) Fallopian tube
Ans: a

14. Eggs are produced in:
a) Uterus b) Ovary c) Vagina d) Testes
Ans: b

15. The site where fertilisation usually occurs in humans:
a) Ovary b) Fallopian tube (oviduct)
c) Uterus d) Cervix
Ans: b

16. Which part provides protection and nourishment to the developing embryo?
a) Vagina b) Placenta c) Ovary d) Testis
Ans: b

17. The time between fertilisation and birth is called:
a) Gestation period b) Incubation period
c) Menstruation d) Reproductive cycle
Ans: a

18. What is the function of the uterus?
a) Stores sperms b) Forms eggs
c) Houses and nourishes embryo
d) Produces hormones only
Ans: c

19. Male gametes are:
a) Large & non-motile b) Small & motile
c) Large & motile d) Same size as eggs
Ans: b

20. Which statement is correct about sperms?
a) Produced by ovary
b) Single cell with tail for movement
c) Multicellular d) Formed in uterus
Ans: b

21. Fertilisation in human beings is:
a) External b) Internal c) Budding d) Binary fission
Ans: b

22. The zygote divides repeatedly to form:
a) Foetus b) Embryo c) Egg d) Sperm
Ans: b

23. The stage when the body parts of the embryo can be identified is called:
a) Blastula b) Foetus c) Zygote d) Larva
Ans: b

24. In frogs, fertilisation occurs:
a) Inside female body b) Outside female body in water
c) In male body d) Inside egg shell
Ans: b

25. Viviparous animals include:
a) Lizard & frog b) Cat & dog
c) Pigeon & hen d) Fish & frog
Ans: b

26. Fertilised egg implants and grows in:
a) Ovary b) Uterus wall c) Oviduct d) Placenta
Ans: b

27. Which of these protects the foetus and allows exchange of nutrients with the mother?
a) Amniotic fluid only b) Placenta
c) Ovary d) Cervix
Ans: b

28. Which is a correct sequence of development?
a) Zygote → Embryo → Foetus
b) Foetus → Embryo → Zygote
c) Embryo → Zygote → Foetus
d) Zygote → Foetus → Embryo
Ans: a

29. The baby is pushed out of mother's body through:
a) Oviduct b) Urethra
c) Vagina (birth canal) d) Placenta
Ans: c

30. Which statement is false?
a) Zygote has one parent's DNA
b) Zygote forms by fusion of male & female gametes
c) Zygote develops into embryo
d) Embryo develops into foetus
Ans: a

31. Birds reproduce by:
a) Budding b) Laying eggs
c) Binary fission d) Giving birth to live young
Ans: b

32. Which is an example of viviparous animal?
a) Cow b) Hen
c) Crocodile d) Snake (egg-laying)
Ans: a

33.Animals that lay eggs are known as:
a) Viviparous b) Oviparous
c) Larviparous d) Foetal
Ans: b

34. Metamorphosis is:
a) Formation of zygote
b) Transformation of larva into adult
c) Internal fertilisation d) Gestation period
Ans: b

35. In frogs, the larval stage is called:
a) Caterpillar b) Tadpole c) Maggot d) Pupa
Ans: b

36. Which group shows metamorphosis?
a) Fish & birds b) Frog & butterfly
c) Cow & cat d) Hen & dog
Ans: b

37. Which does not undergo metamorphosis?
a) Butterfly b) Frog c) Hen d) Silk moth
Ans: c

38. Insect pupa transforms into:
a) Egg b) Adult c) Larva d) Embryo
Ans: b

39. The tadpole breathes through:
a) Lungs only b) Gills c) Skin only d) Spiracles only
Ans: b

40. Which adaptation helps embryo inside egg to get nourishment?
a) Shell b) Yolk c) Albumin d) Air space
Ans: b

41. Which of the following lays eggs with hard shell?
a) Cat b) Crocodile c) Cow d) Whale
Ans: b

42. Male reproductive organ that delivers sperms is:
a) Penis b) Scrotum c) Urethra only d) Ovary
Ans: a

43. Why is external fertilisation wasteful?
a) Needs more energy
b) Many gametes do not survive
c) Embryo dies inside mother d) Eggs are hard
Ans: b

44. Which structure connects foetus to placenta?
a) Umbilical cord b) Amniotic sac
c) Ovary d) Fallopian tube
Ans: a

45. In cockroach, fertilisation is:
a) External b) Internal c) Budding d) Binary fission
Ans: b

46. Which one is correctly matched?
a) Hen – Viviparous b) Cow – Oviparous
c) Frog – External fertilisation
d) Human – External fertilisation
Ans: c

47. After fertilisation, shell is formed around:
a) Zygote in uterus b) Fertilised egg of birds/reptiles
c) Sperm d) Placenta
Ans: b

48. What happens if fertilisation does not occur in human females?
a) Egg divides to form embryo
b) Menstruation begins
c) Zygote forms naturally d) Foetus develops in ovary
Ans: b

49. Which hormone regulates production of sperms?
a) Oestrogen b) Testosterone
c) Progesterone d) Insulin
Ans: b

50. The function of amniotic fluid is to:
a) Digest food for foetus
b) Protect embryo from shocks
c) Supply oxygen directly
d) Store wastes permanently
Ans: b

Assertion & Reason

1. **Assertion (A):** Sexual reproduction requires the fusion of male and female gametes.
Reason (R): Male gametes are produced in ovaries, and female gametes are produced in testes.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: c) A is true, R is false

2. Assertion (A): In internal fertilisation, fusion of gametes occurs inside the female body.
Reason (R): Internal fertilisation protects the developing embryo and provides better chances of survival.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

3. Assertion (A): Budding in hydra is an example of asexual reproduction.
Reason (R): A bud develops on the body of hydra, grows, and then detaches to form a new individual.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

4. Assertion (A): Oviparous animals give birth to young ones, while viviparous animals lay eggs.
Reason (R): Oviparous animals protect their young inside the mother's body.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: d) A is false, R is true

5. Assertion (A): After fertilisation, the zygote divides repeatedly to form an embryo.
Reason (R): The embryo gets nutrition from the mother's blood through the placenta.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

Matching

1. Modes of Reproduction & Examples

Mode	Example
(i) Oviparous	Hen
(ii) Viviparous	Cow
(iii) Asexual (binary fission)	Amoeba
(iv) Budding	Frog

Choose the correct option
a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (ii), (iii) only
Ans: d) (i), (ii), (iii) only

2. Internal Organs & Their Functions (Female)

Organ	Function
(i) Ovary	Produces eggs
(ii) Oviduct (fallopian tube)	Site of fertilisation
(iii) Uterus	Development of embryo
(iv) Bladder	Nourishes foetus

Choose the correct option
a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iii) only
Ans: a) (i), (ii), (iii) only

3. Stages in the Life Cycle of Frog

Stage	Description
(i) Egg	Laid in water
(ii) Tadpole	Larval stage with gills
(iii) Adult frog	Develops lungs & legs
(iv) Pupa	Resting stage

Choose the correct option
a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iii) only
Ans: a) (i), (ii), (iii) only

4. Fertilisation Types & Animals

Fertilisation	Example
(i) Internal	Cow
(ii) External	Fish
(iii) Internal	Hen
(iv) External	Lizard

Choose the correct option

a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (ii), (iii) only

Ans: d) (i), (ii), (iii) only

5. Asexual Reproduction & Examples

Method	Example
(i) Budding	Hydra
(ii) Binary fission	Amoeba
(iii) Fragmentation	Starfish
(iv) Regeneration	Earthworm

a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (ii), (iv) only

Ans: a) (i), (ii), (iii) only

Choose the Correct or Incorrect Sentence/Statement

1. Which of the following statements are correct?

a) Sexual reproduction involves fusion of male and female gametes.

b) Asexual reproduction takes place without gametes. c) Budding in Hydra is an example of sexual reproduction.

d) Binary fission in Amoeba is a form of asexual reproduction.

A) a, b and d B) a, c and d C) b, c and d D) a, b, c and d

Ans: A) a, b and d

2. Identify the incorrect statement.

a) Fertilisation is the fusion of male and female gametes. b) Fertilisation may occur inside or outside the female body.

c) In frogs, fertilisation takes place inside the female body.

d) Internal fertilisation gives better chances of survival to the embryo.

A) Only a B) Only c C) b and c D) a and d

Ans: B) Only c

3. Choose the correct statements.

a) Animals which give birth to young ones are called viviparous. b) Oviparous animals lay eggs.

c) Humans, cows, and cats are viviparous animals. d) Birds, frogs, and fish are oviparous animals.

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

Ans: C) a, b, c and d

4. Which of the following is incorrect about the development of embryo in humans?

a) The embryo gets nutrition from the mother's blood through the placenta.

b) The zygote divides repeatedly to form an embryo.

c) Embryo develops into a foetus inside the uterus. d) Embryo develops inside the oviduct until birth.

A) a and b B) Only d C) b and c D) c and d

Ans: B) Only d

5. Find the correct statements about metamorphosis.

a) Metamorphosis is the transformation of larva into adult through drastic changes.

b) Frogs and butterflies undergo metamorphosis.

c) Metamorphosis occurs in mammals such as cats and humans. d) In frogs, the larva is called tadpole.

A) a, b and d B) a and c C) b and d D) a, b, c and d

Ans: A) a, b and d

Chapter: Nutrition in Plants

7th CLASS

1. Which of the following is a nutrient?
(a) Protein (b) Fat
(c) Vitamin (d) All of these
Ans: (d) All of these

2. Human beings can be categorised as
(a) heterotrophs (b) autotrophs
(c) parasites (d) saprotrophs
Ans: (a) heterotrophs

3. The food making process in plants is called as
(a) glycolysis (b) photosynthesis
(c) photolysis (d) chemosynthesis
Ans: (b) photosynthesis

4.Which part of the plant is called its food factory?
(a) Fruits (b) Seeds (c) Leaves (d) Flowers
Ans: (c) Leaves

5. Tiny pores present on the surface of leaves through which gaseous exchange occurs are called
(a) stomata (b) guard cells
(c) food holes (d) gas holes
Ans: (a) stomata

6. What is the ultimate source of energy for all living organisms?
(a) Water energy (b) Wind energy
(c) Solar energy (d) Chemical energy
Ans: (c) Solar energy

7. Green pigment present in the leaves is called
(a) haemoglobin (b) globulin
(c) albumin (d) chlorophyll
Ans: (d) chlorophyll

8. During photosynthesis
(a) solar energy is converted into chemical energy
(b) solar energy is converted into mechanical energy
(c) chemical energy is converted into mechanical energy
(d) bioenergy is converted into chemical energy
Ans: (a) solar energy is converted into chemical energy

9. The raw materials for photosynthesis are
(a) CO_2 (b) CO_2, O_2, H_2
(c) N_2 water (d) O_2 water
Ans: (a) CO_2

10. Which one of the following is a parasite?
(a) Lichen (b) Cuscuta
(c) Pitcher plant (d) Rhizobium
Ans: (b) Cuscuta

11. Which of the following class of organisms belongs to saprotrophs?
(a) Fungi (b) Algae (c) Lichens (d) Bryophytes
Ans: (a) Fungi

12. Which of the following is an insectivorous plant?
(a) Pitcher plant (b) Indian telegraph plant
(c) 4 'O'clock plant (d) Cuscuta
Ans: (a) Pitcher plant

13. The bacterium which provides nitrogen to the leguminous plants is
(a) Rhizobium (b) Yeast (c) Fungi (d) Lichens
Ans: (a) Rhizobium

14. _____ gas is released by the plants in the process of Photosynthesis
(a) Oxygen (b) Carbon dioxide
(c) Nitrogen (d) Hydrogen
Ans: (a) Oxygen

15. Which of the following is true about saprophytes?
(a) They trap insects to meet their nitrogen requirement.
(b) They live on decaying organic matter
(c) They share their food and shelter
(d) Saprophytes contain chlorophyll.
Ans: (b) They live on decaying organic matter

16. Iodine used to detect presence of starch. It gives starch
(a) blue-black colour (b) red colour
(c) green colour (d) colourless appearance
Ans: (a) blue-black colour

17. Which one of the following is an autotroph?
(a) Lichens (b) Algae (c) Fungus (d) Cuscuta
Ans: (b) Algae

18. Pitcher plant traps insects because it
(a) is a heterotroph
(b) grows in soils which lacks nitrogen
(c) does not have chlorophyll
(d) has a digestive system like human beings
Ans: (b) grows in soils which lacks nitrogen

19. Yeast, mushroom and bread-mould are
(a) autotrophic (b) insectivorous
(c) saprophytic (d) parasitic
Ans: (c) saprophytic

20. When two organisms are good friends and live together and they benefit each other. Such an association of organisms is termed as
(a) saprophyte (b) parasite
(c) autotroph (d) symbiosis
Ans: (d) symbiosis

21. The organisms that provides nutrients to parasitic organisms are known as …
(a) hosts (b) parasite
(c) autotroph (d) heterotrophs
Ans: (a) hosts

22. Chlorophyll is present inside the
(a) Stroma (b) Thylakoids
(c) hypodermis (d) granna
Ans: (b) Thylakoids

23. Plants take carbon dioxide from the atmosphere mainly through their:
(a) Roots (b) Stem (c) Flowers (d) Leaves
Ans: (d) Leaves

24. Which structure in a green plant controls the opening and closing of stomata?
(a) Guard cell (b) Mesophyll
(c) Phloem (d) Xylem

Ans: (a) Guard cell

25. Most of the pulses are obtained from _ plants?
(a) Leguminous (b) Cuscuta
(c) Maize (d) Xylem

Ans: (a) Leguminous

26. Leaves are the food factories of plant". But, how does cactus (desert plants) carry out photosynthesis?
(a) Roots (b) Spines (c) Stems (d) Green leaves

Ans: (c) Stems

27. Two organisms are good friends and live together. One provides shelter, water and nutrients while the other three prepares and provides food. Such an association of organisms is termed as: saprophyte parasite autotrophs Symbiosis
(a) Saprophyte (b) Parasite
(c) Autotrophs (d) Symbiosis

Ans: (d) Symbiosis

28. Food is essential for all living organisms because
(a) It provides energy
(b) It helps in growth and repair cells
(c) It protects our body from various diseases
(d) All of these

Ans: (d) All of these

29. A plant that has both autotrophic and heterotrophic mode of nutrition
(a) Sundari plant (b) Rhizobium
(c) Amarbel (d) Pitcher plant

Ans: (d) Pitcher plant

30. A parasitic plant with yellow, slender and tubular stem
(a) Cuscuta (b) Pitcher plant
(c) Golden roads (d) All the above

Ans: (a) Cuscuta

31. In non-green plants and animals, their mode of nutrition is
(a) Saprophytic (b)Parasitic
(c) Heterotrophic (d) Autotrophic

Ans: (c) Heterotrophic

32. The term that is used for the mode of nutrition in yeast, mushrooms and bread mould is: autotrophic insectivorous saprophytic parasitic
(a) Autotrophic (b) Insectivorous
(c) Saprophytic (d) Parasitic

Ans: (c) Saprophytic

Assertion – Reason Questions

1.Assertion (A): Green plants prepare their own food using sunlight, water, and carbon dioxide.
Reason (R): The green pigment chlorophyll absorbs sunlight, which helps in the synthesis of food.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true

Ans: a) Both A and R are true, and R is the correct explanation of A

2. Assertion (A): Mushrooms obtain their nutrition from dead and decaying matter.
Reason (R): They secrete digestive juices on dead matter and absorb the dissolved nutrients.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true

Ans: a) Both A and R are true, and R is the correct explanation of A

3. Assertion (A): Lichens are an example of symbiotic association between algae and fungi.
Reason (R): The algae in lichens supply water and minerals to fungi.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true

Ans: c) A is true, R is false

4. Assertion (A): Rhizobium bacteria live in the root nodules of leguminous plants.
Reason (R): They fix atmospheric nitrogen into soluble forms for plants.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true

Ans: a) Both A and R are true, and R is the correct explanation of A

5. Assertion (A): Insectivorous plants like pitcher plants trap insects to obtain nitrogen.
Reason (R): They grow in soils deficient in nitrogenous compounds.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true

Ans: a) Both A and R are true, and R is the correct explanation of A

Matching

1. Which of the following pairs are correctly matched?

List I	List II
(i) Chlorophyll	Green pigment in leaves
(ii) Stomata	Pores for exchange of gases
(iii) Rhizobium	Fixes nitrogen in legume roots
(iv) Pitcher plant	Parasitic plant

Choose the correct option

a) (i), (ii), (iii) only b) (i) & (iv) only c) (ii) & (iv) only d) All (i–iv)

Ans: a) (i), (ii), (iii) only

2. Identifying Symbiotic Pairs

Choose the **pair that shows symbiotic association**:

a) Algae – Fungus b) Pitcher plant – Insect c) Dodder – Host plant d) Mushroom – Bread

Ans: a) Algae – Fungus

3. Plants & Their Modes of Nutrition

Find the correct set:

Plant	Mode of Nutrition
(i) Mushroom	Saprotrophic
(ii) Cuscuta	Parasitic
(iii) Rhizobium	Symbiotic
(iv) Green algae	Heterotrophic

a) (i), (ii), (iii) only b) (i), (ii), (iv) c) All (i–iv) d) (i) & (iii) only

Ans: a) (i), (ii), (iii) only

4. Process–Requirement Pairs

Match the process with its requirement:

Process	Requirement
(i) Photosynthesis	Sunlight, CO_2, water, chlorophyll
(ii) Nitrogen fixation	Rhizobium in root nodules
(iii) Saprotrophic nutrition	Dead & decaying matter
(iv) Starch test	Copper sulphate solution

a) (i), (ii), (iii) only b) All (i–iv) c) (i), (iii), (iv) d) (ii) & (iii) only

Ans: a) (i), (ii), (iii) only

5. Leaf Experiment Pairs

Select the **correctly matched experimental pairs**:

Step	Purpose
(i) Boiling leaf in alcohol	Remove chlorophyll
(ii) Dipping in iodine solution	Test for starch
(iii) Keeping leaf in dark	To remove stored starch
(iv) Washing leaf with water	Test for oxygen

a) (i), (ii), (iii) only b) (i) & (iv) only c) All (i–iv) d) (ii) & (iii) only

Ans: a) (i), (ii), (iii) only

Choose the Correct or Incorrect Sentence/Statement

1. Which of the following statements are correct?

a) Photosynthesis takes place in the chloroplasts of green leaves.

b) Chlorophyll and sunlight are essential for photosynthesis.

c) Oxygen is produced during photosynthesis. d) Carbon dioxide is released during photosynthesis.

A) a, b and c B) a, c and d C) b, c and d D) a, b, c and d

Ans: A) a, b and c

2. Identify the incorrect statement.

a) Autotrophs make their own food using sunlight. b) Heterotrophs depend on other organisms for food.

c) Saprotrophs prepare their own food using inorganic substances.

d) Insectivorous plants trap insects to obtain nitrogen.

A) Only c B) a and c C) b and c D) a and d

Ans: A) Only c

3. Which of the following are correct **about symbiosis?**

a) Lichens are an example of symbiosis between algae and fungi.
b) Rhizobium bacteria live in root nodules of legumes and fix nitrogen.
c) Symbiosis always harms one partner. d) Some fungi provide nutrients to plants in exchange for sugars.

A) a, b and d B) b, c and d C) a and c D) a, b, c and d

Ans: A) a, b and d

4. Choose the correct **statements.**

a) Carbon dioxide, water, chlorophyll, and sunlight are necessary for photosynthesis.
b) Stomata help in exchange of gases during photosynthesis.
c) Photosynthesis results in the production of glucose and oxygen.
d) Plants obtain nitrogen directly through photosynthesis.

A) a, b and c B) a and d C) b, c and d D) a, b, c and d

Ans: A) a, b and c

5. Find the incorrect **statement about parasitic plants.**

a) Parasitic plants take food from host plants. b) Cuscuta (Amarbel) is a total parasite.
c) Partial parasites like mistletoe can prepare some of their own food.
d) Parasites increase the food supply of the host plant.

A) Only d B) b and d C) a and c D) c and d

Ans: 1) Only d

Chapter: Nutrition in Animals

7th CLASS

1. Bile is produced in
(a) Gall bladder (b) Blood (c) Liver (d) Spleen
Ans: (c) Liver

2. Cud is the name given to the food of ruminants which is
(a) swallowed and undigested
(b) swallowed and partially digested
(c) properly chewed and partially digested
(d) properly chewed and completely digested
Ans: (b) swallowed and partially digested

3. The false feet of Amoeba are used for:
(a) movement only (b) capture of food only
(c) capture of food and movement
(d) exchange of gases only
Ans: (c) capture of food and movement

4. The finger-like outgrowths of Amoeba helps to ingest food. However, the finger-like outgrowths of human intestine helps to:
(a) digest the fatty food substances
(b) make the food soluble
(c) absorb the digested food
(d) absorb the undigested food
Ans: (c) absorb the digested food

5. The main function of the lacteals of intestine is the absorption of
(a) amino acids (b) glucose and vitamins
(c) lactic acid (d) fatty acids and glycerol
Ans: (d) fatty acids and glycerol

6. Which is not digested by human?
(a) Protein (b) Fats (c) Glucose (d) Cellulose
Ans: (d) Cellulose

7. The number of incisors, molars, premolars and canines in the buccal cavity is
(a) 8, 4, 8, 8 (b) 8, 4, 8, 4
(c) 4, 8, 8, 8 (d) 8, 8, 8, 4
Ans: (d) 8, 8, 8, 4

8. Which of the following pair of teeth differ in structure but are similar in function?
(a) canines and incisors (b) molars and premolars
(c) incisors and molars (d) premolars and canines
Ans: (b) molars and premolars

9. Read carefully the terms given below. Which of the following set is the correct combination of organs that do not carry out any digestive functions?
(a) Oesophagus, Large Intestine, Rectum
(b) Buccal Cavity, Oesophagus, Rectum
(c) Buccal Cavity, Oesophagus, Large Intestine
(d) Small Intestine, Large Intestine, Rectum
Ans: (a) Oesophagus, Large Intestine, Rectum

10. The swallowed food moves downwards in the alimentary canal because of
(a) Force provided by the muscular tongue
(b) The flow of water taken with the food
(c) Gravitational pull
(d) The contraction of muscles in the wall of food pipe
Ans: (d) The contraction of muscles in the wall of food pipe

11. The acid present in the stomach:
(a) kills the harmful bacterial that may enter along with the food
(b) protects the stomach lining from harmful substances
(c) digests starch into simpler sugars
(d) makes the medium alkaline
Ans: (a) kills the harmful bacterial that may enter along with the food

12. The enzymes predsent in the saliva convert:
(a) fats into fatty acids and glycerol
(b) starch into simple sugars
(c) proteins into amino acids
(d) complex sugars into simple sugars
Ans: (b) starch into simple sugars

13. The semi-solid mass which is produced after thoroughly mix up of food and gastric juice is called
(a) bolus (b) chyme (c) bile (d) villus
Ans: (b) chyme

14. Which of the following is not a part of digestive system?
(a) Mouth cavity (b) Stomach
(c) Food pipe (d) Wind pipe
Ans: (d) Wind pipe

15. Salivary glands are located in
(a) mouth (b) liver
(c) stomach (d) large intestine
Ans: (a) mouth

16. Peristaltic movements found in different parts of alimentary canal. In which one of these there is least peristalsis?
(a) Stomach (b) Duodenum
(c) Rectum (d) Oesophagus
Ans: (c) Rectum

17. Duodenum, Jejunum, ileum are _____ parts.
(a) Small Intestine (b) Large Intestine
(c) Esophaguss (d) Stomach
Ans: (a) Small Intestine

18. The process through which undigested food is expelled out of the body is called
(a) digestion (b) absorption
(c) assimilation (d) egestion
Ans: (d) egestion

19. Humans cannot digest cellulose whereas cows can do so because

21. What is Tooth decay?
(a) Acids released by bacteria damages the teeth
(b) Acids release by bacteria produces the teeth
(c) Acids released by gums damages the teeth
(d) Acids released by gums hold the teeth
Ans: (a) Acids released by bacteria damages the teeth

22. Base of tongue is sensitive to taste
(a) Salty (b) Sweet (c) Bitter (d) Sour
Ans: (c) Bitter

23. Which of the following animals swallow its prey?
(a) Human beings (b) Snakes

(a) Their gut contains certain bacteria capable of digesting cellulose
(b) They have a many-chambered stomach
(c) They have efficient grinding molars
(d) They produce an enzyme cellulase which can digest cellulose

Ans: (a) Their gut contains certain bacteria capable of digesting cellulose

20. Siphoning is the mode of feeding alone in which type of animal.

(a) Humming bird (b) Butterfly
(c) Ant (d) Housefly

Ans: (b) Butterfly

(c) Humming birds (d) Ant

Ans: (b) Snakes

24. The teeth of first set fall off at the age between

(a) 10 – 20 (b) 6 – 8 (c) 9 – 1 (d) 0 – 2

Ans: (b) 6 – 8

25. Gastric digestion takes place efficiently in

(a) acidic medium (b) alkaline medium
(c) neutral medium (d) highly alkaline medium

Ans: (a) acidic medium

Assertion – Reason Questions

1. Assertion (A): The stomach releases hydrochloric acid during digestion.
Reason (R): Hydrochloric acid kills harmful bacteria and activates pepsin enzyme for protein digestion.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true

Ans: a) Both A and R are true, and R is the correct explanation of A

2. Assertion (A): Most digestion and absorption of food take place in the small intestine.
Reason (R): The inner walls of the small intestine have finger-like projections called villi, which increase the surface area for absorption.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true

Ans: a) Both A and R are true, and R is the correct explanation of A

3. Assertion (A): Ruminants like cows and buffaloes chew cud to help in digestion.
Reason (R): Cellulose in grass is hard to digest and is broken down by microorganisms in the rumen.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true

Ans: a) Both A and R are true, and R is the correct explanation of A

4. Assertion (A): Saliva is secreted in the mouth and plays a role in digestion.
Reason (R): Saliva contains bile, which helps in digesting fats.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true

Ans: c) A is true, R is false

5. Assertion (A): The large intestine absorbs water and salts from undigested food.
Reason (R): The main function of the large intestine is to digest proteins into amino acids.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true

Ans: c) A is true, R is false

Matching

1. Organs & Functions

Which of the following **pairs are correctly matched**?

Organ	Function
(i) Salivary glands	Secrete saliva containing amylase
(ii) Stomach	Mixes food & secretes gastric juice
(iii) Small intestine	Absorbs digested food
(iv) Large intestine	Absorbs fats only

a) (i), (ii), (iii) only b) (ii), (iv) only c) All (i–iv) d) (i) & (iv) only

Ans: a) (i), (ii), (iii) only

2. Enzymes & Their Actions

Find the correctly matched **enzyme–function pairs**:

Enzyme	Action
(i) Salivary amylase	Breaks starch into sugars
(ii) Pepsin	Digests proteins in stomach
(iii) Bile juice	Breaks fats into simpler substances
(iv) Trypsin	Digests starch

a) (i), (ii), (iii) only b) (i), (iv) only c) All (i–iv) d) (ii) & (iii) only

Ans: a) (i), (ii), (iii) only

3. Ruminants & Their Processes

Identify the correct **animal–process pairs**:

Animal	Process
(i) Cow	Chews cud (rumination)
(ii) Rabbit	Has 4-chambered stomach
(iii) Deer	Swallows partially chewed food
(iv) Human	Ruminant animal

a) (i), (iii) only b) (i), (ii), (iii) c) (ii), (iv) only d) All (i–iv)

Ans: a) (i), (iii) only

4. Digestive Juices & Roles

Choose the correctly matched pairs:

Secretion	Role
(i) Hydrochloric acid	Kills bacteria, activates pepsin
(ii) Bile juice	Breaks fats into small globules
(iii) Pancreatic juice	Digests starch, proteins, fats
(iv) Saliva	Digests fats completely

a) (i), (ii), (iii) only b) (i), (iv) only c) All (i–iv) d) (ii) & (iii) only

Ans: a) (i), (ii), (iii) only

5. Teeth & Their Functions

Select the correct **tooth–function pairs**:

Tooth	Function
(i) Incisors	Cutting & biting food
(ii) Canines	Tearing food
(iii) Premolars	Grinding & chewing
(iv) Molars	Crushing & grinding food

a) All (i–iv) b) (i), (ii), (iii) only c) (ii) & (iii) only d) (i) & (iv) only

Ans: a) All (i–iv)

Choose the Correct or Incorrect Sentence/Statement

1. Which of the following statements are correct**?**

a) Digestion of starch begins in the mouth with saliva.
b) Bile juice is produced by the liver and stored in the gall bladder.
c) Absorption of digested food takes place in the small intestine.
d) Large intestine is the site of complete digestion of proteins.

A) a, b and c B) a, c and d C) b, c and d D) a, b, c and d

Ans: A) a, b and c

2. Identify the incorrect **statement.**

a) Ruminants like cows and buffaloes chew cud. b) The rumen contains cellulose-digesting bacteria.
c) Cud is swallowed food that is later regurgitated for chewing.
d) Ruminants digest cellulose with the help of enzymes secreted in their stomach.

A) Only d B) a and c C) b and d D) a, b and c

Ans: A) Only d

3. Which of the following statements are correct **about nutrition in Amoeba?**

a) Amoeba takes in food using pseudopodia. b) Food is digested in a food vacuole.
c) Undigested food is thrown out by the cell membrane.
d) Amoeba has specialized digestive organs like stomach and intestine.

A) a, b and c B) a, c and d C) b and d D) a, b, c and d

Ans: A) a, b and c

4. Choose the incorrect **statement.**

a) Liver secretes bile juice that helps in digestion of fats.
b) Pancreas secretes pancreatic juice that digests carbohydrates, proteins, and fats.
c) Salivary glands secrete saliva which contains pepsin enzyme.
d) Hydrochloric acid in the stomach kills bacteria in food.

A) Only c B) a and d C) b and c D) a and c

Ans: A) Only c

5. Which statements are correct **about the human digestive system?**

a) Stomach churns food and mixes it with gastric juices.
b) Villi in the small intestine increase the surface area for absorption.
c) Rectum temporarily stores undigested food before egestion.
d) Esophagus secretes digestive enzymes to digest food.

A) a, b and c B) a, c and d C) b, c and d D) a, b, c and d

Ans: A) a, b and c

Chapter: Respiration in Organisms

7th CLASS

1. Sometimes when we do heavy exercise, anaerobic respiration takes place in our muscle cells. What is produced during this process?
(a) alcohol and lactic acid (b) alcohol and CO_2
(c) lactic acid and CO_2 (d) lactic acid only
Ans: d

2. Yeast is used in wine and beer industries because it respires.
(a) aerobically producing oxygen
(b) aerobically producing alcohol
(c) anaerobically producing alcohol
(d) anaerobically producing CO_2
Ans: c

3. During the process of exhalation, the ribs move
(a) down and inwards (b) up and inwards
(c) down and outwards (d) up and outward
Ans: a

4. Breathing is a process that
(i) provides O_2 to the body.
(ii) breaks down food to release energy.
(iii) helps the body to get rid of CO_2
(iv) produces water in the cells.
Which of the following gives the correct combination of functions of breathing?
(a) (i) and (ii) (b) (ii) and (iii)
(c) (i) and (iii) (d) (ii) and (iv)
Ans: c

5. Which are the gases involved in breathing?
(a) O2 and NO2 (b) O2 and SO2
(c) O2 and O3 (d) O2 and CO2
Ans: d

6. Name the organ of the body in which the blood is oxygenated.
(a) Heart (b) Lungs (c) Lever (d) Pancrea
Ans: b

7. Yeasts are used in
(a) wine and beer industry (b) bakery
(c) in both (d) none of these
Ans: a

8. Breathing rate in human beings in normal condition is
(a) 12-15 times in a minute
(b) 15-18 times in a minute
(c) 18-22 times in a minute
(d) 22-25 times in a minute
Ans: b

9. The process of breakdown of food in the cell with the release of energy is called _____
(a) Respiration (b) Inhalation
(c) Exhalation (d) Breathing
Ans: a

10. Giving out of air rich in carbon dioxide is called
(a) Respiration (b) Inhalation
(c) Exhalation (d) Breathing
Ans: c

11. To which disease is smoking linked?
(a) Appendicitis (b) Cancer (c) Fever (d) Anaemia
Ans: b

12. Name the organism which breathes through its skin
(a) Cat (b) Human beings (c) Dog (d) Earthworm
Ans: d

13. The small openings in the body of a cockroach are called
(a) Holes (b) Spiracles (c) Tracks (d) Pores
Ans: b

14. The air tubes that an insect has are useful for the exchange of_____
(a) Gases (b) Liquids (c) Solids (d) No exchange
Ans: a

15. The network of air tube in insects for gaseous exchange is called as
(a) Trachea (b) Spiracles (c) Stomata (d) Skin
Ans: a

16. Which of the following is most likely to have a much higher breathing rate?
(a) Man (b) Dog (c) Sparrow (d) Fish
Ans: d

17. The most common substrate for respiration is
(a) fats (b) amino acids (c) glucose (d) sucrose
Ans: c

18. Which part of nose prevents the passage of smoke dust inside the body:
(a) hair (b) nosal cavity (c) nostrils (d) none of these
Ans: a

19. Muscular floor of the chest cavity is called
(a) Rib cage (b) Diaphragm (c) Trachea (d) Bronchus
Ans: b

20. The organisms which cannot be seen with the naked eyes are called
(a) Plants (b) Microorganisms (c) Trachea (d) Bronchus
Ans: b

21. Oxidation of food inside cell takes place in
(a) Golgi bodies (b) Mitochondria
(c) Chromosome (d) Ribosome
Ans: b

22. The chemical used to test the carbon dioxide gas in exhaled air is
(a) Lime water (b) Limestone
(c) Lime juice (d) Quick lime
Ans: a

23. A molecule of haemoglobin carries oxygen molecules.
(a) 1 (b) 2 (c) 3 (d) 4
Ans: d

24. Voice box is present in
(a) Pharynx (b) Epiglottis (c) Mouth (d) Larynx
Ans: d

25. Small thin walled balloon like structure that help in exchange of gases are
(a) Arteries (b) Veins (c) Stomata (d) Alveoli
Ans: d

Assertion – Reason Questions

1. Assertion (A): Respiration is necessary for all living organisms to survive.
Reason (R): It provides energy by breaking down food molecules in cells.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false
d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

2. Assertion (A): In anaerobic respiration, glucose is broken down without using oxygen.
Reason (R): Anaerobic respiration produces more energy than aerobic respiration.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false
d) A is false, R is true
Ans: c) A is true, R is false

3. Assertion (A): Breathing is the same as respiration.
Reason (R): Breathing only involves the exchange of gases, while respiration includes the breakdown of food for energy.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false
d) A is false, R is true
Ans: d) A is false, R is true

4. Assertion (A): Plants respire only at night.
Reason (R): Plants take in oxygen and release carbon dioxide during respiration.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false
d) A is false, R is true
Ans: d) A is false, R is true

5. Assertion (A): Lungs are the main respiratory organs in humans.
Reason (R): They help in the exchange of oxygen and carbon dioxide between blood and air.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false
d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

Matching

1. Types of Respiration & Characteristics
Which of the following **pairs are correctly matched**?

Type of respiration	Characteristic
(i) Aerobic	Uses oxygen, releases CO_2 and water
(ii) Anaerobic	Produces alcohol or lactic acid
(iii) Aerobic	Produces less energy than anaerobic
(iv) Anaerobic	Occurs in yeast, muscles (during heavy exercise)

a) (i), (ii), (iv) only b) (i), (iii) only c) All (i–iv) d) (ii), (iv) only
Ans: a) (i), (ii), (iv) only

2. Respiratory Organs & Animals
Find the correct **organ–animal pairs**:

Organ	Animal
(i) Lungs	Humans
(ii) Gills	Fish
(iii) Skin	Earthworm
(iv) Spiracles & trachea	Cockroach

a) All (i–iv) b) (i), (ii), (iii) only c) (ii), (iii), (iv) only d) (i), (iv) only
Ans: a) All (i–iv)

3. Breathing Movements & Action
Match the movement with the correct action:

Movement	Action
(i) Diaphragm contracts	Chest cavity enlarges

(ii) Diaphragm relaxes	Air pushed out
(iii) Ribs move up & out	Air rushes into lungs
(iv) Ribs move down & in	Lungs expand

a) (i), (ii), (iii) only b) (i), (ii), (iv) only c) (i), (ii), (iii), (iv) all correct d) (i), (iii) only

Ans: a) (i), (ii), (iii) only

4. Products of Respiration

Select the correct **substrate–products pairs**:

Substrate	**Products**
(i) Glucose + O_2	CO_2 + H_2O + energy
(ii) Glucose (no O_2) in yeast	Alcohol + CO_2 + energy
(iii) Glucose (no O_2) in muscles	Lactic acid + energy
(iv) Glucose + O_2	Alcohol + CO_2 + energy

a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iv) only

Ans: a) (i), (ii), (iii) only

5. Breathing in Different Animals

Which of these **animal–breathing mode pairs** are correct?

Animal	**Mode of breathing**
(i) Frog	Through skin & lungs
(ii) Whale	Through gills
(iii) Dolphin	Through blowholes
(iv) Insects	Through spiracles & trachea

a) (i), (iii), (iv) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (ii) only

Ans: a) (i), (iii), (iv) only

Choose the Correct or Incorrect Sentence/Statement

1. Which of the following statements are correct?

a) Breathing is a physical process of taking in oxygen and giving out carbon dioxide.
b) Respiration is the breakdown of food to release energy.
c) Breathing and respiration mean the same process. d) Respiration releases energy in the form of ATP.

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

Ans: A) a, b and d

2. Identify the incorrect statement about respiratory organs.

a) Earthworms breathe through their moist skin. b) Fish breathe with the help of gills.
c) Cockroach uses spiracles and tracheae for exchange of gases.
d) Frogs use only lungs for respiration throughout their life.

A) Only d B) a and b C) c and d D) b and c

Ans: A) Only d

3. Which of the following are incorrect?

a) Aerobic respiration takes place in the presence of oxygen.
b) Anaerobic respiration releases more energy than aerobic respiration.
c) Anaerobic respiration in muscles produces lactic acid.
d) Yeast carries out anaerobic respiration to produce alcohol and carbon dioxide.

A) Only b B) b and c C) a and b D) b and d

Ans: A) Only b

4. Which of the following statements are correct about breathing in humans?

a) During inhalation, ribs move upwards and diaphragm flattens.
b) During exhalation, ribs move down and diaphragm becomes dome-shaped.
c) Exchange of gases takes place in the alveoli of lungs. d) Oxygen is transported in blood by white blood cells.

A) a, b and c B) a, c and d C) b, c and d D) a, b, c and d

Ans: A) a, b and c

5. Which statements are correct for plants?

a) Plants respire only at night. b) Roots respire through root hairs.
c) All living cells of plants respire throughout the day and night.
d) Stomata in leaves help in exchange of gases for respiration.

A) b, c and d B) a and c C) a, b and c D) a, b and d

Ans: A) b, c and d

Chapter: Transportation in Animals and Plants 7th CLASS

1. Which of the following is the main circulatory fluid in our body?
(a) Plasma (b) Lymph (c) Blood (d) None of these
Ans: c

2. Which one of the following contains haemoglobin?
(a) RBC (b) WBC (c) Platelets (d) None of these
Ans: a

3. What is the function of WBCs?
(a) Transport of oxygen (b) Fight against germs
(c) Involved in blood clotting (d) All of these
Ans: b

4. Blood platelets help in
(a) formation of urine (b) excretion of urine
(c) sweating (d) blood clotting
Ans: d

5. The muscular tube through which stored urine is passed out of the body is called:
(a) kidney (b) ureter
(c) urethra (d) urinary bladder
Ans: c

6. They are pipe-like, consisting of a group of specialised cells. They transport substances and form a two-way traffic in plants. Which of the following terms qualify for the features mentioned above?
(a) Xylem tissue (b) Vascular tissue
(c) Root hairs (d) Phloem tissue.
Ans: d

7. The absorption of nutrients and exchange of respiratory gases between blood and tissues takes place in:
(a) veins (b) arteries (c) heart (d) capillaries
Ans: d

8. In which of the following parts of human body are sweat glands absent?
(a) Scalp (b) Armpits (c) Lips (d) Palms
Ans: c

9. In a tall tree, which force is responsible for pulling water and minerals from the soil?
(a) Gravitational force (b) Transportation force
(c) Suction force (d) Conduction force
Ans: c

10. Aquatic animals like fish excrete their wastes in gaseous form as
(a) Oxygen (b) Hydrogen
(c) Ammonia (d) Nitrogen
Ans: c

11. Blood carries _____ from lungs to the cells of the body
(a) Argon (b) Neon (c) Carbon dioxide (d) oxygen
Ans: d

12. The fluid part of the blood is called
(a) Plasma (b) RBC (c) WBC (d) Blood Platelets
Ans: a

13. The blood vessels which carry oxygen –rich blood from the heart to all parts of the body are called
(a) Arteries (b) Veins (c) RBC (d) WBC
Ans: a

14. White patches formed in areas like underarms are due to
(a) Salts present in the sweat
(b) sugars present in the sweat
(c) Acids present in the sweat
(d) Bases present in the sweat
Ans: a

15. The effect of sweat on the human body is
(a) It causes cooling (b) it causes heating
(c) it causes freezing (d) It causes melting
Ans: a

16. The uric acid excreted by lizards is
(a) White in colour (b) Red in colour
(c) Brown in Colour (d) Black in colour
Ans: a

17. The vascular tissue for the transport of water and nutrients in the plant is called
(a) Xylem (b) Phloem (c) Tissue (d) Plasma
Ans: a

18. The process by which a plant loses water through the stomata is called:
(a) excretion (b) transpiration
(c) respiration (d) sweating
Ans: b

19. The number of beats _____ is called the pulse rate.
(a) Per two minutes (b) Per three minutes
(c) Per minute (d) Per four minutes
Ans: c

20. Name an instrumental device used to amplify the sound of heart.
(a) Stethoscope (b) UV machine
(c) Both (a) and (b) (d) Ultrasound machine
Ans: a

21.What is the state of the blood?
(a) Solid (b) Fluid (c) Gas (d) None of these
Ans: b

22. Which blood group is called as universal donor?
(a) O (b) A (c) B (d) AB
Ans: a

23. The heart is located in the
(a) chest cavity (b) stomach
(c) lungs (d) all of these
Ans: a

24. How many chambers does the human heart have?
(a) Three (b) Four (c) Five (d) Two
Ans: b

25.Which of the following are the tiny filtering units of the kidney?
(a) ureters (b) bladder (c) nephrons (d) urethra
Ans: c

Assertion – Reason Questions

1. Assertion (A): The heart pumps blood to all parts of the body through blood vessels.
Reason (R): Blood carries oxygen and nutrients to body tissues and removes wastes like carbon dioxide.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false
d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

2. Assertion (A): Kidneys remove nitrogenous wastes from the blood in humans.
Reason (R): The waste filtered by kidneys is stored in the bladder as urine before being excreted.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false
d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

3. Assertion (A): Xylem transports water and minerals from roots to other parts of the plant.
Reason (R): Phloem carries water only from roots to leaves.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false
d) A is false, R is true
Ans: c) A is true, R is false

4. Assertion (A): Red blood cells carry oxygen in the blood.
Reason (R): Haemoglobin present in red blood cells binds with oxygen to transport it.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false
d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

5. Assertion (A): Loss of water in the form of water vapour from plant leaves is called transpiration.
Reason (R): Transpiration helps in the absorption and upward movement of water and minerals in plants.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false
d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

Matching

1. Circulatory System – Components & Functions

Which of the following **pairs are correctly matched**?

Component	Function
(i) Heart	Pumps blood to all parts of the body
(ii) Arteries	Carry blood away from the heart
(iii) Veins	Carry blood towards the heart
(iv) Platelets	Transport oxygen

a) (i), (ii), (iii) only b) (i), (iii), (iv) only c) All (i–iv) d) (ii), (iv) only
Ans: a) (i), (ii), (iii) only

2. Blood Components & Roles

Identify the correctly matched **blood component–function pairs**:

Component	Function
(i) RBCs	Carry oxygen using haemoglobin
(ii) WBCs	Protect the body from infections
(iii) Platelets	Help in clotting of blood
(iv) Plasma	Transports nutrients, hormones & wastes

a) (i), (ii), (iii) only b) (i), (ii), (iii), (iv) c) (ii), (iii), (iv) only d) (i), (iii), (iv) only
Ans: b) (i), (ii), (iii), (iv)

3. Transportation in Plants – Part & Function

Choose the correct **plant tissue–function pairs**:

Tissue	Function
(i) Xylem	Transports water & minerals
(ii) Phloem	Transports food from leaves
(iii) Stomata	Take up water from soil
(iv) Root hairs	Absorb water & minerals from soil

a) (i), (ii), (iv) only b) (i), (iii), (iv) only c) (ii), (iii) only d) All (i–iv)

Ans: a) (i), (ii), (iv) only

4. Excretion in Animals – Organ & Role

Match the animal with its excretory organ:

Animal	Excretory organ
(i) Human	Kidneys
(ii) Earthworm	Nephridia
(iii) Cockroach	Malpighian tubules
(iv) Fish	Stomata

a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iii) only

Ans: a) (i), (ii), (iii) only

5. Plant Processes – Terms & Meanings

Find the correctly matched **term–meaning pairs**:

Term	Meaning
(i) Transpiration	Loss of water vapour through leaves
(ii) Ascent of sap	Upward movement of water & minerals
(iii) Circulation	Continuous flow of blood in animals
(iv) Photosynthesis	Transport of food in plants

a) (i), (ii), (iii) only b) (i), (ii), (iv) only c) All (i–iv) d) (i) & (ii) only

Ans: a) (i), (ii), (iii) only

Choose the Correct or Incorrect Sentence/Statement

1. Which of the following statements are correct?

a) Red blood cells carry oxygen with the help of haemoglobin. b) White blood cells fight infections.
c) Platelets help in clotting of blood. d) Plasma is the solid part of blood.

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

Ans: A) a, b and c

2. Find the incorrect statements about circulation in humans:

a) The heart pumps oxygenated blood to all parts of the body.
b) Veins carry blood away from the heart to different organs. c) Valves in veins prevent the backward flow of blood.
d) Pulmonary artery carries oxygen-rich blood from the heart to lungs.

A) b and d B) a and b C) a, b and d D) a, b, c and d

Ans: B) b and d

3. Which of the following are correct?

a) Xylem carries water and minerals from roots to leaves. b) Phloem transports food from leaves to other parts.
c) Transport of food in plants is called translocation. d) Transport of water in plants is called transpiration.

A) a, b and c B) a, c and d C) a, b, c and d D) b, c and d

Ans: A) a, b and c

4. Choose the correct statements:

a) Kidneys filter waste products from the blood. b) Ureters carry urine from kidneys to bladder.
c) Sweat glands remove water, salts, and urea. d) Urinary bladder pumps urine out of the body.

A) a, b and c B) b and d C) a, b, c and d D) a and d

Ans: A) a, b and c

5. Which statements about transpiration are correct?

a) Transpiration is the loss of water vapour from aerial parts of plants. b) It mainly occurs through stomata.
c) Transpiration helps in cooling the plant and in the upward movement of water.
d) Transpiration takes place only at night.

A) a, b and c B) b and d C) a, c and d D) a, b, c and d

Ans: A) a, b and c

Chapter: Reproduction in Plants 7th CLASS

1. Vegetative propagation in potato takes place by
(a) leaves (b) stem (c) root (d) seed
Ans: (b) stem

2. In which of the following plants buds are present on the margins of leaves?
(a) Bryophyllum (b) Touch me not
(c) Chandan (d) Coriander
Ans: (a) Bryophyllum

3. In yeasts reproduction occurs by
(a) fragmentation (b) binary fission
(c) budding (d) spore formation
Ans: (c) budding

4. Lila observed that a pond with clear water was covered up with a green algae within a week. By which method of reproduction did the algae spread so rapidly?
(a) Budding (b) Sexual reproduction
(c) Fragmentation (d) Pollination
Ans: (c) Fragmentation

5. Seeds of drumstick and maple are carried to long distances by wind because they possess
(a) winged seeds (b) large and hairy seeds
(c) long and ridged fruits (d) spiny seeds
Ans: (a) winged seeds

6. The 'eye of the potato plant is what
(a) the root is to any plant (b) the bud is to a flower
(c) the bud is to Bryophyllum leaf
(d) the anther is to stamen
Ans: (c) the bud is to Bryophyllum leaf

7. The ovaries of different flowers may contain
(a) only one ovule (b) many ovules
(c) one to many ovules (d) only two ovules
Ans: (c) one to many ovules

8. Pollination refers to the:
(a) transfer of pollen from anther to ovary
(b) transfer of male gametes from anther to stigma
(c) transfer of pollen from anther to stigma
(d) transfer of pollen from anther to ovule
Ans: (c) transfer of pollen from anther to stigma

9. The production of new individuals from their parents is known as _____
(a) Reproduction (b) Production
(c) Vegetative propagation (d) Sprouting
Ans: (a) Reproduction

10. Male reproductive part of a plant is
(a) Pores (b) Pistil (c) Stamen (d) Fusion
Ans: (c) Stamen

11. Reproduction through spore formation takes place in
(a) Fern (b) Algae (c) Fungi (d) Yeast
Ans: (a) Fern

12. The flowers which contain either only the pistil or only the stamens are called
(a) Unisexual flowers (b) Bisexual flowers
(c) Asexual flowers (d) None of the above
Ans: (a) Unisexual flowers

14. The transfer of pollen from the anther to the stigma of a flower is called:
(a) fragmentation (b) fertilisation
(c) pollination (d) reproduction
Ans: (c) pollination

15. Reproduction is essential for living organism in order to
(a) Keep individual organ alive (b) Maintain growth
(c) Fulfill their energy requirement
(d) continue the species forever
Ans: (d) continue the species forever

16. The zygote develops into
(a) a seed (b) an ovule (c) a fruit (d) an embryo
Ans: (d) an embryo

17. Rose and lemon are grown from:
(a) tubers (b) bulbs (c) stem cuttings (d) leaf buds
Ans: (c) stem cuttings

18.The seeds dispersed by birds and animals are:
(a) less smell (b) very smelly
(c) with smell and nectar (d) none of these
Ans: (c) with smell and nectar

19. What is the function of flower in plants:
(a) reproduction (b) transportation
(c) transpiration (d) respiration
Ans: (a) reproduction

20. Mature ovule forms
(a) Buds (b) Endosperm (c) Fruit (d) Seed
Ans: (d) Seed

Assertion – Reason Questions

1. Assertion (A): Vegetative propagation is an asexual method of reproduction in plants.
Reason (R): It involves the formation of new plants from vegetative parts such as roots, stems, or leaves.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false
d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

2. Assertion (A): Yeast reproduces by budding.
Reason (R): A small bud develops on the yeast cell, grows, and detaches to form a new organism.

a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true

Ans: a) Both A and R are true, and R is the correct explanation of A

3. Assertion (A): Pollination is the transfer of pollen grains from the anther to the stigma of a flower.
Reason (R): Pollination can be carried out only by water.

a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true

Ans: c) A is true, R is false

4. Assertion (A): Fertilization is the fusion of male and female gametes in plants.
Reason (R): Fertilization leads to the formation of a zygote which develops into an embryo.

a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true

Ans: a) Both A and R are true, and R is the correct explanation of A

5. Assertion (A): Seed dispersal is essential for plants to avoid overcrowding.
Reason (R): Dispersal allows seeds to spread to new places where they can germinate and grow.

a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true

Ans: a) Both A and R are true, and R is the correct explanation of A

Matching

1. Methods of Reproduction & Examples

Which of the following **pairs are correctly matched**?

Method of reproduction	Example
(i) Budding	Yeast
(ii) Fragmentation	Spirogyra
(iii) Spore formation	Moss & ferns
(iv) Binary fission	Bryophyllum

a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iv) only

Ans: a) (i), (ii), (iii) only

2. Flower Parts & Functions

Identify the correct **flower part–function pairs**:

Part	Function
(i) Stamen	Male reproductive organ
(ii) Anther	Produces pollen grains
(iii) Pistil	Female reproductive organ
(iv) Ovary	Produces male gametes

a) (i), (ii), (iii) only b) (i), (iii), (iv) only c) All (i–iv) d) (ii), (iv) only

Ans: a) (i), (ii), (iii) only

3. Vegetative Propagation & Plant Parts

Choose the correctly matched **plant–part used for propagation**:

Plant	Part used
(i) Potato	Tuber
(ii) Ginger	Rhizome
(iii) Bryophyllum	Leaf buds
(iv) Mango	Stem cuttings

a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (ii), (iv) only

Ans: a) (i), (ii), (iii) only

4. Pollination & Agents

Which of the following **pollination–agent pairs** are correct?

Pollination agent	Example
(i) Insects	Bees, butterflies
(ii) Wind	Grass, maize
(iii) Water	Vallisneria
(iv) Bats	Mango

a) (i), (ii), (iii) only b) (i), (ii), (iv) only c) All (i–iv) d) (ii), (iii), (iv) only

Ans: a) (i), (ii), (iii) only

5. Seed Formation & Germination

Find the correctly matched **term–meaning pairs**:

Term	Meaning
(i) Fertilisation	Fusion of male & female gametes
(ii) Ovule	Develops into seed after fertilisation
(iii) Ovary	Develops into fruit
(iv) Plumule	Part of seed forming root

a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (ii), (iii), (iv) with correction of (iv)

Ans: a) (i), (ii), (iii) only

Choose the Correct or Incorrect Sentence/Statement

1. Which of the following statements are correct?

a) Budding in yeast is an example of asexual reproduction. b) Fragmentation occurs in Spirogyra.
c) Spores are produced by Rhizopus for reproduction. d) Asexual reproduction requires fusion of gametes.

A) a, b and c B) a and d C) b, c and d D) a, b, c and d

Ans: A) a, b and c

2. Find the incorrect statement:

a) Stamen is the male reproductive part of a flower. b) Carpel is the female reproductive part.
c) Pollination is the transfer of pollen from anther to stigma.
d) Fertilisation is the transfer of pollen grains to the ovary.

A) Only d B) a and b C) b and c D) c and d

Ans: A) Only d

3. Which statements are correct?

a) Pollination can be self or cross. b) Wind, water, insects, and birds act as pollinating agents.
c) Cross-pollination always produces new species. d) Pollination occurs only in unisexual flowers.

A) a and b B) b and c C) a, b and d D) a, b, c and d

Ans: A) a and b

4. Choose the correct statements:

a) After fertilisation, ovules develop into seeds. b) Ovary develops into fruit.
c) Seeds germinate only when they get air, water, and warmth.
d) Cotyledons provide food to the seedling during germination.

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

Ans: C) a, b, c and d

5. Which of the following are incorrect?

a) Bryophyllum reproduces through leaf buds. b) Potato reproduces through stem tuber.
c) Mango reproduces by stem cuttings naturally. d) Sugarcane is propagated by stem cuttings.

A) Only c B) a and c C) b and d D) a and d

Ans: A) Only c

Chapter: Our Lifeline 7th CLASS

1. Which one of the following is not a wild animal?
(a) Bear (b) Bison (c) Jackal (d) Goat
Ans: (d) Goat

2. Which one of the following is an animal product?
(a) Gum (b) Catechu (c) Honey (d) Rubber
Ans: (c) Honey

3. Roof of the forest made by the branches of the tall trees is called
(a) canopy (b) crown
(c) understoreys (d) none of these
Ans: (a) canopy

4. Decomposers convert the dead plant and animal tissues into
(a) clay (b) humus (c) inorganic debris (d) soil
Ans: (b) humus

5. A series of organisms in which an organism depends on the next organism for food is called
(a) food series (b) food chain
(c) food web (d) food hub
Ans: (b) food chain

6. Which among the following forest animals is the smallest?
(a) Fox (b) Boar (c) Bison (d) Porcupine
Ans: (d) Porcupine

7. Which industry totally depends upon forest product?
(a) Agriculture (b) Rubber industry
(c) Furniture industry (d) Textile industry
Ans: (c) Furniture industry

8. The rainfall will be less in absence of:
(a) forests (b) town (c) village (d) none of these
Ans: (a) forests

9. Which of the following is not a forest product?
(a) Rubber (b) Sealing wax
(c) Kerosene (d) Plywood
Ans: (c) Kerosene

10. Environment and cool and peaceful in
(a) Town (b) Village (c) Metro (d) Cities
Ans: (b) Village

11. The branchy part of a tree above the stem is called
(a) leaves (b) crown (c) saplings (d) canopy
Ans: (b) crown

12. Bark from which of the following tree is used to cure malaria?
(a) Cinchona (b) Orange (c) Mango (d) Peepal
Ans: (a) Cinchona

13.The item that is not a product of Forest
(a) Sealing Wax (b) Honey
(c) Wooden statue (d) Salt
Ans: (d) Salt

14. Find the missing word from the following equation
Grass→ insect s→ frog →..... → eagle
(a) Peacock (b) Snake (c) Koel (d) Crow
Ans: (b) Snake

15. Forests are called
(a) Green lungs (b) Black skin
(c) Red kidney (d) Brown heart
Ans: (a) Green lungs

16. Floods can be controlled by
(a) Forests (b) Afforestation (c) Constructing Pits
(d) By allowing the water to flow into the sea
Ans: (a) Forests

17. Cutting of tree on large scale is called
(a) Urbanization (b) Industrialization
(c) Deforestation (d) Afforestation
Ans: (c) Deforestation

18. Greenhouse gases
(a) trap heat of the sun (b) are green in colour
(c) do not trap heat of the sun (d) smell foul
Ans: (a) trap heat of the sun

19. Heavy rain may also damages the:
(a) roots (b) soil (c) humus (d) none of these
Ans: (a) roots

20. Micro-organisms eating dead bodies of plants and animals are called:
(a) scavengers (b) herbivores
(c) decomposers (d) none of these
Ans: (c) decomposers

21. Select the country that is the largest producer of fuel wood in the world.
(a) India (b) China (c) Russia (d) Indonesia
Ans: (c) Russia

22. The insects butterflies help flowering plant in:
(a) deforestation (b) pollination
(c) humus (d) none of these
Ans: (b) pollination

23. Thing that is not obtained from the wood is
(a) paper (b) thermocol (c) matchsticks (d) plywood
Ans: (b) thermocol

24. A tree species in Mauritius failed to reproduce because of extinction of a fruit eating bird. The bird was
(a) Condor (b) Dodo
(c) Dove (d) Skua
Ans: (b) Dodo

25. The cricket bats are made out of wood of which of the following?
(a) Sal (b) Rose wood
(c) Teak (d) Willow
Ans: (d) Willow

Assertion – Reason Questions

1. Assertion (A): Forests maintain the fertility of the soil.
Reason (R): Dead plants and animals form humus which enriches the soil.
a) A and R are true, and R is the correct explanation of A b) A and R are true, but R is not the correct explanation
c) A is true, R is false d) A is false, R is true
Ans: a) A and R are true, and R is the correct explanation of A

2. Assertion (A): Carnivores are essential to maintain the balance of organisms in forests.
Reason (R): They limit the population of herbivores, preventing overgrazing of plants.
a) A and R are true, and R is the correct explanation of A b) A and R are true, but R is not the correct explanation
c) A is true, R is false d) A is false, R is true
Ans: a) A and R are true, and R is the correct explanation of A

3. Assertion (A): Forests help in maintaining the water cycle.
Reason (R): The roots of trees absorb water and release oxygen during photosynthesis.
a) A and R are true, and R is the correct explanation of A b) A and R are true, but R is not the correct explanation
c) A is true, R is false d) A is false, R is true
Ans: b) A and R are true, but R is not the correct explanation

4. Assertion (A): Deforestation can lead to floods and droughts.
Reason (R): Cutting trees reduces infiltration of rainwater and disturbs the balance of water in soil and atmosphere.
a) A and R are true, and R is the correct explanation of A b) A and R are true, but R is not the correct explanation
c) A is true, R is false d) A is false, R is true
Ans: a) A and R are true, and R is the correct explanation of A

5. Assertion (A): Decomposers play no role in the forest ecosystem.
Reason (R): Nutrients are supplied only by plants during photosynthesis.
a) A and R are true, and R is the correct explanation b) A and R are true, but R is not the correct explanation
c) A is false, R is true d) A is true, R is false
Ans: c) A is false, R is true

Matching

1. Forest Layers & Features

Which of the following **pairs are correctly matched**?

Forest layer	Feature
(i) Canopy	Uppermost layer formed by tall trees
(ii) Understorey	Shrubs and young trees below canopy
(iii) Forest floor	Dark, damp layer with decomposers
(iv) Herb layer	Roots spread deep underground

Choose the correct option
a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i) & (iii) only
Ans: a) (i), (ii), (iii) only

2. Forest Organisms & Their Roles

Organism	Role
(i) Decomposers (fungi, bacteria)	Break down dead matter
(ii) Herbivores	Eat plants and leaves
(iii) Carnivores	Eat herbivores
(iv) Parasites	Add nutrients to soil

Choose the correct option
a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iv) only
Ans: a) (i), (ii), (iii) only

3. Products & Uses of Forests

Forest product	Use
(i) Timber	Making furniture
(ii) Gum	Used in medicines and adhesives
(iii) Honey	Food and medicines
(iv) Coal	Obtained directly from forest trees

Choose the correct option
a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iv) only

Ans: a) (i), (ii), (iii) only

4. Importance of Forests

Function	Description
(i) Prevent soil erosion	Roots hold soil firmly
(ii) Maintain water cycle	Help in cloud formation & rainfall
(iii) Purify air	Release O_2, absorb CO_2
(iv) Reduce temperature	Provide fossil fuels

Choose the correct option

a) (i), (ii), (iii) only b) (i), (ii), (iv) only c) All (i–iv) d) (ii), (iii), (iv) only

Ans: a) (i), (ii), (iii) only

5. Forest Conservation & Stakeholders

Stakeholder	Role
(i) Forest officials	Manage forest resources
(ii) Local people	Depend on forests sustainably
(iii) Industrialists	Always protect forests
(iv) Wildlife	Maintain ecological balance

Choose the correct option

a) (i), (ii), (iv) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iv) only

Ans: a) (i), (ii), (iv) only

Choose the Correct or Incorrect Sentence/Statement

1. Which of the following statements are correct?

a) Forests prevent soil erosion. b) Forests help in maintaining the water cycle.

c) Forests act as carbon sinks by absorbing CO_2. d) Forests do not influence rainfall.

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

Ans: A) a, b and c

2. Identify the incorrect statement:

a) The topmost layer is called the canopy. b) Understory lies below the canopy.

c) Forest floor is the lowest layer. d) Shrubs grow only above the canopy.

A) Only d B) a and b C) c and d D) b and d

Ans: A) Only d

3. Which of the following are correct?

a) Dead leaves and animal droppings form humus. b) Humus increases soil fertility.

c) Forest litter prevents water from evaporating. d) Forest soil is infertile because of humus.

A) a, b and c B) b and d C) a and d D) c and d

Ans: A) a, b and c

4. Choose the correct statements:

a) Herbivores maintain a balance by eating plants. b) Carnivores control the population of herbivores.

c) Decomposers recycle nutrients back to the soil. d) Forest animals have no effect on the food chain.

A) a, b and c B) b and d C) a, c and d D) a, b, c and d

Ans: A) a, b and c

5. Which statements are incorrect?

a) Deforestation reduces rainfall and causes floods. b) Forests help in purifying air.

c) Cutting down forests has no impact on wildlife. d) Afforestation is the planting of new trees.

A) Only c B) b and c C) a and b D) a and c

Ans: A) Only c

Chapter: Wastewater story

7th CLASS

1. Which one of the following is a quality of wastewater?
(a) Foul smell (b) Sweet taste
(c) Sewage (d) None of these
Ans: (a) Foul smell

2. Period 2005-2015 is being celebrated as the international decade for action on
(a) water for life (b) education for all
(c) global war (d) terrorism
Ans: (a) water for life

3. In sewerage manholes are located at every
(a) 20-25 m (b) 50-60 m
(c) 90-100 m (d) 100-110 m
Ans: (b) 50-60 m

4. Sludge in separate tanks is decomposed to get biogas by
(a) yeasts (b) aerobic bacteria
(c) anaerobic bacteria (d) none of these
Ans: (b) aerobic bacteria

5. Which one of the following is used in vermi-processing toilet?
(a) Earthworm (b) Cockroach
(c) Both of these (d) None of these
Ans: (a) Earthworm

6. Sewage is mainly a
(a) liquid waste (b) Solid waste
(c) gaseous waste (d) Mixture of solid and gas
Ans: (a) liquid waste

7. Which of the following is/are products of wastewater treatment?
(a) Biogas (b) Sludge
(c) Both Biogas and sludge (d) Aerator
Ans: (c) Both Biogas and sludge

8. Open drain system is a breeding place for which of the following:
(a) Files (b) Mosquitoes
(c) Organisms which cause diseases (d) All of these
Ans: (d) All of these

9. Which of the following is not a source of waste water?
(a) Sewers (b) Homes (c) Industries (d) Hospital
Ans: (a) Sewers

10. Which of the following is wastewater?
(a) Water trickling from a damaged tap
(b) Water coming out of a shower
(c) Water flowing in a river
(d) Water coming out of a laundry
Ans: (d) Water coming out of a laundry

11. Water that is not fit for use is called
(a) clean water (b) wastewater
(c) both (a) and (b) (d) none of these
Ans: (b) wastewater

12. Untreated human excreta is a:
(a) waste water (b) health hazard
(c) manure (d) none of these
Ans: (b) health hazard

13. Which one is not a of household garbage
(a) Vegetable peels (b) Dal packets
(c) Crockery pieces (d) Cow dung
Ans: (d) Cow dung

14. Which process removes the solids like foeces and other substances from the waste water:
(a) chlorination (b) decomposition
(c) evaporation (d) sand and grit removal
Ans: (d) sand and grit removal

15. Excreta from the toilet seats flow through covered drains into a chemicals:
(a) chemicals (b) biogas plant
(c) vermi-processing toilets (d) none of these
Ans: (b) biogas plant

16. Sanitation in the cities is the function of
(a) Municipal corporation
(b) Non-government organisation
(c) Individual person (d) Societies of locality
Ans: (a) Municipal corporation

17. The process of removing pollutants in water before it enter a water body is called
(a) cleaning of water (b) refining
(c) filtering of water (d) none of these
Ans: (a) cleaning of water

18.The biogas product is used as a source of:
(a) rains (b) oils (c) energy (d) all of these
Ans: (c) energy

19. Which of the following is a part of inorganic impurities of the sewage?
(a) Pesticides (b) Urea
(c) Phosphates (d) Vegetable waste
Ans: (c) Phosphates

20. What helps to clean the clarified water:
(a) aerobic bacteria (b) anaerobic bacteria
(c) both (a) and (b) (d) none of these
Ans: (a) aerobic bacteria

21. Liquid waste consisting of suspended impurities is called
(a) Contaminant (b) Sewage
(c) Aeration (d) Chlorination
Ans: (b) Sewage

22. WWTP stands for
(a) Waste Water Therapy Plant
(b) Waste Water Treatment Plant
(c) Waste Water Travel Plant
(d) Waste Water Tremendous Plant
Ans: (b) Waste Water Treatment Plant

23. Cooking oil and fats should not be thrown down the drain because
(a) They flow through the drain freely
(b) It allows the particles to get filtered
(c) They harden and block the pipe
(d) They break the pipe
Ans: (c) They harden and block the pipe

24. Water borne disease is (a) Diabetes (b) Cancer (c) Appendicitis (d) Cholera **Ans:** (d) Cholera	**25. Biodegradable wastes are generally** (a) Blended (b) Synthetic (c) Organic (d) Inorganic **Ans:** (c) Organic

Assertion – Reason Questions

1. Assertion (A): Wastewater should be treated before being released into rivers or lakes.
Reason (R): Untreated wastewater contains harmful substances that pollute water bodies and harm aquatic life.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

2. Assertion (A): Bar screens in sewage treatment plants help remove floating debris.
Reason (R): They allow only clear water to pass and block large solid waste like rags, sticks, and cans.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

3. Assertion (A): Aeration tanks are used in sewage treatment plants to increase the number of microorganisms.
Reason (R): Microorganisms require oxygen to break down organic matter present in sewage.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

4. Assertion (A): Vermi-processing toilets use earthworms to treat human waste.
Reason (R): Earthworms help in decomposing waste into compost which can be safely used as manure.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, R is false d) A is false, R is true
Ans: a) Both A and R are true, and R is the correct explanation of A

5. Assertion (A): Throwing solid waste like plastic bags and napkins into drains is a good practice.
Reason (R): They block the drainage system and cause overflow of sewage.
a) A and R are true, and R is the correct explanation of A
b) A and R are true, but R is not the correct explanation of A
c) A is false, R is true d) A is true, R is false
Ans: c) A is false, R is true

Matching

1. Wastewater Terms & Meanings

Which of the following **pairs are correctly matched**?

Term	Meaning
(i) Wastewater	Water that carries impurities from homes, industries, etc.
(ii) Sewage	Wastewater containing human & animal excreta
(iii) Sanitation	Safe disposal of human excreta
(iv) Sludge	Dried solid waste used to prepare drinking water

a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iv) only
Ans: a) (i), (ii), (iii) only

2. Stages of Wastewater Treatment & Description

Stage	Description
(i) Screening	Removal of large objects like sticks, rags
(ii) Grit & sand removal	Settling of sand and pebbles
(iii) Aeration	Air pumped to help microbes decompose waste
(iv) Chlorination	Adding chlorine to make water salty

Choose the correct option
a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iii) only
Ans: a) (i), (ii), (iii) only

3. Micro-organisms & Their Roles in Treatment

Micro-organism	Role
(i) Aerobic bacteria	Break down organic waste in presence of oxygen
(ii) Anaerobic bacteria	Decompose sludge without oxygen
(iii) Algae	Add colour and block treatment
(iv) Fungi	Sometimes help decompose organic matter

Choose the correct option

a) (i), (ii), (iv) only b) (ii), (iii) only c) All (i–iv) d) (i), (iii) only

Ans: a) (i), (ii), (iv) only

4. Pollutants & Their Sources

Pollutant	Source
(i) Soap & detergents	Domestic wastewater
(ii) Pesticides	Agricultural runoff
(iii) Heavy metals	Industrial discharge
(iv) Leaves & twigs	Filtration chemicals

Choose the correct option

a) (i), (ii), (iii) only b) (ii), (iii), (iv) only c) All (i–iv) d) (i), (iii), (iv) only

Ans: a) (i), (ii), (iii) only

5. Good Practices & Their Effects

Practice	Effect
(i) Avoid throwing cooking oil into drains	Prevents clogging of pipes
(ii) Use of eco-friendly cleaning agents	Reduces water pollution
(iii) Proper sanitation in open areas	Prevents spread of diseases
(iv) Adding plastics to compost	Improves compost quality

Choose the correct option

a) (i), (ii), (iii) only b) (i), (ii) only c) All (i–iv) d) (ii), (iii), (iv) only

Ans: a) (i), (ii), (iii) only

Item	Expand/ Abbreviation
LED	Light Emitting Diode
CFL	Compact Fluorescent Lamp
MCB	Miniature Circuit Breaker
LASER	Light Amplification by Stimulated Emission of Radiation
PCB	Printed Circuit Board
LPG	Liquefied Petroleum Gas
CNG	Compressed Natural Gas
DNA	Deoxyribonucleic Acid
RNA	Ribonucleic Acid
ATP	Adenosine Triphosphate
HIV	Human Immunodeficiency Virus
ADP	Adenosine Diphosphate
RBC	Red Blood Cells
WBC	White Blood Cells

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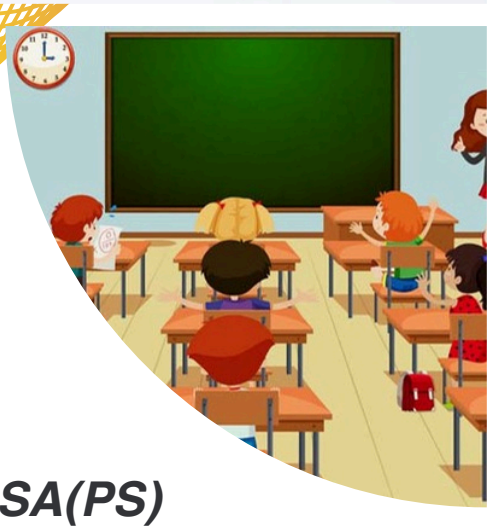

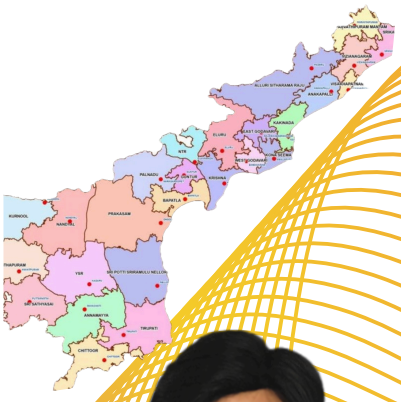

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