



**NATIONAL SCIENCE OLYMPIAD  
ROUND-I PAST PAPER 2023  
PHYSICS  
(FOR ALL CLASSES)**

## 1. Introduction

This document would help users easily find the past papers and understand the different topics. There may be some errors in past papers in their answers or questions. Student should verify all answers through teachers, Google etc.

Moreover, to understand these papers & other scenarios of the Olympiads links YouTube tutorials are given below. Watch the videos and clear your understanding.

Click to Watch Video about Syllabus <https://youtu.be/ZH2Ad8tGAXo>

Click to Watch Video about Model Paper  
<https://youtu.be/6yNQNLkC1RA>

Click to Watch Video about Past Papers <https://youtu.be/iG8htCRrW4I>

# Class 4<sup>th</sup> Physics Past Papers

1. What is force?

- a) Speed
- b) Push or pull
- c) Distance
- d) Time

Correct answer: b) Push or pull

2. Which of the following is an example of a force?

- a) Reading a book
- b) Walking
- c) Breathing
- d) All of the above

Correct answer: d) All of the above

3. What is the unit of force in the metric system?

- a) Newton
- b) Kilogram
- c) Meter
- d) Joule

Correct answer: a) Newton

4. When you kick a soccer ball, you are applying a \_\_\_\_\_ to it.

- a) Force
- b) Mass
- c) Speed
- d) Acceleration

Correct answer: a) Force

5. In which direction does gravity pull objects?

- a) Upward
- b) Downward
- c) Sideways
- d) Diagonally

Correct answer: b) Downward

6. What is the force that resists the motion of one surface past another?

- a) Friction
- b) Gravity
- c) Magnetism
- d) Tension

Correct answer: a) Friction

7. Which surface would create more friction?

- a) Smooth surface
- b) Rough surface
- c) Wet surface
- d) Hot surface

Correct answer: b) Rough surface

8. A force that pulls objects toward each other is called:

- a) Push

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- b) Pull
  - c) Tension
  - d) Compression
- Correct answer: b) Pull

9. When an object changes its position, it is said to be in:
- a) Rest
  - b) Motion
  - c) Equilibrium
  - d) Balance
- Correct answer: b) Motion

10. The force that opposes the motion of objects through air is called:
- a) Magnetism
  - b) Gravity
  - c) Air resistance
  - d) Tension
- Correct answer: c) Air resistance

11. Which of the following is an example of a non-contact force?
- a) Pushing a book
  - b) Pulling a rope
  - c) Magnetic force
  - d) Frictional force
- Correct answer: c) Magnetic force

12. What is the formula for calculating force?
- a) Force = Mass  $\times$  Acceleration
  - b) Force = Mass  $\div$  Acceleration
  - c) Force = Speed  $\times$  Time
  - d) Force = Distance  $\div$  Time
- Correct answer: a) Force = Mass  $\times$  Acceleration

13. If you apply more force to an object, what happens to its acceleration?
- a) It decreases
  - b) It increases
  - c) It remains the same
  - d) It becomes zero
- Correct answer: b) It increases

14. Which of the following is a contact force?
- a) Magnetic force
  - b) Tension
  - c) Friction
  - d) Air resistance
- Correct answer: c) Friction

15. The force that pulls objects toward the center of the Earth is called:
- a) Magnetism
  - b) Gravity
  - c) Tension



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d) Elastic force

Correct answer: b) Gravity

16. What is the force that acts on objects that are moving through air or water?

a) Friction

b) Tension

c) Magnetism

d) Air resistance

Correct answer: d) Air resistance

17. Which of the following is an example of a balanced force?

a) Tug-of-war with equal strength on both sides

b) Pushing a heavy box across the floor

c) A car accelerating downhill

d) Kicking a ball into the air

Correct answer: a) Tug-of-war with equal strength on both sides

18. The force exerted by a stretched or compressed object is called:

a) Tension

b) Compression

c) Friction

d) Magnetism

Correct answer: a) Tension

19. What is the force that opposes the sliding motion between two surfaces?

a) Gravity

b) Tension

c) Magnetism

d) Friction

Correct answer: d) Friction

20. Which of the following is an example of a situation where balanced forces are acting?

a) A person lifting a heavy weight

b) A car accelerating

c) A book sitting on a table

d) A boat moving through water

Correct answer: c) A book sitting on a table

21. The force that slows down or stops the motion of an object is:

a) Tension

b) Air resistance

c) Friction

d) Gravity

Correct answer: c) Friction

22. An object at rest will stay at rest, and an object in motion will stay in motion unless acted upon by an external force. This is known as:

a) Newton's Third Law

b) Newton's Second Law

c) Newton's First Law

d) Newton's Law of Gravitation

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Correct answer: c) Newton's First Law

23. The force that opposes the motion of objects sliding past each other is called:

- a) Tension
- b) Air resistance
- c) Friction
- d) Elastic force

Correct answer: c) Friction

24. If you push a box with a force of 10 Newtons to the right and your friend pushes it with a force of 8 Newtons to the left, what is the net force on the box?

- a) 2 Newtons to the right
- b) 2 Newtons to the left
- c) 18 Newtons to the right
- d) 18 Newtons to the left

Correct answer: a) 2 Newtons to the right

25. When you throw a ball upwards, what force brings it back to the ground?

- a) Tension
- b) Friction
- c) Air resistance
- d) Gravity

Correct answer: d) Gravity

26. If you drop a feather and a rock from the same height in a vacuum (where there is no air resistance), which one will hit the ground first?

- a) The feather
- b) The rock
- c) Both will hit at the same time
- d) Neither will hit the ground

Correct answer: c) Both will hit at the same time

27. What is the force that pulls objects towards each other due to their masses?

- a) Gravity
- b) Magnetism
- c) Tension
- d) Friction

Correct answer: a) Gravity

28. Which of the following is an example of a situation where unbalanced forces are acting?

- a) A car moving at a constant speed
- b) A person standing still
- c) A kite flying in the sky
- d) A sled accelerating down a hill

Correct answer: d) A sled accelerating down a hill

29. If an object is not moving, what can you say about the forces acting on it?

- a) Unbalanced forces are acting on it
- b) Balanced forces are acting on it
- c) There are no forces acting on it
- d) It is impossible to determine

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Correct answer: b) Balanced forces are acting on it

30. What is the force that pulls objects towards the center of the Earth and gives weight to physical objects?

- a) Friction
- b) Gravity
- c) Tension
- d) Elastic force

Correct answer: b) Gravity

31. If you push a swing, what force keeps it moving back and forth?

- a) Gravity
- b) Tension
- c) Friction
- d) Inertia

Correct answer: d) Inertia

32. When an object is in motion, what force tries to stop it?

- a) Friction
- b) Tension
- c) Gravity
- d) Air resistance

Correct answer: a) Friction

33. A force that can pull objects towards each other without touching is called:

- a) Friction
- b) Tension
- c) Magnetic force
- d) Gravity

Correct answer: c) Magnetic force

34. If you apply a force to an object and it moves in the direction of the force, what type of work are you doing?

- a) Negative work
- b) Positive work
- c) Zero work
- d) Scalar work

Correct answer: b) Positive work

35. Which of the following is an example of kinetic energy?

- a) A ball at the top of a hill
- b) A stretched rubber band
- c) A moving car
- d) A stationary book

Correct answer: c) A moving car

36. What is the unit of measurement for work?

- a) Newton
- b) Watt
- c) Joule
- d) Meter

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Correct answer: c) Joule

37. If you lift a heavy box off the ground and hold it above your head, what type of work are you doing?

- a) Negative work
- b) Positive work
- c) Zero work
- d) Scalar work

Correct answer: b) Positive work

38. What is the formula for calculating work?

- a) Work = Force  $\times$  Time
- b) Work = Mass  $\times$  Acceleration
- c) Work = Force  $\times$  Distance
- d) Work = Power  $\times$  Time

Correct answer: c) Work = Force  $\times$  Distance

39. Which of the following is an example of potential energy?

- a) A moving bicycle
- b) A bouncing ball
- c) A stretched spring
- d) A rolling car

Correct answer: c) A stretched spring

40. If an object is not moving, does it have kinetic energy?

- a) Yes
- b) No
- c) It depends on the object
- d) It depends on the speed

Correct answer: b) No

41. What is the formula for calculating kinetic energy?

- a) Kinetic Energy = Mass  $\times$  Acceleration
- b) Kinetic Energy = Force  $\times$  Distance
- c) Kinetic Energy =  $0.5 \times \text{Mass} \times \text{Velocity}^2$
- d) Kinetic Energy = Power  $\times$  Time

Correct answer: c) Kinetic Energy =  $0.5 \times \text{Mass} \times \text{Velocity}^2$

42. When you ride a bike uphill, which type of energy are you using?

- a) Kinetic energy
- b) Potential energy
- c) Mechanical energy
- d) Thermal energy

Correct answer: b) Potential energy

43. What is the energy of motion called?

- a) Kinetic energy
- b) Potential energy
- c) Mechanical energy
- d) Thermal energy

Correct answer: a) Kinetic energy

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44. If an object is at rest on a high shelf, which type of energy does it have?

- a) Kinetic energy
- b) Potential energy
- c) Mechanical energy
- d) Thermal energy

Correct answer: b) Potential energy

45. Which of the following is an example of a renewable energy source?

- a) Coal
- b) Natural gas
- c) Solar power
- d) Nuclear power

Correct answer: c) Solar power

46. What is the law of conservation of energy?

- a) Energy can be created but not destroyed
- b) Energy can be destroyed but not created
- c) Energy cannot be created or destroyed, only transferred or converted
- d) Energy can be created and destroyed at will

Correct answer: c) Energy cannot be created or destroyed, only transferred or converted

47. Which of the following is an example of a non-renewable energy source?

- a) Wind power
- b) Hydroelectric power
- c) Fossil fuels
- d) Geothermal power

Correct answer: c) Fossil fuels

48. What is the SI unit of power?

- a) Joule
- b) Watt
- c) Newton
- d) Kilogram

Correct answer: b) Watt

49. If a machine has a mechanical advantage greater than 1, what can you say about the force required to do work?

- a) The force required is greater than the input force
- b) The force required is less than the input force
- c) The force required is equal to the input force
- d) It is impossible to determine

Correct answer: b) The force required is less than the input force

50. Which of the following is a simple machine used to lift objects?

- a) Screw
- b) Wheel and axle
- c) Lever
- d) Pulley

Correct answer: d)

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51. What is sound?

- a) Light
- b) A type of energy
- c) Heat
- d) Electricity

Correct answer: b) A type of energy

52. How does sound travel?

- a) Through light waves
- b) Through water waves
- c) Through air, liquids, and solids
- d) Through magnetic waves

Correct answer: c) Through air, liquids, and solids

53. What is needed for sound to be produced?

- a) Light
- b) Vibrations
- c) Heat
- d) Electricity

Correct answer: b) Vibrations

54. In which medium does sound travel the fastest?

- a) Air
- b) Water
- c) Solids
- d) Gases

Correct answer: c) Solids

55. What is the unit of measurement for frequency?

- a) Watts
- b) Hertz (Hz)
- c) Decibels (dB)
- d) Newtons

Correct answer: b) Hertz (Hz)

56. How is the pitch of a sound related to its frequency?

- a) Higher pitch has a higher frequency
- b) Lower pitch has a higher frequency
- c) Higher pitch has a lower frequency
- d) Pitch is not related to frequency

Correct answer: a) Higher pitch has a higher frequency

57. Which part of the ear amplifies sound vibrations?

- a) Eardrum
- b) Cochlea
- c) Ear canal
- d) Hammer, anvil, and stirrup

Correct answer: d) Hammer, anvil, and stirrup

58. What is the scientific term for the highness or lowness of a sound?

- a) Amplitude

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- b) Volume
- c) Frequency
- d) Pitch

Correct answer: d) Pitch

59. Which musical instrument produces sound by vibrating strings?

- a) Trumpet
- b) Piano
- c) Violin
- d) Flute

Correct answer: c) Violin

60. What is the source of sound in a drum?

- a) Strings
- b) Air column
- c) Membrane or skin
- d) Metal tubes

Correct answer: c) Membrane or skin

61. Which of the following is an example of a natural source of sound?

- a) Radio
- b) Computer
- c) Thunderstorm
- d) Electric guitar

Correct answer: c) Thunderstorm

62. What is the speed of sound in air?

- a) 300,000 km/s
- b) 150,000 km/s
- c) 343 meters per second
- d) 1,000 meters per second

Correct answer: c) 343 meters per second

63. What is the function of the eardrum?

- a) Amplify sound
- b) Convert sound waves into electrical signals
- c) Transmit sound vibrations to the brain
- d) Vibrate in response to sound waves

Correct answer: d) Vibrate in response to sound waves

64. Which part of the ear is responsible for balance and spatial orientation?

- a) Cochlea
- b) Ear canal
- c) Semicircular canals
- d) Eardrum

Correct answer: c) Semicircular canals

65. Which of the following is a measure of the loudness of a sound?

- a) Pitch
- b) Amplitude
- c) Frequency

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d) Wavelength

Correct answer: b) Amplitude

66. How is the loudness of a sound related to its amplitude?

a) Higher amplitude means lower loudness

b) Lower amplitude means higher loudness

c) Loudness is not related to amplitude

d) Higher amplitude means higher loudness

Correct answer: d) Higher amplitude means higher loudness

67. What is the purpose of the outer ear?

a) Balance

b) Hearing

c) Spatial orientation

d) Amplifying sound

Correct answer: d) Amplifying sound

68. Which musical instrument belongs to the brass family?

a) Violin

b) Trumpet

c) Flute

d) Piano

Correct answer: b) Trumpet

69. What is the frequency of a sound wave with a wavelength of 2 meters and a speed of 340 meters per second?

a) 170 Hz

b) 340 Hz

c) 1 Hz

d) 680 Hz

Correct answer: a) 170 Hz

70. What is the term for the bending of sound waves around obstacles or through openings?

a) Refraction

b) Reflection

c) Diffraction

d) Absorption

Correct answer: c) Diffraction



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1. What is the term for the number of oscillations (vibrations) per unit of time?

- a) Amplitude
- b) Frequency
- c) Wavelength
- d) Intensity

Correct answer: b) Frequency

2. Which part of the ear is responsible for converting sound vibrations into electrical signals that are sent to the brain?

- a) Cochlea
- b) Ear canal
- c) Eardrum
- d) Semicircular canals

Correct answer: a) Cochlea

3. Which of the following is an example of a percussion instrument?

- a) Trumpet
- b) Flute
- c) Drum
- d) Violin

Correct answer: c) Drum

4. What is the term for the bouncing back of sound waves from a surface?

- a) Refraction
- b) Reflection
- c) Diffraction
- d) Absorption

Correct answer: b) Reflection

5. Which part of the ear is responsible for directing sound waves to the eardrum?

- a) Cochlea
- b) Ear canal
- c) Eardrum
- d) Semicircular canals

Correct answer: b) Ear canal

6. Which musical instrument belongs to the woodwind family?

- a) Trumpet
- b) Flute
- c) Violin
- d) Piano

Correct answer: b) Flute

7. What is the term for the quality of a sound that allows us to distinguish between different musical instruments or voices?

- a) Volume
- b) Timbre
- c) Pitch
- d) Harmony

Correct answer: b) Timbre

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8. How does the temperature of the medium affect the speed of sound?

- a) Higher temperature increases the speed of sound
- b) Lower temperature increases the speed of sound
- c) Temperature has no effect on the speed of sound
- d) Higher temperature decreases the speed of sound

Correct answer: a) Higher temperature increases the speed of sound

9. What is the term for the bending of sound waves around corners or obstacles?

- a) Refraction
- b) Reflection
- c) Diffraction
- d) Absorption

Correct answer: c) Diffraction

10. Which of the following is an example of a wind instrument?

- a) Trumpet
- b) Piano
- c) Violin
- d) Drum

Correct answer: a) Trumpet

11. What is the term for the distance between one point on a wave and the identical point on the next wave?

- a) Amplitude
- b) Frequency
- c) Wavelength
- d) Intensity

Correct answer: c) Wavelength

12. What is the purpose of the inner ear?

- a) Balance
- b) Hearing
- c) Spatial orientation
- d) Transmitting sound vibrations to the brain

Correct answer: b) Hearing

13. Which of the following is an example of a membrane instrument?

- a) Trumpet
- b) Piano
- c) Violin
- d) Drum

Correct answer: d) Drum

14. What is the term for the distance traveled by a sound wave in one second?

- a) Amplitude
- b) Frequency
- c) Wavelength
- d) Speed

Correct answer: d) Speed

15. Which of the following is a measure of the strength or power of a sound wave?

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- a) Pitch
- b) Amplitude
- c) Frequency
- d) Wavelength

Correct answer: b) Amplitude

16. What is the term for the perception of the highness or lowness of a sound?

- a) Volume
- b) Timbre
- c) Pitch
- d) Harmony

Correct answer: c) Pitch

17. What is at the center of our solar system?

- a) Earth
- b) Moon
- c) Sun
- d) Mars

Correct answer: c) Sun

18. Which planet is known as the "Red Planet"?

- a) Venus
- b) Mars
- c) Jupiter
- d) Saturn

Correct answer: b) Mars

19. Which planet is the largest in our solar system?

- a) Earth
- b) Jupiter
- c) Neptune
- d) Uranus

Correct answer: b) Jupiter

20. What is the smallest planet in our solar system?

- a) Earth
- b) Mercury
- c) Mars
- d) Venus

Correct answer: b) Mercury

21. What is the Earth's closest natural satellite?

- a) Mars
- b) Sun
- c) Moon
- d) Jupiter

Correct answer: c) Moon

22. What is the name of the imaginary line that divides the Earth into the Northern and Southern Hemispheres?

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a) Tropic of Cancer

b) Equator

c) Prime Meridian

d) Tropic of Capricorn

Correct answer: b) Equator

23. Which layer of the Earth's atmosphere is closest to the surface?

a) Mesosphere

b) Thermosphere

c) Troposphere

d) Stratosphere

Correct answer: c) Troposphere

24. What is the Earth's primary source of energy for weather and climate?

a) Wind

b) Oceans

c) Sun

d) Moon

Correct answer: c) Sun

25. What causes day and night on Earth?

a) Rotation of the Moon

b) Revolution around the Sun

c) Rotation of the Earth on its axis

d) Tilt of the Earth's axis

Correct answer: c) Rotation of the Earth on its axis

26. What is the process by which water vapor turns into liquid water?

a) Evaporation

b) Condensation

c) Precipitation

d) Sublimation

Correct answer: b) Condensation

27. Which planet is known as the "Morning Star" or "Evening Star" and is often visible just after sunset or before sunrise?

a) Mercury

b) Venus

c) Mars

d) Jupiter

Correct answer: b) Venus

28. What is the name of the force that pulls objects toward the center of the Earth?

a) Magnetism

b) Friction

c) Gravity

d) Inertia

Correct answer: c) Gravity

29. Which layer of the Earth is composed of solid rock and extends to the Earth's center?

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- a) Crust
- b) Mantle
- c) Outer core
- d) Inner core

Correct answer: d) Inner core

30. What is the largest ocean on Earth?

- a) Indian Ocean
- b) Atlantic Ocean
- c) Southern Ocean
- d) Pacific Ocean

Correct answer: d) Pacific Ocean

31. What is the process by which plants make their own food using sunlight?

- a) Respiration
- b) Photosynthesis
- c) Transpiration
- d) Germination

Correct answer: b) Photosynthesis

32. What is the term for the regular rising and falling of the Earth's ocean surface caused by the gravitational pull of the Moon and the Sun?

- a) Tides
- b) Currents
- c) Waves
- d) Tsunamis

Correct answer: a) Tides

33. Which gas makes up the majority of Earth's atmosphere?

- a) Oxygen
- b) Nitrogen
- c) Carbon dioxide
- d) Hydrogen

Correct answer: b) Nitrogen

34. What is the name of the layer of the Earth's atmosphere where weather events occur?

- a) Mesosphere
- b) Stratosphere
- c) Troposphere
- d) Thermosphere

Correct answer: c) Troposphere

35. What is the outermost layer of the Earth's atmosphere called?

- a) Exosphere
- b) Thermosphere
- c) Mesosphere
- d) Stratosphere

Correct answer: a) Exosphere

36. Which planet is known for its prominent rings?

- a) Jupiter

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- b) Saturn
- c) Uranus
- d) Neptune

Correct answer: b) Saturn

37. What is the name of the imaginary line that runs from the North Pole to the South Pole, passing through Greenwich, England?

- a) Equator
- b) Tropic of Cancer
- c) Prime Meridian
- d) Tropic of Capricorn

Correct answer: c) Prime Meridian

38. Which of the following is a natural satellite of Mars?

- a) Europa
- b) Titan
- c) Phobos
- d) Ganymede

Correct answer: c) Phobos

39. What is the term for the spinning of a planet on its axis?

- a) Revolution
- b) Orbit
- c) Rotation
- d) Axial tilt

Correct answer: c) Rotation

40. What is the layer of the Earth's atmosphere where the ozone layer is located?

- a) Troposphere
- b) Stratosphere
- c) Mesosphere
- d) Thermosphere

Correct answer: b) Stratosphere

41. What is the name of the path an object in space takes as it revolves around another object?

- a) Axis
- b) Rotation
- c) Orbit
- d) Equator

Correct answer: c) Orbit

42. Which planet is known as the "Gas Giant" and has a prominent Great Red Spot?

- a) Jupiter
- b) Saturn
- c) Uranus
- d) Neptune

Correct answer: a) Jupiter

43. What is the name of the layer of the Earth's atmosphere where meteors burn up upon entering from space?

- a) Troposphere

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- b) Stratosphere
- c) Mesosphere
- d) Thermosphere

Correct answer: c) Mesosphere

44. Which planet is often referred to as the "Blue Planet" due to its abundant water?

- a) Earth
- b) Venus
- c) Mars
- d) Neptune

Correct answer: a) Earth

45. What is the name of the process by which ice directly turns into water vapor without becoming a liquid?

- a) Melting
- b) Sublimation
- c) Condensation
- d) Evaporation

Correct answer: b) Sublimation

46. Which layer of the Earth's atmosphere is responsible for the Northern and Southern Lights (Auroras)?

- a) Mesosphere
- b) Thermosphere
- c) Troposphere
- d) Stratosphere

Correct answer: b) Thermosphere

47. What is the term for the apparent path the Sun takes across the sky during the day?

- a) Orbit
- b) Rotation
- c) Zenith
- d) Ecliptic

Correct answer: d) Ecliptic

48. Which of the following is a characteristic of a gas giant planet?

- a) Solid surface
- b) Prominent rings
- c) Small size
- d) Rocky composition

Correct answer: b) Prominent rings

49. What is the name of the imaginary line that marks the Sun's highest point in the sky during the day?

- a) Zenith
- b) Ecliptic
- c) Meridian
- d) Equator

Correct answer: a) Zenith

50. What is the term for the Earth's yearly orbit around the Sun?

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- a) Rotation
- b) Revolution
- c) Axial tilt
- d) Orbit

Correct answer: b) Revolution

51. Which planet is known for its prominent system of rings and has a notable hexagonal-shaped storm at its north pole?

- a) Jupiter
- b) Saturn
- c) Uranus
- d) Neptune

Correct answer: b) Saturn

52. What is the process by which a gas turns into a liquid?

- a) Evaporation
- b) Sublimation
- c) Condensation
- d) Melting

Correct answer: c) Condensation

53. What is the term for the day when the Sun is farthest from the equator, resulting in the longest day or shortest night?

- a) Equinox
- b) Solstice
- c) Perihelion
- d) Aphelion

Correct answer: b) Solstice

54. Which planet is often referred to as the "Evening Star" or "Morning Star" and is often visible just after sunset or before sunrise?

- a) Mercury
- b) Venus
- c) Mars
- d) Jupiter

Correct answer: b) Venus

55. What is the process by which water vapor changes into water droplets on a surface?

- a) Evaporation
- b) Sublimation
- c) Condensation
- d) Melting

Correct answer: c) Condensation

56. Which of the following is a characteristic of the inner planets (terrestrial planets)?

- a) Large size
- b) Gaseous composition
- c) Numerous moons
- d) Solid surface

Correct answer: d) Solid surface



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57. What is the term for the layer of the Earth's atmosphere that contains the ozone layer, protecting life on Earth from harmful ultraviolet radiation?

- a) Mesosphere
- b) Thermosphere
- c) Troposphere
- d) Stratosphere

Correct answer: d) Stratosphere

58. Which planet is often referred to as the "Ice Giant" and has a distinct bluish-green color?

- a) Jupiter
- b) Saturn
- c) Uranus
- d) Neptune

Correct answer: c) Uranus

59. What is the term for the imaginary line that extends from the North Pole to the South Pole, passing through the center of the Earth?

- a) Equator
- b) Meridian
- c) Zenith
- d) Ecliptic

Correct answer: b) Meridian

60. Which of the following is a natural satellite of Earth?

- a) Ganymede
- b) Titan
- c) Luna
- d) Triton

Correct answer: c) Luna

61. What is the name of the layer of the Earth's atmosphere where the International Space Station (ISS) orbits?

- a) Mesosphere
- b) Thermosphere
- c) Troposphere
- d) Stratosphere

Correct answer: b) Thermosphere

62. What is the term for the day when the Sun is directly over the equator, resulting in equal day and night?

- a) Equinox
- b) Solstice
- c) Perihelion
- d) Aphelion

Correct answer: a) Equinox

63. Which planet is known for its prominent and colorful bands of clouds?

- a) Jupiter
- b) Saturn
- c) Uranus
- d) Neptune

# Class 5<sup>th</sup> Physics Past Papers

Correct answer: a) Jupiter

64. What is the term for the process by which plants release water vapor into the atmosphere?

- a) Transpiration
- b) Condensation
- c) Precipitation
- d) Sublimation

Correct answer: a) Transpiration

65. Which of the following is a characteristic of the outer planets (gas giants)?

- a) Solid surface
- b) Ring systems
- c) Small size
- d) Few moons

Correct answer: b) Ring systems

66. What is the term for the process by which water falls from the atmosphere to the Earth's surface as rain, snow, sleet, or hail?

- a) Evaporation
- b) Sublimation
- c) Condensation
- d) Precipitation

Correct answer: d) Precipitation

67. What is force?

- a) Speed
- b) Push or pull
- c) Distance
- d) Time

Correct answer: b) Push or pull

68. Which of the following is an example of a force?

- a) Reading a book
- b) Walking
- c) Breathing
- d) All of the above

Correct answer: d) All of the above

69. What is the unit of force in the metric system?

- a) Newton
- b) Kilogram
- c) Meter
- d) Joule

Correct answer: a) Newton

70. When you kick a soccer ball, you are applying a \_\_\_\_\_ to it.

- a) Force
- b) Mass
- c) Speed
- d) Acceleration

Correct answer: a) Force

# **Class 5<sup>th</sup> Physics Past Papers**

# Class 6<sup>th</sup> Physics Past Papers

1. What is the term for the distance between one point on a wave and the identical point on the next wave?

- a) Amplitude
- b) Frequency
- c) Wavelength
- d) Intensity

Correct answer: c)

2. What is the purpose of the inner ear?

- a) Balance
- b) Hearing
- c) Spatial orientation
- d) Transmitting sound vibrations to the brain

Correct answer: b)

3. Which of the following is an example of a membrane instrument?

- a) Trumpet
- b) Piano
- c) Violin
- d) Drum

Correct answer: d)

4. What is the term for the distance traveled by a sound wave in one second?

- a) Amplitude
- b) Frequency
- c) Wavelength
- d) Speed

Correct answer: d)

5. Which of the following is a measure of the strength or power of a sound wave?

- a) Pitch
- b) Amplitude
- c) Frequency
- d) Wavelength

Correct answer: b)

6. What is the term for the perception of the highness or lowness of a sound?

- a) Volume
- b) Timbre
- c) Pitch
- d) Harmony

Correct answer: c)

7. What is at the center of our solar system?

- a) Earth
- b) Moon
- c) Sun
- d) Mars

Correct answer: c)

# Class 6<sup>th</sup> Physics Past Papers

8. Which planet is known as the "Red Planet"?

- a) Venus
- b) Mars
- c) Jupiter
- d) Saturn

Correct answer: b)

9. Which planet is the largest in our solar system?

- a) Earth
- b) Jupiter
- c) Neptune
- d) Uranus

Correct answer: b)

10. What is the smallest planet in our solar system?

- a) Earth
- b) Mercury
- c) Mars
- d) Venus

Correct answer: b)

11. What is the Earth's closest natural satellite?

- a) Mars
- b) Sun
- c) Moon
- d) Jupiter

Correct answer: c)

12. What is the name of the imaginary line that divides the Earth into the Northern and Southern Hemispheres?

- a) Tropic of Cancer
- b) Equator
- c) Prime Meridian
- d) Tropic of Capricorn

Correct answer: b)

13. Which layer of the Earth's atmosphere is closest to the surface?

- a) Mesosphere
- b) Thermosphere
- c) Troposphere
- d) Stratosphere

Correct answer: c)

14. What is the Earth's primary source of energy for weather and climate?

- a) Wind
- b) Oceans
- c) Sun
- d) Moon

Correct answer: c)

# Class 6<sup>th</sup> Physics Past Papers

15. What causes day and night on Earth?

- a) Rotation of the Moon
- b) Revolution around the Sun
- c) Rotation of the Earth on its axis
- d) Tilt of the Earth's axis

Correct answer: c)

16. What is the process by which water vapor turns into liquid water?

- a) Evaporation
- b) Condensation
- c) Precipitation
- d) Sublimation

Correct answer: b)

17. Which planet is known as the "Morning Star" or "Evening Star" and is often visible just after sunset or before sunrise?

- a) Mercury
- b) Venus
- c) Mars
- d) Jupiter

Correct answer: b)

18. What is the name of the force that pulls objects toward the center of the Earth?

- a) Magnetism
- b) Friction
- c) Gravity
- d) Inertia

Correct answer: c)

19. Which layer of the Earth is composed of solid rock and extends to the Earth's center?

- a) Crust
- b) Mantle
- c) Outer core
- d) Inner core

Correct answer: d)

20. What is the largest ocean on Earth?

- a) Indian Ocean
- b) Atlantic Ocean
- c) Southern Ocean
- d) Pacific Ocean

Correct answer: d)

21. What is the process by which plants make their own food using sunlight?

- a) Respiration
- b) Photosynthesis
- c) Transpiration
- d) Germination

Correct answer: b)

# Class 6<sup>th</sup> Physics Past Papers

22. What is the term for the regular rising and falling of the Earth's ocean surface caused by the gravitational pull of the Moon and the Sun?

- a) Tides
- b) Currents
- c) Waves
- d) Tsunamis

Correct answer: a)

23. Which gas makes up the majority of Earth's atmosphere?

- a) Oxygen
- b) Nitrogen
- c) Carbon dioxide
- d) Hydrogen

Correct answer: b)

24. What is force?

- a) Speed
- b) Push or pull
- c) Distance
- d) Time

Correct answer: b)

25. Which of the following is an example of a force?

- a) Reading a book
- b) Walking
- c) Breathing
- d) All of the above

Correct answer: d)

26. What is the unit of force in the metric system?

- a) Newton
- b) Kilogram
- c) Meter
- d) Joule

Correct answer: a)

27. When you kick a soccer ball, you are applying a \_\_\_\_\_ to it.

- a) Force
- b) Mass
- c) Speed
- d) Acceleration

Correct answer: a)

28. In which direction does gravity pull objects?

- a) Upward
- b) Downward
- c) Sideways
- d) Diagonally

Correct answer: b)

29. What is the force that resists the motion of one surface past another?

# Class 6<sup>th</sup> Physics Past Papers

- a) Friction
- b) Gravity
- c) Magnetism
- d) Tension

Correct answer: a)

30. Which surface would create more friction?

- a) Smooth surface
- b) Rough surface
- c) Wet surface
- d) Hot surface

Correct answer: b)

31. A force that pulls objects toward each other is called:

- a) Push
- b) Pull
- c) Tension
- d) Compression

Correct answer: b)

32. When an object changes its position, it is said to be in:

- a) Rest
- b) Motion
- c) Equilibrium
- d) Balance

Correct answer: b)

33. The force that opposes the motion of objects through air is called:

- a) Magnetism
- b) Gravity
- c) Air resistance
- d) Tension

Correct answer: c)

34. Which of the following is an example of a non-contact force?

- a) Pushing a book
- b) Pulling a rope
- c) Magnetic force
- d) Frictional force

Correct answer: c) Magnetic force

35. What is the formula for calculating force?

- a) Force = Mass  $\times$  Acceleration
- b) Force = Mass  $\div$  Acceleration
- c) Force = Speed  $\times$  Time
- d) Force = Distance  $\div$  Time

Correct answer: a)

36. If you apply more force to an object, what happens to its acceleration?

- a) It decreases
- b) It increases



# Class 6<sup>th</sup> Physics Past Papers

- c) It remains the same
- d) It becomes zero

Correct answer: b)

37. Which of the following is a contact force?

- a) Magnetic force
- b) Tension
- c) Friction
- d) Air resistance

Correct answer: c)

38. The force that pulls objects toward the center of the Earth is called:

- a) Magnetism
- b) Gravity
- c) Tension
- d) Elastic force

Correct answer: b)

39. What is the force that acts on objects that are moving through air or water?

- a) Friction
- b) Tension
- c) Magnetism
- d) Air resistance

Correct answer: d)

40. Which of the following is an example of a balanced force?

- a) Tug-of-war with equal strength on both sides
- b) Pushing a heavy box across the floor
- c) A car accelerating downhill
- d) Kicking a ball into the air

Correct answer: a)

41. The force exerted by a stretched or compressed object is called:

- a) Tension
- b) Compression
- c) Friction
- d) Magnetism

Correct answer: a)

42. What is the force that opposes the sliding motion between two surfaces?

- a) Gravity
- b) Tension
- c) Magnetism
- d) Friction

Correct answer: d)

43. Which of the following is an example of a situation where balanced forces are acting?

- a) A person lifting a heavy weight
- b) A car accelerating
- c) A book sitting on a table
- d) A boat moving through water

# Class 6<sup>th</sup> Physics Past Papers

Correct answer: c)

44. The force that slows down or stops the motion of an object is:

- a) Tension
- b) Air resistance
- c) Friction
- d) Gravity

Correct answer: c)

45. An object at rest will stay at rest, and an object in motion will stay in motion unless acted upon by an external force. This is known as:

- a) Newton's Third Law
- b) Newton's Second Law
- c) Newton's First Law
- d) Newton's Law of Gravitation

Correct answer: c)

46. The force that opposes the motion of objects sliding past each other is called:

- a) Tension
- b) Air resistance
- c) Friction
- d) Elastic force

Correct answer: c)

47. If you push a box with a force of 10 Newtons to the right and your friend pushes it with a force of 8 Newtons to the left, what is the net force on the box?

- a) 2 Newtons to the right
- b) 2 Newtons to the left
- c) 18 Newtons to the right
- d) 18 Newtons to the left

Correct answer: a)

48. When you throw a ball upwards, what force brings it back to the ground?

- a) Tension
- b) Friction
- c) Air resistance
- d) Gravity

Correct answer: d)

49. If you drop a feather and a rock from the same height in a vacuum (where there is no air resistance), which one will hit the ground first?

- a) The feather
- b) The rock
- c) Both will hit at the same time
- d) Neither will hit the ground

Correct answer: c)

50. What is the force that pulls objects towards each other due to their masses?

- a) Gravity
- b) Magnetism
- c) Tension

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d) Friction

Correct answer: a)

51. Which of the following is an example of a situation where unbalanced forces are acting?

a) A car moving at a constant speed

b) A person standing still

c) A kite flying in the sky

d) A sled accelerating down a hill

Correct answer: d)

52. If an object is not moving, what can you say about the forces acting on it?

a) Unbalanced forces are acting on it

b) Balanced forces are acting on it

c) There are no forces acting on it

d) It is impossible to determine

Correct answer: b)

53. What is the force that pulls objects towards the center of the Earth and gives weight to physical objects?

a) Friction

b) Gravity

c) Tension

d) Elastic force

Correct answer: b)

54. If you push a swing, what force keeps it moving back and forth?

a) Gravity

b) Tension

c) Friction

d) Inertia

Correct answer: d)

55. When an object is in motion, what force tries to stop it?

a) Friction

b) Tension

c) Gravity

d) Air resistance

Correct answer: a)

56. A force that can pull objects towards each other without touching is called:

a) Friction

b) Tension

c) Magnetic force

d) Gravity

Correct answer: c)

57. If you apply a force to an object and it moves in the direction of the force, what type of work are you doing?

a) Negative work

b) Positive work

c) Zero work

# Class 6<sup>th</sup> Physics Past Papers

d) Scalar work

Correct answer: b)

58. Which of the following is an example of kinetic energy?

a) A ball at the top of a hill

b) A stretched rubber band

c) A moving car

d) A stationary book

Correct answer: c)

59. Which planet is known as the "Blue Dot" and is often described as the "Pale Blue Dot" in reference to a famous photograph taken from space?

a) Mars

b) Venus

c) Earth

d) Mercury

Correct answer: c)

60. What is the term for the imaginary line that marks the Sun's highest point in the sky during the day at the Tropic of Cancer or Tropic of Capricorn?

a) Zenith

b) Ecliptic

c) Meridian

d) Equator

Correct answer: a)

61. Which planet is known for its prominent system of colorful and narrow rings?

a) Jupiter

b) Saturn

c) Uranus

d) Neptune

Correct answer: b)

62. What is the name of the layer of the Earth's atmosphere where weather balloons and airplanes fly?

a) Troposphere

b) Stratosphere

c) Mesosphere

d) Thermosphere

Correct answer: b)

63. Which natural satellite is the largest moon in our solar system and orbits Jupiter?

a) Europa

b) Titan

c) Ganymede

d) Io

Correct answer: c)

64. What is the name of the process by which a liquid turns into a gas?

a) Melting

b) Sublimation

# Class 6<sup>th</sup> Physics Past Papers

c) Condensation

d) Evaporation

Correct answer: d)

65. Which planet is known for its prominent system of faint rings and a distinctive blue-green color?

a) Jupiter

b) Saturn

c) Uranus

d) Neptune

Correct answer: c)

66. What is the name of the layer of the Earth's atmosphere where the Northern Lights (Auroras) occur?

a) Mesosphere

b) Thermosphere

c) Troposphere

d) Stratosphere

Correct answer: b)

67. Which planet is often referred to as the "Ice Giant" and has a distinct bluish color?

a) Jupiter

b) Saturn

c) Uranus

d) Neptune

Correct answer: d)

68. What is the term for the day when the Sun is directly over the Tropic of Capricorn, resulting in the longest day in the Southern Hemisphere?

a) Equinox

b) Solstice

c) Perihelion

d) Aphelion

Correct answer: b)

69. Which of the following is a characteristic of the gas giants in our solar system?

a) Small size

b) Rocky composition

c) Numerous moons

d) Lack of atmosphere

Correct answer: c)

70. What is the name of the imaginary line that marks the Sun's highest point in the sky during the day at the Tropic of Capricorn or Tropic of Cancer?

a) Zenith

b) Ecliptic

c) Meridian

d) Equator

Correct answer: a)

# Class 7<sup>th</sup> Physics Past Papers

1. How is the loudness of a sound related to its amplitude?

- a) Higher amplitude means lower loudness
- b) Lower amplitude means higher loudness
- c) Loudness is not related to amplitude
- d) Higher amplitude means higher loudness

Correct answer: d) Higher amplitude means higher loudness

2. What is the purpose of the outer ear?

- a) Balance
- b) Hearing
- c) Spatial orientation
- d) Amplifying sound

Correct answer: d) Amplifying sound

3. Which musical instrument belongs to the brass family?

- a) Violin
- b) Trumpet
- c) Flute
- d) Piano

Correct answer: b) Trumpet

4. What is the frequency of a sound wave with a wavelength of 2 meters and a speed of 340 meters per second?

- a) 170 Hz
- b) 340 Hz
- c) 1 Hz
- d) 680 Hz

Correct answer: a) 170 Hz

5. What is the term for the bending of sound waves around obstacles or through openings?

- a) Refraction
- b) Reflection
- c) Diffraction
- d) Absorption

Correct answer: c) Diffraction

6. Which of the following materials would be the best conductor of sound?

- a) Wood
- b) Rubber
- c) Metal
- d) Cloth

Correct answer: c) Metal

7. What is the sensation of a sound continuing after the source has stopped producing it?

- a) Pitch
- b) Echo
- c) Reverberation
- d) Doppler effect

Correct answer: c) Reverberation

# Class 7<sup>th</sup> Physics Past Papers

8. Which of the following is a unit of measurement for the intensity of sound?

- a) Hertz (Hz)
- b) Decibels (dB)
- c) Watts
- d) Amperes

Correct answer: b) Decibels (dB)

9. What is the purpose of the middle ear?

- a) Balance
- b) Hearing
- c) Spatial orientation
- d) Transmitting sound vibrations to the inner ear

Correct answer: d) Transmitting sound vibrations to the inner ear

10. How does the Doppler effect affect the sound of a moving object?

- a) It increases the pitch of the sound
- b) It decreases the pitch of the sound
- c) It increases the volume of the sound
- d) It has no effect on the sound

Correct answer: a) It increases the pitch of the sound

11. What is the term for the repetition of sound caused by the reflection of sound waves?

- a) Echo
- b) Reverberation
- c) Refraction
- d) Diffraction

Correct answer: a) Echo

12. Which of the following is an example of a string instrument?

- a) Trumpet
- b) Flute
- c) Guitar
- d) Drum

Correct answer: c) Guitar

13. In a vacuum (where there is no air), how does sound travel?

- a) It travels faster than in air
- b) It travels at the same speed as in air
- c) It does not travel at all
- d) It travels slower than in air

Correct answer: c) It does not travel at all

14. What is the term for the highness or lowness of a musical note?

- a) Volume
- b) Timbre
- c) Pitch
- d) Harmony

Correct answer: c) Pitch

15. Which of the following is a measure of the quality or color of a sound?

- a) Volume

# Class 7<sup>th</sup> Physics Past Papers

- b) Timbre
- c) Pitch
- d) Wavelength

Correct answer: b) Timbre

16. What is the term for the change in frequency of a sound wave in relation to an observer moving relative to the source of the sound?

- a) Echo
- b) Reverberation
- c) Refraction
- d) Doppler effect

Correct answer: d) Doppler effect

17. What is the frequency of a sound wave with a period of 0.02 seconds?

- a) 50 Hz
- b) 40 Hz
- c) 25 Hz
- d) 20 Hz

Correct answer: a) 50 Hz

18. Which of the following materials would be the best absorber of sound?

- a) Metal
- b) Rubber
- c) Glass
- d) Plastic

Correct answer: b) Rubber

19. What is the term for the bending of sound waves as they pass from one medium to another?

- a) Refraction
- b) Reflection
- c) Diffraction
- d) Absorption

Correct answer: a) Refraction

20. What is the term for the number of oscillations (vibrations) per unit of time?

- a) Amplitude
- b) Frequency
- c) Wavelength
- d) Intensity

Correct answer: b) Frequency

21. Which part of the ear is responsible for converting sound vibrations into electrical signals that are sent to the brain?

- a) Cochlea
- b) Ear canal
- c) Eardrum
- d) Semicircular canals

Correct answer: a) Cochlea

22. Which of the following is an example of a percussion instrument?

- a) Trumpet



# Class 7<sup>th</sup> Physics Past Papers

- b) Flute
- c) Drum
- d) Violin

Correct answer: c) Drum

23. What is the term for the bouncing back of sound waves from a surface?

- a) Refraction
- b) Reflection
- c) Diffraction
- d) Absorption

Correct answer: b) Reflection

24. Which part of the ear is responsible for directing sound waves to the eardrum?

- a) Cochlea
- b) Ear canal
- c) Eardrum
- d) Semicircular canals

Correct answer: b) Ear canal

25. Which musical instrument belongs to the woodwind family?

- a) Trumpet
- b) Flute
- c) Violin
- d) Piano

Correct answer: b) Flute

26. What is the term for the quality of a sound that allows us to distinguish between different musical instruments or voices?

- a) Volume
- b) Timbre
- c) Pitch
- d) Harmony

Correct answer: b) Timbre

27. How does the temperature of the medium affect the speed of sound?

- a) Higher temperature increases the speed of sound
- b) Lower temperature increases the speed of sound
- c) Temperature has no effect on the speed of sound
- d) Higher temperature decreases the speed of sound

Correct answer: a) Higher temperature increases the speed of sound

28. What is the term for the bending of sound waves around corners or obstacles?

- a) Refraction
- b) Reflection
- c) Diffraction
- d) Absorption

Correct answer: c) Diffraction

29. Which of the following is an example of a wind instrument?

- a) Trumpet
- b) Piano

# Class 7<sup>th</sup> Physics Past Papers

c) Violin

d) Drum

Correct answer: a) Trumpet

30. What is the term for the distance between one point on a wave and the identical point on the next wave?

a) Amplitude

b) Frequency

c) Wavelength

d) Intensity

Correct answer: c) Wavelength

31. What is the purpose of the inner ear?

a) Balance

b) Hearing

c) Spatial orientation

d) Transmitting sound vibrations to the brain

Correct answer: b) Hearing

32. Which of the following is an example of a membrane instrument?

a) Trumpet

b) Piano

c) Violin

d) Drum

Correct answer: d) Drum

33. What is the term for the distance traveled by a sound wave in one second?

a) Amplitude

b) Frequency

c) Wavelength

d) Speed

Correct answer: d) Speed

34. Which of the following is a measure of the strength or power of a sound wave?

a) Pitch

b) Amplitude

c) Frequency

d) Wavelength

Correct answer: b) Amplitude

35. What is the term for the perception of the highness or lowness of a sound?

a) Volume

b) Timbre

c) Pitch

d) Harmony

Correct answer: c) Pitch

36. What is at the center of our solar system?

a) Earth

b) Moon

# Class 7<sup>th</sup> Physics Past Papers

- c) Sun
- d) Mars

Correct answer: c) Sun

37. Which planet is known as the "Red Planet"?

- a) Venus
- b) Mars
- c) Jupiter
- d) Saturn

Correct answer: b) Mars

38. Which planet is the largest in our solar system?

- a) Earth
- b) Jupiter
- c) Neptune
- d) Uranus

Correct answer: b) Jupiter

39. What is the smallest planet in our solar system?

- a) Earth
- b) Mercury
- c) Mars
- d) Venus

Correct answer: b) Mercury

40. Which natural satellite is the second-largest moon in our solar system and orbits Saturn?

- a) Europa
- b) Titan
- c) Ganymede
- d) Io

Correct answer: b) Titan

41. What is the name of the process by which a gas turns into a solid without becoming a liquid?

- a) Melting
- b) Sublimation
- c) Condensation
- d) Deposition

Correct answer: d) Deposition

42. Which planet is often referred to as the "Morning Star" and is often visible just before sunrise?

- a) Mercury
- b) Venus
- c) Mars
- d) Jupiter

Correct answer: b) Venus

43. What is the Earth's closest natural satellite?

- a) Mars
- b) Sun
- c) Moon

# Class 7<sup>th</sup> Physics Past Papers

d) Jupiter

Correct answer: c) Moon

44. What is the name of the imaginary line that divides the Earth into the Northern and Southern Hemispheres?

a) Tropic of Cancer

b) Equator

c) Prime Meridian

d) Tropic of Capricorn

Correct answer: b) Equator

45. Which layer of the Earth's atmosphere is closest to the surface?

a) Mesosphere

b) Thermosphere

c) Troposphere

d) Stratosphere

Correct answer: c) Troposphere

46. What is the Earth's primary source of energy for weather and climate?

a) Wind

b) Oceans

c) Sun

d) Moon

Correct answer: c) Sun

47. What causes day and night on Earth?

a) Rotation of the Moon

b) Revolution around the Sun

c) Rotation of the Earth on its axis

d) Tilt of the Earth's axis

Correct answer: c) Rotation of the Earth on its axis

48. What is the process by which water vapor turns into liquid water?

a) Evaporation

b) Condensation

c) Precipitation

d) Sublimation

Correct answer: b) Condensation

49. Which planet is known as the "Morning Star" or "Evening Star" and is often visible just after sunset or before sunrise?

a) Mercury

b) Venus

c) Mars

d) Jupiter

Correct answer: b) Venus

50. What is the name of the force that pulls objects toward the center of the Earth?

a) Magnetism

b) Friction

c) Gravity

# Class 7<sup>th</sup> Physics Past Papers

d) Inertia

Correct answer: c) Gravity

51. Which layer of the Earth is composed of solid rock and extends to the Earth's center?

a) Crust

b) Mantle

c) Outer core

d) Inner core

Correct answer: d) Inner core

52. What is the largest ocean on Earth?

a) Indian Ocean

b) Atlantic Ocean

c) Southern Ocean

d) Pacific Ocean

Correct answer: d) Pacific Ocean

53. What is the process by which plants make their own food using sunlight?

a) Respiration

b) Photosynthesis

c) Transpiration

d) Germination

Correct answer: b) Photosynthesis

54. What is the term for the regular rising and falling of the Earth's ocean surface caused by the gravitational pull of the Moon and the Sun?

a) Tides

b) Currents

c) Waves

d) Tsunamis

Correct answer: a) Tides

55. Which gas makes up the majority of Earth's atmosphere?

a) Oxygen

b) Nitrogen

c) Carbon dioxide

d) Hydrogen

Correct answer: b) Nitrogen

56. What is the name of the layer of the Earth's atmosphere where weather events occur?

a) Mesosphere

b) Stratosphere

c) Troposphere

d) Thermosphere

Correct answer: c) Troposphere

57. What is the outermost layer of the Earth's atmosphere called?

a) Exosphere

b) Thermosphere

c) Mesosphere

d) Stratosphere

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Correct answer: a) Exosphere

58. Which planet is known for its prominent rings?

- a) Jupiter
- b) Saturn
- c) Uranus
- d) Neptune

Correct answer: b) Saturn

59. What is the name of the imaginary line that runs from the North Pole to the South Pole, passing through Greenwich, England?

- a) Equator
- b) Tropic of Cancer
- c) Prime Meridian
- d) Tropic of Capricorn

Correct answer: c) Prime Meridian

60. Which of the following is a natural satellite of Mars?

- a) Europa
- b) Titan
- c) Phobos
- d) Ganymede

Correct answer: c) Phobos

61. What is the term for the spinning of a planet on its axis?

- a) Revolution
- b) Orbit
- c) Rotation
- d) Axial tilt

Correct answer: c) Rotation

62. What is the layer of the Earth's atmosphere where the ozone layer is located?

- a) Troposphere
- b) Stratosphere
- c) Mesosphere
- d) Thermosphere

Correct answer: b) Stratosphere

63. What is the name of the path an object in space takes as it revolves around another object?

- a) Axis
- b) Rotation
- c) Orbit
- d) Equator

Correct answer: c) Orbit

64. Which planet is known as the "Gas Giant" and has a prominent Great Red Spot?

- a) Jupiter
- b) Saturn
- c) Uranus
- d) Neptune

Correct answer: a) Jupiter

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65. What is the name of the layer of the Earth's atmosphere where meteors burn up upon entering from space?

- a) Troposphere
- b) Stratosphere
- c) Mesosphere
- d) Thermosphere

Correct answer: c) Mesosphere

66. Which planet is often referred to as the "Blue Planet" due to its abundant water?

- a) Earth
- b) Venus
- c) Mars
- d) Neptune

Correct answer: a) Earth

67. What is the name of the process by which ice directly turns into water vapor without becoming a liquid?

- a) Melting
- b) Sublimation
- c) Condensation
- d) Evaporation

Correct answer: b) Sublimation

68. Which layer of the Earth's atmosphere is responsible for the Northern and Southern Lights (Auroras)?

- a) Mesosphere
- b) Thermosphere
- c) Troposphere
- d) Stratosphere

Correct answer: b) Thermosphere

69. What is the term for the apparent path the Sun takes across the sky during the day?

- a) Orbit
- b) Rotation
- c) Zenith
- d) Ecliptic

Correct answer: d) Ecliptic

70. Which of the following is a characteristic of a gas giant planet?

- a) Solid surface
- b) Prominent rings
- c) Small size
- d) Rocky composition

Correct answer: b) Prominent rings

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1. What is the flow of electric charge called?

- a) Voltage
- b) Current
- c) Resistance
- d) Power

Correct answer: b) Current

2. What is the SI unit of electric current?

- a) Ampere
- b) Volt
- c) Ohm
- d) Watt

Correct answer: a) Ampere

3. Which particle carries a negative charge in an atom?

- a) Proton
- b) Neutron
- c) Electron
- d) Positron

Correct answer: c) Electron

4. What is the unit of electric resistance?

- a) Volt
- b) Ampere
- c) Ohm
- d) Watt

Correct answer: c) Ohm

5. Which material is a good conductor of electricity?

- a) Rubber
- b) Wood
- c) Copper
- d) Glass

Correct answer: c) Copper

6. What does AC stand for in electricity?

- a) Alternating Current
- b) Applied Current
- c) Amperes Charge
- d) Alternating Charge

Correct answer: a) Alternating Current

7. In a simple electric circuit, what is the purpose of a resistor?

- a) To store energy



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- b) To control current
- c) To produce light
- d) To generate magnetic fields

Correct answer: b) To control current

8. Which law states that the current passing through a conductor between two points is directly proportional to the voltage across the two points?

- a) Ohm's Law
- b) Newton's Law
- c) Coulomb's Law
- d) Faraday's Law

Correct answer: a) Ohm's Law

9. What is the unit of electric power?

- a) Watt
- b) Joule
- c) Volt
- d) Ampere-hour

Correct answer: a) Watt

10. What type of current flows in a flashlight bulb powered by a battery?

- a) Alternating Current (AC)
- b) Direct Current (DC)
- c) Static Current
- d) Magnetic Current

Correct answer: b) Direct Current (DC)

11. Which of the following is a semiconductor material used in electronic devices?

- a) Copper
- b) Silicon
- c) Aluminum
- d) Gold

Correct answer: b) Silicon

12. What is the force that opposes the flow of electric current in a conductor?

- a) Voltage
- b) Resistance
- c) Current
- d) Conductance

Correct answer: b) Resistance

13. Which device is used to protect an electric circuit from excessive current?

- a) Capacitor
- b) Resistor

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- c) Fuse
- d) Diode

Correct answer: c) Fuse

14. What is the process of creating an electric current by moving a loop of wire through a magnetic field called?

- a) Induction
- b) Conduction
- c) Resistance
- d) Insulation

Correct answer: a) Induction

15. What is the unit of electric potential difference?

- a) Volt
- b) Ampere
- c) Ohm
- d) Watt

Correct answer: a) Volt

16. Which type of circuit has only one path for the flow of electric current?

- a) Series circuit
- b) Parallel circuit
- c) Complex circuit
- d) Open circuit

Correct answer: a) Series circuit

17. What is the function of an insulator in an electrical circuit?

- a) To control current
- b) To conduct electricity
- c) To resist magnetic fields
- d) To prevent the flow of electric current

Correct answer: d) To prevent the flow of electric current

18. Which phenomenon occurs when an electric current produces a magnetic field around a conductor?

- a) Electromagnetic induction
- b) Electric polarization
- c) Magnetic resonance
- d) Capacitance

Correct answer: a) Electromagnetic induction

What is the SI unit of magnetic field strength?

- a) Tesla
- b) Volt

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- c) Ampere
- d) Ohm

Correct answer: a) Tesla

What device is used to measure electric current in a circuit?

- a) Voltmeter
- b) Ammeter
- c) Oscilloscope
- d) Multimeter

Correct answer: b) Ammeter

Which type of magnet is created by passing an electric current through a coil of wire?

- a) Permanent magnet
- b) Temporary magnet
- c) Electromagnet
- d) Ferromagnet

Correct answer: c) Electromagnet

What is the term for the complete path that an electric current travels along?

- a) Circuit breaker
- b) Conductive path
- c) Electric loop
- d) Electric circuit

Correct answer: d) Electric circuit

What is the phenomenon where a material becomes magnetized in the presence of an external magnetic field and retains its magnetism after the field is removed?

- a) Temporary magnetism
- b) Electromagnetism
- c) Ferromagnetism
- d) Induced magnetism

Correct answer: c) Ferromagnetism

Which component in a circuit stores electrical energy and releases it when needed?

- a) Resistor
- b) Capacitor
- c) Inductor
- d) Transformer

Correct answer: b) Capacitor

What is the term for the electric charge transferred by one ampere of current flowing for one second?

- a) Watt
- b) Joule

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- c) Volt
- d) Coulomb

Correct answer: d) Coulomb

Which type of current flows in power lines delivering electricity from power plants to homes?

- a) Direct Current (DC)
- b) Alternating Current (AC)
- c) Static Current
- d) Magnetic Current

Correct answer: b) Alternating Current (AC)

In a parallel circuit, what happens to the total resistance as more resistors are added?

- a) Increases
- b) Decreases
- c) Remains the same
- d) Depends on the specific resistors

Correct answer: b) Decreases

What is the term for the measure of opposition to the flow of alternating current in a circuit?

- a) Ohmic resistance
- b) Impedance
- c) Conductance
- d) Reactance

Correct answer: b) Impedance

Which component in a circuit is used to store and release electrical energy in the form of light?

- a) Resistor
- b) Capacitor
- c) Diode
- d) Light-emitting diode (LED)

Correct answer: d) Light-emitting diode (LED)

What is the term for the tendency of a material to oppose the flow of magnetic lines of force within it?

- a) Magnetization
- b) Magnetic permeability
- c) Magnetic induction
- d) Magnetic reluctance

Correct answer: d) Magnetic reluctance

Which type of magnet retains its magnetism even when removed from an external magnetic field?

- a) Permanent magnet
- b) Temporary magnet
- c) Electromagnet

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d) Induced magnet

Correct answer: a) Permanent magnet

What is the term for the device that converts mechanical energy into electrical energy?

a) Transformer

b) Generator

c) Resistor

d) Capacitor

Correct answer: b) Generator

What is the direction of conventional current flow in an electrical circuit?

a) From positive to negative

b) From negative to positive

c) From high resistance to low resistance

d) From low resistance to high resistance

Correct answer: a) From positive to negative

Which law states that like magnetic poles repel each other, and opposite magnetic poles attract each other?

a) Gauss's Law

b) Ampere's Law

c) Coulomb's Law

d) Faraday's Law

Correct answer: c) Coulomb's Law

What is the term for the condition in which an object has gained or lost electrons, resulting in an imbalance of electric charge?

a) Magnetization

b) Electrostatic discharge

c) Electrification

d) Conduction

Correct answer: c) Electrification

Which device is used to change the voltage of an alternating current?

a) Capacitor

b) Transformer

c) Diode

d) Resistor

Correct answer: b) Transformer

What is the term for the property of a material that determines the ease with which it can be magnetized?

a) Magnetization

b) Magnetic permeability

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- c) Magnetic induction
- d) Magnetic reluctance

Correct answer: b) Magnetic permeability

Which component in a circuit allows current to flow in one direction only?

- a) Resistor
- b) Capacitor
- c) Diode
- d) Transformer

Correct answer: c) Diode

What is the term for the ability of a material to attract iron or steel?

- a) Magnetization
- b) Magnetic permeability
- c) Magnetic induction
- d) Ferromagnetism

Correct answer: d) Ferromagnetism

What is the phenomenon where a material becomes magnetized in the opposite direction when exposed to an external magnetic field?

- a) Temporary magnetism
- b) Electromagnetism
- c) Ferromagnetism
- d) Magnetic opposition

Correct answer: d) Magnetic opposition

Which law states that the induced electromotive force (EMF) in any closed circuit is equal to the rate of change of the magnetic flux through the circuit?

- a) Ohm's Law
- b) Ampere's Law
- c) Coulomb's Law
- d) Faraday's Law

Correct answer: d) Faraday's Law

What is the term for a continuous flow of electric charge in one direction?

- a) Direct Current (DC)
- b) Alternating Current (AC)
- c) Static Current
- d) Magnetic Current

Correct answer: a) Direct Current (DC)

Which material is often used as a core in transformers due to its high magnetic permeability?

- a) Copper
- b) Aluminum

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- c) Iron
- d) Silver

Correct answer: c) Iron

What is the term for the phenomenon where a material becomes magnetized only while exposed to an external magnetic field?

- a) Temporary magnetism
- b) Electromagnetism
- c) Ferromagnetism
- d) Magnetic opposition

Correct answer: a) Temporary magnetism

Which type of circuit has multiple paths for the flow of electric current?

- a) Series circuit
- b) Parallel circuit
- c) Complex circuit
- d) Open circuit

Correct answer: b) Parallel circuit

What is the process of creating an electric current by moving a magnet through a coil of wire called?

- a) Induction
- b) Conduction
- c) Resistance
- d) Insulation

Correct answer: a) Induction

What is the term for a region around a magnet where magnetic forces are exerted?

- a) Magnetic field
- b) Electric field
- c) Conductive field
- d) Inductive field

Correct answer: a) Magnetic field

Which type of magnet can be turned on and off by controlling the electric current flowing through a coil of wire?

- a) Permanent magnet
- b) Temporary magnet
- c) Electromagnet
- d) Induced magnet

Correct answer: c) Electromagnet

What is the term for the property of a material that retains its magnetism for a long time after being removed from an external magnetic field?

- a) Magnetization

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- b) Magnetic permeability
- c) Magnetic induction
- d) Permanent magnetism

Correct answer: d) Permanent magnetism

Which component in a circuit is used to store electrical energy in the form of a magnetic field?

- a) Resistor
- b) Capacitor
- c) Inductor
- d) Transformer

Correct answer: c) Inductor



# Class 9<sup>th</sup> Physics Past Papers

1. What is the name of the largest volcano in our solar system, located on Mars?

- A) Olympus Mons
- B) Mauna Kea
- C) Mount Everest
- D) Krakatoa

Correct Answer: A)

2. In which year was the first human-made object, Sputnik 1, launched into space?

- A) 1957
- B) 1961
- C) 1971
- D) 1981

Correct Answer: A)

3. What is the approximate age of the universe?

- A) 4.5 million years
- B) 4.5 billion years
- C) 13.8 billion years
- D) 13.8 million years

Correct Answer: C)

4. Which force is responsible for shaping the structure of the universe on large scales?

- A) Electromagnetic Force
- B) Gravitational Force
- C) Strong Nuclear Force
- D) Weak Nuclear Force

Correct Answer: B)

5. The concept of black holes is a prediction of which theory of physics?

- A) Quantum Mechanics
- B) General Relativity
- C) Special Relativity
- D) Electromagnetism

Correct Answer: B)

6. Which spacecraft was the first to successfully land on Mars and transmit data back to Earth?

- A) Viking 1
- B) Pathfinder
- C) Spirit
- D) Opportunity

Correct Answer: A)

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7. What is the name of the region of space where gravitational forces are so strong that nothing, not even light, can escape?

- A) Event Horizon
- B) Singularity
- C) Wormhole
- D) Quasar

Correct Answer: A)

8. Which moon of Saturn is known for its geysers that shoot out icy particles into space?

- A) Titan
- B) Enceladus
- C) Iapetus
- D) Rhea

Correct Answer: B)

9. What is the name of the point in an orbit where a satellite is closest to Earth?

- A) Apogee
- B) Perigee
- C) Zenith
- D) Nadir

Correct Answer: B)

10. Which planet has the longest day, lasting more than 243 Earth days?

- A) Venus
- B) Jupiter
- C) Saturn
- D) Mars

Correct Answer: A)

11. What is the name of the process by which a star exhausts its nuclear fuel and collapses under its own gravity?

- A) Supernova
- B) Black Hole Formation
- C) Nebula Formation
- D) Red Giant Phase

Correct Answer: A)

12. The Oort Cloud is believed to be the source of:

- A) Comets
- B) Asteroids
- C) Meteoroids
- D) Planets

Correct Answer: A)

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13. Which space mission successfully landed the first humans on the Moon?

- A) Apollo 8
- B) Apollo 11
- C) Apollo 13
- D) Apollo 17

Correct Answer: B)

14. What is the name of the process by which a star transforms helium into heavier elements?

- A) Fusion
- B) Fission
- C) Nucleosynthesis
- D) Ionization

Correct Answer: C)

15. Which gas is the most abundant in Earth's atmosphere?

- A) Oxygen
- B) Nitrogen
- C) Carbon Dioxide
- D) Argon

Correct Answer: B)

16. What is the name of the region of space where the gravitational pull of a celestial body is so strong that nothing can escape, not even light?

- A) Event Horizon
- B) Singularity
- C) Photon Sphere
- D) Accretion Disk

Correct Answer: A)

17. The Great Red Spot is a prominent feature on which planet?

- A) Earth
- B) Mars
- C) Jupiter
- D) Saturn

Correct Answer: C)

18. What is the fundamental particle found in the nucleus of an atom?

- A) Proton
- B) Electron
- C) Neutron
- D) Positron

Correct Answer: A)

19. Which force is responsible for holding the nucleus of an atom together?

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- A) Gravitational Force
- B) Electromagnetic Force
- C) Strong Nuclear Force
- D) Weak Nuclear Force

Correct Answer: C)

20. What is the process by which a heavy nucleus splits into two lighter nuclei?

- A) Nuclear Fusion
- B) Beta Decay
- C) Nuclear Fission
- D) Alpha Decay

Correct Answer: C)

21. In a nuclear reaction, what is the term for the mass that is converted into energy?

- A) Binding Energy
- B) Rest Mass
- C) Kinetic Energy
- D) Potential Energy

Correct Answer: A)

22. Which particle is emitted during the process of alpha decay?

- A) Proton
- B) Neutron
- C) Alpha Particle
- D) Beta Particle

Correct Answer: C)

23. What is the half-life of a radioactive substance?

- A) The time it takes for half of the substance to decay
- B) The time it takes for the substance to double its activity
- C) The time it takes for the substance to lose all of its radioactivity
- D) The time it takes for the substance to reach equilibrium

Correct Answer: A)

24. Which element is commonly used as fuel in nuclear reactors?

- A) Uranium-235
- B) Plutonium-239
- C) Thorium-232
- D) Radium-226

Correct Answer: A)

25. What is the process by which a nucleus captures an electron and converts a proton into a neutron?

- A) Electron Capture

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- B) Beta Decay
  - C) Alpha Decay
  - D) Positron Emission
- Correct Answer: A)

26. Which scientist proposed the famous equation  $E=mc^2$ , relating energy and mass?

- A) Isaac Newton
  - B) Albert Einstein
  - C) Niels Bohr
  - D) Marie Curie
- Correct Answer: B)

27. What is the name for the process in which a high-energy photon interacts with matter, producing an electron-positron pair?

- A) Pair Annihilation
  - B) Pair Production
  - C) Beta Decay
  - D) Electron Capture
- Correct Answer: B)

28. Which particle is equivalent to an electron but has a positive charge?

- A) Positron
  - B) Neutrino
  - C) Antineutrino
  - D) Muon
- Correct Answer: A)

29. What is the term for the minimum amount of fissionable material required to sustain a nuclear chain reaction?

- A) Critical Mass
  - B) Subcritical Mass
  - C) Supercritical Mass
  - D) Equilibrium Mass
- Correct Answer: A)

30. In a nuclear power plant, what is the purpose of the control rods?

- A) To absorb neutrons and control the rate of the reaction
  - B) To produce electricity directly
  - C) To shield workers from radiation
  - D) To cool the reactor core
- Correct Answer: A)

31. Which type of radiation consists of high-energy photons without mass or charge?

- A) Alpha Radiation

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- B) Beta Radiation
- C) Gamma Radiation
- D) Neutron Radiation

Correct Answer: C)

32. What is the primary fuel used in hydrogen bombs (thermonuclear bombs)?

- A) Uranium-235
- B) Plutonium-239
- C) Deuterium
- D) Tritium

Correct Answer: C)

33. What is the process by which a nucleus gains a proton, changing into a different element?

- A) Alpha Decay
- B) Beta Decay
- C) Gamma Decay
- D) Proton Emission

Correct Answer: D)

34. Which phenomenon is responsible for the "cooling" of a star as it converts hydrogen into helium in its core?

- A) Nuclear Fusion
- B) Gravitational Contraction
- C) Nuclear Fission
- D) Neutrino Emission

Correct Answer: A)

35. What is the term for the process by which a nucleus spontaneously emits a particle or radiation?

- A) Nuclear Fusion
- B) Nuclear Fission
- C) Radioactive Decay
- D) Neutron Activation

Correct Answer: C)

36. Which element is commonly used as a moderator in nuclear reactors to slow down neutrons?

- A) Boron
- B) Graphite
- C) Heavy Water (Deuterium)
- D) Cadmium

Correct Answer: B)

37. What is the primary product of the fusion reactions that power the sun?

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- A) Helium-3
  - B) Helium-4
  - C) Carbon-12
  - D) Oxygen-16
- Correct Answer: B)

38. Which subatomic particle is emitted during beta decay?

- A) Proton
  - B) Neutron
  - C) Electron
  - D) Positron
- Correct Answer: C)

39. What is the term for a region of an atom where an electron is likely to be found?

- A) Nucleus
  - B) Orbital
  - C) Quark
  - D) Hadron
- Correct Answer: B)

40. The phenomenon of nuclear fusion powers the energy emitted by:

- A) Stars
  - B) Black Holes
  - C) Neutron Stars
  - D) Quasars
- Correct Answer: A)

41. Which isotope of uranium is commonly used as fuel in nuclear reactors?

- A) Uranium-235
  - B) Uranium-238
  - C) Uranium-234
  - D) Uranium-236
- Correct Answer: A)

42. The process of converting a substance into a vapor is called:

- A) Sublimation
  - B) Evaporation
  - C) Condensation
  - D) Fusion
- Correct Answer: B)

43. What is the term for a reaction in which two nuclei combine to form a heavier nucleus?

- A) Nuclear Fission
- B) Nuclear Fusion

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C) Beta Decay

D) Alpha Decay

Correct Answer: B)

44. Which particle has the same mass as an electron but a positive charge?

A) Neutron

B) Proton

C) Positron

D) Antineutrino

Correct Answer: C)

45. The process of converting a gas into a liquid is called:

A) Sublimation

B) Evaporation

C) Condensation

D) Fusion

Correct Answer: C)

46. In a nuclear power plant, what is the purpose of the coolant?

A) To slow down neutrons

B) To absorb excess heat

C) To transport electricity

D) To regulate the chain reaction

Correct Answer: B)

47. What is the primary function of a Geiger-Muller tube?

A) Measure temperature

B) Detect radioactivity

C) Generate electricity

D) Produce X-rays

Correct Answer: B)

48. Which process involves the ejection of a neutron from a nucleus?

A) Beta Decay

B) Proton Emission

C) Neutron Activation

D) Neutron Emission

Correct Answer: D)

49. Which of the following particles is electrically neutral?

A) Proton

B) Electron

C) Neutron

D) Positron



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Correct Answer: C)

50. What is the term for the minimum mass of fissile material required to sustain a nuclear chain reaction without an external neutron source?

- A) Critical Mass
- B) Subcritical Mass
- C) Supercritical Mass
- D) Equilibrium Mass

Correct Answer: A)

51. Which of the following particles is considered a lepton?

- A) Proton
- B) Neutron
- C) Electron
- D) Positron

Correct Answer: C)

52. What is the primary product of the nuclear reaction in the Sun, where hydrogen nuclei fuse to form helium?

- A) Deuterium
- B) Tritium
- C) Helium-3
- D) Helium-4

Correct Answer: D)

53. In a nuclear reactor, what is the moderator's role?

- A) Absorb neutrons
- B) Increase reactor temperature
- C) Slow down neutrons
- D) Control chain reactions

Correct Answer: C)

54. Which radioactive isotope is commonly used in carbon dating?

- A) Uranium-235
- B) Carbon-14
- C) Thorium-232
- D) Potassium-40

Correct Answer: B)

55. What is the term for a substance that induces fission in a nuclear reactor?

- A) Moderator
- B) Absorber
- C) Catalyst
- D) Fuel

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Correct Answer: D)

56. The process by which an unstable atomic nucleus loses energy by emitting radiation is known as:

- A) Nuclear Fusion
- B) Nuclear Fission
- C) Radioactive Decay
- D) Alpha Decay

Correct Answer: C)

57. Which phenomenon involves the change of a neutron into a proton with the emission of an electron?

- A) Beta Decay
- B) Alpha Decay
- C) Gamma Decay
- D) Electron Capture

Correct Answer: A)

58. What is the primary source of energy for the Sun?

- A) Nuclear Fusion
- B) Nuclear Fission
- C) Solar Flares
- D) Solar Wind

Correct Answer: A)

59. Which planet is known as the "Red Planet"?

- A) Venus
- B) Mars
- C) Jupiter
- D) Saturn

Correct Answer: B)

60. What is the largest moon of Jupiter?

- A) Europa
- B) Ganymede
- C) Callisto
- D) Io

Correct Answer: B)

61. The Hubble Space Telescope observes the universe in which part of the electromagnetic spectrum?

- A) X-rays
- B) Infrared
- C) Ultraviolet

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D) Radio waves

Correct Answer: C)

62. What causes the phenomenon known as the Northern Lights (Aurora Borealis)?

A) Solar Winds

B) Volcanic Activity

C) Earth's Magnetic Field

D) Global Warming

Correct Answer: A)

63. What is the escape velocity of Earth?

A) 9.8 m/s<sup>2</sup>

B) 11.2 km/s

C) 299,792 km/s

D) 1,000 m/s

Correct Answer: B)

64. Which space probe provided the first close-up images of Pluto in 2015?

A) Voyager 1

B) New Horizons

C) Cassini

D) Curiosity

Correct Answer: B)

65. What is the main component of the atmospheres of Venus and Mars?

A) Nitrogen

B) Oxygen

C) Carbon Dioxide

D) Hydrogen

Correct Answer: C)

66. The Kuiper Belt is a region of the solar system that is found beyond the orbit of which planet?

A) Jupiter

B) Neptune

C) Mars

D) Saturn

Correct Answer: B)

67. Which law of planetary motion states that a planet orbits the Sun in an elliptical shape?

A) Kepler's First Law

B) Kepler's Second Law

C) Kepler's Third Law

D) Newton's Law of Gravitation

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Correct Answer: A)

68. What is the name of the galaxy that contains our solar system?

- A) Andromeda
- B) Milky Way
- C) Triangulum
- D) Sombrero

Correct Answer: B)

69. Which phenomenon occurs when the Moon passes directly between the Sun and Earth, casting a shadow on Earth?

- A) Solar Eclipse
- B) Lunar Eclipse
- C) Equinox
- D) Solstice

Correct Answer: A)

70. The process by which a star converts hydrogen into helium is known as:

- A) Fusion
- B) Fission
- C) Combustion
- D) Sublimation

Correct Answer: A)

# Class 10<sup>th</sup> Physics Past Papers

1. Which of the following materials is commonly used as an electrical insulator?

- a. Copper
- b. Aluminum
- c. Glass
- d. Silver

Answer: c.

2. In insulating materials, what happens to electrons when an electric field is applied?

- a. They move freely
- b. They are attracted to positive charges
- c. They remain stationary
- d. They are repelled by positive charges

Answer: c.

3. What is the primary purpose of insulators in electrical systems?

- a. Conduct electricity
- b. Store electrical charge
- c. Control current flow
- d. Prevent electrical leakage

Answer: d.

4. Which insulating material is commonly used for high-voltage applications such as power lines?

- a. Rubber
- b. PVC (Polyvinyl chloride)
- c. Porcelain
- d. Glass

Answer: c.

5. In an insulator, what is the energy band gap typically like?

- a. Small
- b. Large
- c. Nonexistent
- d. Constant

Answer: b.

6. Which of the following is an example of a naturally occurring insulator?

- a. Copper
- b. Wood
- c. Aluminum
- d. Silver

Answer: b.

7. What happens to the resistance of an insulator as temperature increases?

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- a. Increases
- b. Decreases
- c. Remains constant
- d. Becomes zero

Answer: a.

8. Which insulating material is commonly used to coat electrical wires for protection?

- a. Rubber
- b. Glass
- c. PVC (Polyvinyl chloride)
- d. Porcelain

Answer: c.

9. What is the primary role of insulators in electronic circuits?

- a. Facilitate current flow
- b. Store electrical energy
- c. Prevent current leakage
- d. Increase conductivity

Answer: c.

10. Which property of insulators makes them suitable for applications requiring electrical insulation?

- a. High thermal conductivity
- b. High electrical conductivity
- c. Low thermal conductivity
- d. Low resistivity

Answer: c.

11. What is the primary factor that determines the electrical breakdown strength of an insulator?

- a. Thickness
- b. Color
- c. Density
- d. Temperature

Answer: a.

12. Which insulator is commonly used for thermal insulation in buildings?

- a. PVC (Polyvinyl chloride)
- b. Fiberglass
- c. Rubber
- d. Porcelain

Answer: b.

13. What is the primary function of insulating materials in transformers?

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- a. Increase voltage
- b. Decrease voltage
- c. Store electrical charge
- d. Prevent electrical leakage

Answer: d.

14. In the context of insulators, what does the term "dielectric strength" refer to?

- a. Ability to conduct electricity
- b. Ability to store charge
- c. Ability to withstand high voltages
- d. Ability to generate heat

Answer: c.

15. Which property of insulators makes them suitable for protecting electrical equipment from moisture?

- a. Hydrophobicity
- b. Hydrophilicity
- c. Porosity
- d. Conductivity

Answer: a.

16. What is the primary function of insulators in high-voltage transmission lines?

- a. Increase current flow
- b. Decrease resistance
- c. Prevent electrical leakage
- d. Facilitate heat dissipation

Answer: c.

17. Which insulating material is commonly used in the manufacture of capacitors?

- a. Glass
- b. PVC (Polyvinyl chloride)
- c. Rubber
- d. Mica

Answer: d.

18. In electrical circuits, what is the purpose of insulating sleeves on wires and cables?

- a. Increase conductivity
- b. Provide mechanical strength
- c. Facilitate current flow
- d. Prevent short circuits

Answer: d.

19. Which of the following materials is commonly used as an insulator in electronic devices?

- a. Copper

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- b. Silicon
- c. Aluminum
- d. Gold

Answer: b.

20. What is the primary advantage of using insulators in the construction of electrical devices and systems?

- a. High conductivity
- b. Low cost
- c. Safety from electric shock
- d. High thermal conductivity

Answer: c.

21. Which property of insulators makes them suitable for use in high-frequency applications?

- a. Low dielectric constant
- b. High dielectric constant
- c. Low resistivity
- d. High thermal conductivity

Answer: b.

22. What is the term for the maximum electric field that an insulating material can withstand without electrical breakdown?

- a. Dielectric constant
- b. Dielectric strength
- c. Resistivity
- d. Conductivity

Answer: b.

23. Which insulator is commonly used for insulating electrical wires in homes?

- a. Rubber
- b. PVC (Polyvinyl chloride)
- c. Glass
- d. Porcelain

Answer: b.

24. What is the primary role of insulators in electrical switches?

- a. Increase resistance
- b. Facilitate current flow
- c. Prevent electrical leakage
- d. Store electrical charge

Answer: c.

25. Which insulator is commonly used for high-temperature applications, such as in ovens and furnaces?



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- a. PVC (Polyvinyl chloride)
- b. Rubber
- c. Glass
- d. Ceramic

Answer: d.

26. What is the primary function of insulators in power transformers?

- a. Increase voltage
- b. Decrease voltage
- c. Store electrical charge
- d. Prevent electrical leakage

Answer: d.

27. Which insulator is commonly used for insulating electrical cables buried underground?

- a. Rubber
- b. PVC (Polyvinyl chloride)
- c. Glass
- d. Porcelain

Answer: b.

28. What is the term for the process of removing electrons from an insulating material by exposure to high voltage?

- a. Ionization
- b. Discharge
- c. Polarization
- d. Breakdown

Answer: b.

29. Which property of insulators is crucial for their use in preventing electric shocks in electrical appliances?

- a. Low dielectric constant
- b. High dielectric strength
- c. Low resistivity
- d. High thermal conductivity

Answer: b.

30. In the forward bias arrangements of a PN junction diode

- a. The N end is connected to the positive terminal of the battery
- b. The P end is connected to the positive terminal of the battery
- c. The direction of the current is from N end to the P end in the diode
- d. The P end is connected to the negative terminal of the battery

Answer: (b)

31. In a PN junction diode

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- a. The current in the reverse biased condition is generally very small
- b. The current in the reverse biased condition is generally very small but the forward-biased current is independent of the bias voltage
- c. The reverse-biased current is strongly dependent on the applied bias voltage
- d. The forward biased current is very small in comparison to reverse-biased current.

Answer: (a)

32. The cut-in voltage for silicon diode is approximately

- a. 0.2 V
- b. 0.6 V
- c. 1.1 V
- d. 1.4 V

Answer: (b)

33. The electrical resistance of the depletion layer is large because

- a. It has no charge carriers
- b. It has a large number of charge carriers
- c. It contains electrons as charge carriers
- d. It has holes as charge carriers

Answers: (a)

34. If the forward voltage in a semiconductor diode is doubled, the width of the depletion layer will

- a. Become half
- b. Become one-fourth
- c. Remain unchanged
- d. Become double

Answer: (a)

35. The PN junction diode is used as

- a. An amplifier
- b. A rectifier
- c. An oscillator
- d. A modulator

Answer: (b)

36. When a PN junction diode is reverse biased

- a. Electrons and holes are attracted towards each other and move towards the depletion region
- b. Electrons and holes move away from the junction depletion region
- c. Height of the potential barrier decreases
- d. No change in the current takes place

Answer: (b)

37. What is a diode primarily used for in electronic circuits?

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- a. Voltage regulation
- b. Signal amplification
- c. Current rectification
- d. Capacitance measurement

Answer: c.

38. Which semiconductor material is commonly used in the fabrication of diodes?

- a. Silicon
- b. Copper
- c. Aluminum
- d. Gold

Answer: a.

39. In a forward-biased diode, what happens to the barrier potential?

- a. Increases
- b. Decreases
- c. Remains constant
- d. Becomes zero

Answer: b.

40. What is the purpose of a zener diode in a circuit?

- a. Signal amplification
- b. Voltage regulation
- c. Rectification
- d. Capacitance measurement

Answer: b.

41. Which region of a diode has majority charge carriers that are holes?

- a. P-region
- b. N-region
- c. Depletion region
- d. Junction region

Answer: a.

42. What is the voltage drop across a silicon diode in forward bias?

- a. 0.3 V
- b. 0.7 V
- c. 1.0 V
- d. 1.5 V

Answer: b.

43. What is the term for the minimum voltage required to make a diode conduct in the forward direction?

- a. Forward voltage

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- b. Breakdown voltage
- c. Threshold voltage
- d. Barrier potential

Answer: a.

44. Which type of diode is designed to emit light when forward-biased?

- a. Schottky diode
- b. Zener diode
- c. Light-emitting diode (LED)
- d. Photodiode

Answer: c.

45. What happens to a diode in reverse bias?

- a. It conducts heavily.
- b. It conducts slightly.
- c. It conducts in both directions.
- d. It acts as an open circuit.

Answer: d.

46. Which of the following diodes is known for its fast switching speed?

- a. Zener diode
- b. Schottky diode
- c. Light-emitting diode (LED)
- d. Photodiode

Answer: b.

47. What is the primary function of a rectifier diode in a circuit?

- a. Amplify signals
- b. Store electrical charge
- c. Control current flow
- d. Convert AC to DC

Answer: d.

48. Which of the following is a common application of a Schottky diode?

- a. Voltage regulation
- b. Signal amplification
- c. High-frequency rectification
- d. Light emission

Answer: c.

49. What is the term for the reverse voltage at which a diode breaks down and conducts heavily in the reverse direction?

- a. Forward voltage
- b. Breakdown voltage

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- c. Threshold voltage
- d. Barrier potential

Answer: b.

50. Which diode is sensitive to light and is used in light-sensitive applications such as photovoltaic cells?

- a. Zener diode
- b. Schottky diode
- c. Light-emitting diode (LED)
- d. Photodiode

Answer: d.

51. What is the term for the phenomenon where a reverse-biased diode conducts momentarily due to the charge stored in the depletion region?

- a. Avalanche breakdown
- b. Zener breakdown
- c. Reverse recovery time
- d. Forward recovery time

Answer: c.

52. What is the primary function of a varactor diode?

- a. Voltage regulation
- b. Signal amplification
- c. Frequency modulation
- d. Rectification

Answer: c.

53. Which diode is commonly used for voltage regulation in electronic circuits?

- a. Zener diode
- b. Schottky diode
- c. Light-emitting diode (LED)
- d. Photodiode

Answer: a.

54. What is the term for the voltage level at which a diode begins to conduct in the forward direction?

- a. Forward voltage
- b. Breakdown voltage
- c. Threshold voltage
- d. Barrier potential

Answer: a.

55. Which diode is commonly used in voltage multiplier circuits?

- a. Zener diode

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- b. Schottky diode
- c. Light-emitting diode (LED)
- d. Avalanche diode

Answer: d.

56. What is the term for the process of removing stored charge from a diode by briefly applying a reverse voltage?

- a. Avalanche breakdown
- b. Zener breakdown
- c. Reverse recovery time
- d. Forward recovery time

Answer: c.

57. Which diode is commonly used for rectification in power supply circuits?

- a. Zener diode
- b. Schottky diode
- c. Light-emitting diode (LED)
- d. Rectifier diode

Answer: d.

58. What is the primary function of a tunnel diode?

- a. Voltage regulation
- b. Signal amplification
- c. Frequency modulation
- d. High-speed switching

Answer: d.

59. What is the term for the voltage level below which a zener diode operates in the breakdown region?

- a. Forward voltage
- b. Breakdown voltage
- c. Threshold voltage
- d. Zener voltage

Answer: d.

60. Which diode is commonly used for high-frequency signal detection in radio receivers?

- a. Zener diode
- b. Schottky diode
- c. Light-emitting diode (LED)
- d. Varactor diode

Answer: b.

61. Which semiconductor material is commonly used in solar cells?

- a. Silicon

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- b. Germanium
- c. Gallium arsenide
- d. Indium phosphide

Answer: a.

62. What is the primary function of a Zener diode in a semiconductor circuit?

- a. Voltage regulation
- b. Rectification
- c. Signal amplification
- d. Switching

Answer: a.

63. In a P-N junction diode, what happens when a forward bias is applied?

- a. Current flows easily
- b. Current is blocked
- c. Reverse current flows
- d. No effect on current

Answer: a.

64. Which of the following materials is a common dopant for creating P-type semiconductors?

- a. Phosphorus
- b. Arsenic
- c. Boron
- d. Antimony

Answer: c.

65. What is the primary purpose of a semiconductor diode in electronic circuits?

- a. Store electrical charge
- b. Control current flow
- c. Amplify signals
- d. Increase resistance

Answer: b.

66. Which semiconductor device is commonly used as an amplifier in audio circuits?

- a. Diode
- b. Transistor
- c. Capacitor
- d. Resistor

Answer: b.

67. What is the term for a semiconductor device that allows current to flow in one direction only?

- a. Diode
- b. Transistor

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- c. Capacitor
- d. Resistor

Answer: a.

68. What is the primary purpose of a semiconductor rectifier in electronic circuits?

- a. Amplify signals
- b. Store electrical charge
- c. Control current flow
- d. Convert AC to DC

Answer: d.

69. Which semiconductor material is commonly used in the manufacturing of integrated circuits (ICs)?

- a. Silicon
- b. Germanium
- c. Gallium arsenide
- d. Indium phosphide

Answer: a.

70. What is the primary characteristic of an insulator?

- a. High electrical conductivity
- b. Low electrical conductivity
- c. Variable electrical conductivity
- d. Superconductivity

Answer: b.



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1. Which semiconductor material is commonly used in solar cells?

- a. Silicon
- b. Germanium
- c. Gallium arsenide
- d. Indium phosphide

Answer: a.

2. What is the primary function of a Zener diode in a semiconductor circuit?

- a. Voltage regulation
- b. Rectification
- c. Signal amplification
- d. Switching

Answer: a.

3. In a P-N junction diode, what happens when a forward bias is applied?

- a. Current flows easily
- b. Current is blocked
- c. Reverse current flows
- d. No effect on current

Answer: a.

4. Which of the following materials is a common dopant for creating P-type semiconductors?

- a. Phosphorus
- b. Arsenic
- c. Boron
- d. Antimony

Answer: c.

5. What is the primary purpose of a semiconductor diode in electronic circuits?

- a. Store electrical charge
- b. Control current flow
- c. Amplify signals
- d. Increase resistance

Answer: b.

6. Which semiconductor device is commonly used as an amplifier in audio circuits?

- a. Diode
- b. Transistor
- c. Capacitor
- d. Resistor

Answer: b.

7. What is the term for a semiconductor device that allows current to flow in one direction only?

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- a. Diode
- b. Transistor
- c. Capacitor
- d. Resistor

Answer: a.

8. What is the primary purpose of a semiconductor rectifier in electronic circuits?

- a. Amplify signals
- b. Store electrical charge
- c. Control current flow
- d. Convert AC to DC

Answer: d.

9. Which semiconductor material is commonly used in the manufacturing of integrated circuits (ICs)?

- a. Silicon
- b. Germanium
- c. Gallium arsenide
- d. Indium phosphide

Answer: a.

10. What is the primary characteristic of an insulator?

- a. High electrical conductivity
- b. Low electrical conductivity
- c. Variable electrical conductivity
- d. Superconductivity

Answer: b.

11. Which of the following materials is commonly used as an electrical insulator?

- a. Copper
- b. Aluminum
- c. Glass
- d. Silver

Answer: c.

12. In insulating materials, what happens to electrons when an electric field is applied?

- a. They move freely
- b. They are attracted to positive charges
- c. They remain stationary
- d. They are repelled by positive charges

Answer: c.

13. What is the primary purpose of insulators in electrical systems?

- a. Conduct electricity

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- b. Store electrical charge
- c. Control current flow
- d. Prevent electrical leakage

Answer: d.

14. Which insulating material is commonly used for high-voltage applications such as power lines?

- a. Rubber
- b. PVC (Polyvinyl chloride)
- c. Porcelain
- d. Glass

Answer: c.

15. In an insulator, what is the energy band gap typically like?

- a. Small
- b. Large
- c. Nonexistent
- d. Constant

Answer: b.

16. Which of the following is an example of a naturally occurring insulator?

- a. Copper
- b. Wood
- c. Aluminum
- d. Silver

Answer: b.

17. What happens to the resistance of an insulator as temperature increases?

- a. Increases
- b. Decreases
- c. Remains constant
- d. Becomes zero

Answer: a.

18. Which insulating material is commonly used to coat electrical wires for protection?

- a. Rubber
- b. Glass
- c. PVC (Polyvinyl chloride)
- d. Porcelain

Answer: c.

19. What is the primary role of insulators in electronic circuits?

- a. Facilitate current flow
- b. Store electrical energy

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- c. Prevent current leakage
- d. Increase conductivity

Answer: c.

20. Which property of insulators makes them suitable for applications requiring electrical insulation?

- a. High thermal conductivity
- b. High electrical conductivity
- c. Low thermal conductivity
- d. Low resistivity

Answer: c.

21. What is the primary factor that determines the electrical breakdown strength of an insulator?

- a. Thickness
- b. Color
- c. Density
- d. Temperature

Answer: a.

22. Which insulator is commonly used for thermal insulation in buildings?

- a. PVC (Polyvinyl chloride)
- b. Fiberglass
- c. Rubber
- d. Porcelain

Answer: b.

23. What is the primary function of insulating materials in transformers?

- a. Increase voltage
- b. Decrease voltage
- c. Store electrical charge
- d. Prevent electrical leakage

Answer: d.

24. In the context of insulators, what does the term "dielectric strength" refer to?

- a. Ability to conduct electricity
- b. Ability to store charge
- c. Ability to withstand high voltages
- d. Ability to generate heat

Answer: c.

25. Which property of insulators makes them suitable for protecting electrical equipment from moisture?

- a. Hydrophobicity

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- b. Hydrophilicity
- c. Porosity
- d. Conductivity

Answer: a.

26. What is the primary function of insulators in high-voltage transmission lines?

- a. Increase current flow
- b. Decrease resistance
- c. Prevent electrical leakage
- d. Facilitate heat dissipation

Answer: c.

27. Which insulating material is commonly used in the manufacture of capacitors?

- a. Glass
- b. PVC (Polyvinyl chloride)
- c. Rubber
- d. Mica

Answer: d.

28. In electrical circuits, what is the purpose of insulating sleeves on wires and cables?

- a. Increase conductivity
- b. Provide mechanical strength
- c. Facilitate current flow
- d. Prevent short circuits

Answer: d.

29. Which of the following materials is commonly used as an insulator in electronic devices?

- a. Copper
- b. Silicon
- c. Aluminum
- d. Gold

Answer: b.

30. What is the primary advantage of using insulators in the construction of electrical devices and systems?

- a. High conductivity
- b. Low cost
- c. Safety from electric shock
- d. High thermal conductivity

Answer: c.

31. Which property of insulators makes them suitable for use in high-frequency applications?

- a. Low dielectric constant
- b. High dielectric constant

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- c. Low resistivity
- d. High thermal conductivity

Answer: b.

32. What is the term for the maximum electric field that an insulating material can withstand without electrical breakdown?

- a. Dielectric constant
- b. Dielectric strength
- c. Resistivity
- d. Conductivity

Answer: b.

33. Which insulator is commonly used for insulating electrical wires in homes?

- a. Rubber
- b. PVC (Polyvinyl chloride)
- c. Glass
- d. Porcelain

Answer: b.

34. What is the primary role of insulators in electrical switches?

- a. Increase resistance
- b. Facilitate current flow
- c. Prevent electrical leakage
- d. Store electrical charge

Answer: c.

35. Which insulator is commonly used for high-temperature applications, such as in ovens and furnaces?

- a. PVC (Polyvinyl chloride)
- b. Rubber
- c. Glass
- d. Ceramic

Answer: d.

36. What is the primary function of insulators in power transformers?

- a. Increase voltage
- b. Decrease voltage
- c. Store electrical charge
- d. Prevent electrical leakage

Answer: d.

37. Which insulator is commonly used for insulating electrical cables buried underground?

- a. Rubber
- b. PVC (Polyvinyl chloride)

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- c. Glass
- d. Porcelain

Answer: b.

38. What is the term for the process of removing electrons from an insulating material by exposure to high voltage?

- a. Ionization
- b. Discharge
- c. Polarization
- d. Breakdown

Answer: b.

39. Which property of insulators is crucial for their use in preventing electric shocks in electrical appliances?

- a. Low dielectric constant
- b. High dielectric strength
- c. Low resistivity
- d. High thermal conductivity

Answer: b.

40. In the forward bias arrangements of a PN junction diode

- a. The N end is connected to the positive terminal of the battery
- b. The P end is connected to the positive terminal of the battery
- c. The direction of the current is from N end to the P end in the diode
- d. The P end is connected to the negative terminal of the battery

Answer: (b)

41. In a PN junction diode

- a. The current in the reverse biased condition is generally very small
- b. The current in the reverse biased condition is generally very small but the forward-biased current is independent of the bias voltage
- c. The reverse-biased current is strongly dependent on the applied bias voltage
- d. The forward biased current is very small in comparison to reverse-biased current.

Answer: (a)

42. The cut-in voltage for silicon diode is approximately

- a. 0.2 V
- b. 0.6 V
- c. 1.1 V
- d. 1.4 V

Answer: (b)

43. The electrical resistance of the depletion layer is large because

- a. It has no charge carriers

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- b. It has a large number of charge carriers
- c. It contains electrons as charge carriers
- d. It has holes as charge carriers

Answers: (a)

44. If the forward voltage in a semiconductor diode is doubled, the width of the depletion layer will

- a. Become half
- b. Become one-fourth
- c. Remain unchanged
- d. Become double

Answer: (a)

45. The PN junction diode is used as

- a. An amplifier
- b. A rectifier
- c. An oscillator
- d. A modulator

Answer: (b)

46. When a PN junction diode is reverse biased

- a. Electrons and holes are attracted towards each other and move towards the depletion region
- b. Electrons and holes move away from the junction depletion region
- c. Height of the potential barrier decreases
- d. No change in the current takes place

Answer: (b)

47. What is a diode primarily used for in electronic circuits?

- a. Voltage regulation
- b. Signal amplification
- c. Current rectification
- d. Capacitance measurement

Answer: c.

48. Which semiconductor material is commonly used in the fabrication of diodes?

- a. Silicon
- b. Copper
- c. Aluminum
- d. Gold

Answer: a.

49. In a forward-biased diode, what happens to the barrier potential?

- a. Increases
- b. Decreases



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- c. Remains constant
- d. Becomes zero

Answer: b.

50. What is the purpose of a zener diode in a circuit?

- a. Signal amplification
- b. Voltage regulation
- c. Rectification
- d. Capacitance measurement

Answer: b.

51. Which region of a diode has majority charge carriers that are holes?

- a. P-region
- b. N-region
- c. Depletion region
- d. Junction region

Answer: a.

52. What is the voltage drop across a silicon diode in forward bias?

- a. 0.3 V
- b. 0.7 V
- c. 1.0 V
- d. 1.5 V

Answer: b.

53. What is the term for the minimum voltage required to make a diode conduct in the forward direction?

- a. Forward voltage
- b. Breakdown voltage
- c. Threshold voltage
- d. Barrier potential

Answer: a.

54. Which type of diode is designed to emit light when forward-biased?

- a. Schottky diode
- b. Zener diode
- c. Light-emitting diode (LED)
- d. Photodiode

Answer: c.

55. What happens to a diode in reverse bias?

- a. It conducts heavily.
- b. It conducts slightly.
- c. It conducts in both directions.

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d. It acts as an open circuit.

Answer: d.

56. Which of the following diodes is known for its fast switching speed?

- a. Zener diode
- b. Schottky diode
- c. Light-emitting diode (LED)
- d. Photodiode

Answer: b.

57. What is the primary function of a rectifier diode in a circuit?

- a. Amplify signals
- b. Store electrical charge
- c. Control current flow
- d. Convert AC to DC

Answer: d.

58. Which of the following is a common application of a Schottky diode?

- a. Voltage regulation
- b. Signal amplification
- c. High-frequency rectification
- d. Light emission

Answer: c.

59. What is the term for the reverse voltage at which a diode breaks down and conducts heavily in the reverse direction?

- a. Forward voltage
- b. Breakdown voltage
- c. Threshold voltage
- d. Barrier potential

Answer: b.

60. Which diode is sensitive to light and is used in light-sensitive applications such as photovoltaic cells?

- a. Zener diode
- b. Schottky diode
- c. Light-emitting diode (LED)
- d. Photodiode

Answer: d.

61. What is the term for the phenomenon where a reverse-biased diode conducts momentarily due to the charge stored in the depletion region?

- a. Avalanche breakdown
- b. Zener breakdown

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- c. Reverse recovery time
- d. Forward recovery time

Answer: c.

62. What is the primary function of a varactor diode?

- a. Voltage regulation
- b. Signal amplification
- c. Frequency modulation
- d. Rectification

Answer: c.

63. Which diode is commonly used for voltage regulation in electronic circuits?

- a. Zener diode
- b. Schottky diode
- c. Light-emitting diode (LED)
- d. Photodiode

Answer: a.

64. What is the term for the voltage level at which a diode begins to conduct in the forward direction?

- a. Forward voltage
- b. Breakdown voltage
- c. Threshold voltage
- d. Barrier potential

Answer: a.

65. Which diode is commonly used in voltage multiplier circuits?

- a. Zener diode
- b. Schottky diode
- c. Light-emitting diode (LED)
- d. Avalanche diode

Answer: d.

66. What is the term for the process of removing stored charge from a diode by briefly applying a reverse voltage?

- a. Avalanche breakdown
- b. Zener breakdown
- c. Reverse recovery time
- d. Forward recovery time

Answer: c.

67. Which diode is commonly used for rectification in power supply circuits?

- a. Zener diode
- b. Schottky diode

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- c. Light-emitting diode (LED)
- d. Rectifier diode

Answer: d.

68. What is the primary function of a tunnel diode?

- a. Voltage regulation
- b. Signal amplification
- c. Frequency modulation
- d. High-speed switching

Answer: d.

69. What is the term for the voltage level below which a zener diode operates in the breakdown region?

- a. Forward voltage
- b. Breakdown voltage
- c. Threshold voltage
- d. Zener voltage

Answer: d.

70. Which diode is commonly used for high-frequency signal detection in radio receivers?

- a. Zener diode
- b. Schottky diode
- c. Light-emitting diode (LED)
- d. Varactor diode

Answer: b.

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1. Which semiconductor material is commonly used in solar cells?

- a. Silicon
- b. Germanium
- c. Gallium arsenide
- d. Indium phosphide

Answer: a.

2. What is the primary function of a Zener diode in a semiconductor circuit?

- a. Voltage regulation
- b. Rectification
- c. Signal amplification
- d. Switching

Answer: a.

3. In a P-N junction diode, what happens when a forward bias is applied?

- a. Current flows easily
- b. Current is blocked
- c. Reverse current flows
- d. No effect on current

Answer: a.

4. Which of the following materials is a common dopant for creating P-type semiconductors?

- a. Phosphorus
- b. Arsenic
- c. Boron
- d. Antimony

Answer: c.

5. What is the primary purpose of a semiconductor diode in electronic circuits?

- a. Store electrical charge
- b. Control current flow
- c. Amplify signals
- d. Increase resistance

Answer: b.

6. Which semiconductor device is commonly used as an amplifier in audio circuits?

- a. Diode
- b. Transistor
- c. Capacitor
- d. Resistor

Answer: b.

7. What is the term for a semiconductor device that allows current to flow in one direction only?

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- a. Diode
- b. Transistor
- c. Capacitor
- d. Resistor

Answer: a.

8. What is the primary purpose of a semiconductor rectifier in electronic circuits?

- a. Amplify signals
- b. Store electrical charge
- c. Control current flow
- d. Convert AC to DC

Answer: d.

9. Which semiconductor material is commonly used in the manufacturing of integrated circuits (ICs)?

- a. Silicon
- b. Germanium
- c. Gallium arsenide
- d. Indium phosphide

Answer: a.

10. What is the primary characteristic of an insulator?

- a. High electrical conductivity
- b. Low electrical conductivity
- c. Variable electrical conductivity
- d. Superconductivity

Answer: b.

11. Which of the following materials is commonly used as an electrical insulator?

- a. Copper
- b. Aluminum
- c. Glass
- d. Silver

Answer: c.

12. In insulating materials, what happens to electrons when an electric field is applied?

- a. They move freely
- b. They are attracted to positive charges
- c. They remain stationary
- d. They are repelled by positive charges

Answer: c.

13. What is the primary purpose of insulators in electrical systems?

- a. Conduct electricity

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- b. Store electrical charge
- c. Control current flow
- d. Prevent electrical leakage

Answer: d.

14. Which insulating material is commonly used for high-voltage applications such as power lines?

- a. Rubber
- b. PVC (Polyvinyl chloride)
- c. Porcelain
- d. Glass

Answer: c.

15. In an insulator, what is the energy band gap typically like?

- a. Small
- b. Large
- c. Nonexistent
- d. Constant

Answer: b.

16. Which of the following is an example of a naturally occurring insulator?

- a. Copper
- b. Wood
- c. Aluminum
- d. Silver

Answer: b.

17. What happens to the resistance of an insulator as temperature increases?

- a. Increases
- b. Decreases
- c. Remains constant
- d. Becomes zero

Answer: a.

18. Which insulating material is commonly used to coat electrical wires for protection?

- a. Rubber
- b. Glass
- c. PVC (Polyvinyl chloride)
- d. Porcelain

Answer: c.

19. What is the primary role of insulators in electronic circuits?

- a. Facilitate current flow
- b. Store electrical energy

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- c. Prevent current leakage
- d. Increase conductivity

Answer: c.

20. Which property of insulators makes them suitable for applications requiring electrical insulation?

- a. High thermal conductivity
- b. High electrical conductivity
- c. Low thermal conductivity
- d. Low resistivity

Answer: c.

21. What is the primary factor that determines the electrical breakdown strength of an insulator?

- a. Thickness
- b. Color
- c. Density
- d. Temperature

Answer: a.

22. If the forward voltage in a semiconductor diode is doubled, the width of the depletion layer will

- a. Become half
- b. Become one-fourth
- c. Remain unchanged
- d. Become double

Answer: (a)

23. The PN junction diode is used as

- a. An amplifier
- b. A rectifier
- c. An oscillator
- d. A modulator

Answer: (b)

24. When a PN junction diode is reverse biased

- a. Electrons and holes are attracted towards each other and move towards the depletion region
- b. Electrons and holes move away from the junction depletion region
- c. Height of the potential barrier decreases
- d. No change in the current takes place

Answer: (b)

25. What is a diode primarily used for in electronic circuits?



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- a. Voltage regulation
- b. Signal amplification
- c. Current rectification
- d. Capacitance measurement

Answer: c.

26. Which semiconductor material is commonly used in the fabrication of diodes?

- a. Silicon
- b. Copper
- c. Aluminum
- d. Gold

Answer: a.

27. In a forward-biased diode, what happens to the barrier potential?

- a. Increases
- b. Decreases
- c. Remains constant
- d. Becomes zero

Answer: b.

28. What is the purpose of a zener diode in a circuit?

- a. Signal amplification
- b. Voltage regulation
- c. Rectification
- d. Capacitance measurement

Answer: b.

29. Which region of a diode has majority charge carriers that are holes?

- a. P-region
- b. N-region
- c. Depletion region
- d. Junction region

Answer: a.

30. What is the voltage drop across a silicon diode in forward bias?

- a. 0.3 V
- b. 0.7 V
- c. 1.0 V
- d. 1.5 V

Answer: b.

31. What is the term for the minimum voltage required to make a diode conduct in the forward direction?

- a. Forward voltage

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- b. Breakdown voltage
- c. Threshold voltage
- d. Barrier potential

Answer: a.

32. Which type of diode is designed to emit light when forward-biased?

- a. Schottky diode
- b. Zener diode
- c. Light-emitting diode (LED)
- d. Photodiode

Answer: c.

33. What happens to a diode in reverse bias?

- a. It conducts heavily.
- b. It conducts slightly.
- c. It conducts in both directions.
- d. It acts as an open circuit.

Answer: d.

34. Which of the following diodes is known for its fast switching speed?

- a. Zener diode
- b. Schottky diode
- c. Light-emitting diode (LED)
- d. Photodiode

Answer: b.

35. What is the primary function of a rectifier diode in a circuit?

- a. Amplify signals
- b. Store electrical charge
- c. Control current flow
- d. Convert AC to DC

Answer: d.

36. Which of the following is a common application of a Schottky diode?

- a. Voltage regulation
- b. Signal amplification
- c. High-frequency rectification
- d. Light emission

Answer: c.

37. What is the term for the reverse voltage at which a diode breaks down and conducts heavily in the reverse direction?

- a. Forward voltage
- b. Breakdown voltage

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- c. Threshold voltage
- d. Barrier potential

Answer: b.

38. Which diode is sensitive to light and is used in light-sensitive applications such as photovoltaic cells?

- a. Zener diode
- b. Schottky diode
- c. Light-emitting diode (LED)
- d. Photodiode

Answer: d.

39. What is the term for the phenomenon where a reverse-biased diode conducts momentarily due to the charge stored in the depletion region?

- a. Avalanche breakdown
- b. Zener breakdown
- c. Reverse recovery time
- d. Forward recovery time

Answer: c.

40. What is the primary function of a varactor diode?

- a. Voltage regulation
- b. Signal amplification
- c. Frequency modulation
- d. Rectification

Answer: c.

41. Which diode is commonly used for voltage regulation in electronic circuits?

- a. Zener diode
- b. Schottky diode
- c. Light-emitting diode (LED)
- d. Photodiode

Answer: a.

42. What is the term for the voltage level at which a diode begins to conduct in the forward direction?

- a. Forward voltage
- b. Breakdown voltage
- c. Threshold voltage
- d. Barrier potential

Answer: a.

43. Which diode is commonly used in voltage multiplier circuits?

- a. Zener diode

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- b. Schottky diode
- c. Light-emitting diode (LED)
- d. Avalanche diode

Answer: d.

44. What is the term for the process of removing stored charge from a diode by briefly applying a reverse voltage?

- a. Avalanche breakdown
- b. Zener breakdown
- c. Reverse recovery time
- d. Forward recovery time

Answer: c.

45. Which diode is commonly used for rectification in power supply circuits?

- a. Zener diode
- b. Schottky diode
- c. Light-emitting diode (LED)
- d. Rectifier diode

Answer: d.

46. What is the primary function of a tunnel diode?

- a. Voltage regulation
- b. Signal amplification
- c. Frequency modulation
- d. High-speed switching

Answer: d.

47. What is the term for the voltage level below which a zener diode operates in the breakdown region?

- a. Forward voltage
- b. Breakdown voltage
- c. Threshold voltage
- d. Zener voltage

Answer: d.

48. Which diode is commonly used for high-frequency signal detection in radio receivers?

- a. Zener diode
- b. Schottky diode
- c. Light-emitting diode (LED)
- d. Varactor diode

Answer: b.

49. What is the term for the minimum voltage required to make a tunnel diode conduct in the forward direction?

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- a. Forward voltage
- b. Breakdown voltage
- c. Threshold voltage
- d. Barrier potential

Answer: c.

50. Which diode is commonly used in microwave applications for signal mixing and detection?

- a. Zener diode
- b. Schottky diode
- c. Light-emitting diode (LED)
- d. Tunnel diode

Answer: b.

51. What is the primary function of a photovoltaic diode?

- a. Voltage regulation
- b. Signal amplification
- c. Light emission
- d. Solar energy conversion

Answer: d.

52. Which diode is commonly used for protecting circuits from voltage spikes and transients?

- a. Zener diode
- b. Schottky diode
- c. Light-emitting diode (LED)
- d. Varactor diode

Answer: a.

53. What is the term for the process where a zener diode operates in the breakdown region, maintaining a nearly constant voltage across it?

- a. Zener effect
- b. Avalanche effect
- c. Reverse recovery time
- d. Forward recovery time

Answer: a.

54. Which diode is commonly used in optoelectronic devices such as infrared remote controls?

- a. Zener diode
- b. Schottky diode
- c. Light-emitting diode (LED)
- d. Photodiode

Answer: c.

55. What is the key characteristic of a Schottky diode?

- a. High reverse voltage

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- b. Low forward voltage drop
- c. Large reverse recovery time
- d. High breakdown voltage

Answer: b.

56. In a Schottky diode, what type of metal-semiconductor junction is formed?

- a. Ohmic
- b. P-N
- c. Schottky
- d. Zener

Answer: c.

57. What is the primary advantage of a Schottky diode over a regular silicon diode?

- a. Higher breakdown voltage
- b. Lower forward voltage drop
- c. Slower switching speed
- d. Greater reverse recovery time

Answer: b.

58. What is the typical forward voltage drop of a Schottky diode?

- a. 0.1 V
- b. 0.3 V
- c. 0.7 V
- d. 1.0 V

Answer: a.

59. Which material is commonly used for the semiconductor in a Schottky diode?

- a. Silicon
- b. Germanium
- c. Gallium arsenide
- d. Indium phosphide

Answer: a.

60. What is the main application of Schottky diodes in electronic circuits?

- a. Voltage regulation
- b. Signal amplification
- c. High-frequency rectification
- d. Solar energy conversion

Answer: c.

61. What is the term for the phenomenon where Schottky diodes have a faster switching speed compared to other diodes?

- a. Avalanche breakdown
- b. Zener effect

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- c. Reverse recovery time
- d. Barrier lowering

Answer: d.

62. Which of the following statements is true regarding reverse recovery time in Schottky diodes?

- a. It is significant.
- b. It is minimal.
- c. It is zero.
- d. It is variable.

Answer: c.

63. What is the primary disadvantage of a Schottky diode compared to other diodes?

- a. Low forward voltage drop
- b. High reverse voltage
- c. Large reverse recovery time
- d. Limited breakdown voltage

Answer: d.

64. Which application benefits from the fast switching speed of Schottky diodes?

- a. Audio amplification
- b. Power rectification
- c. High-frequency signal detection
- d. Voltage regulation

Answer: c.

65. What is the symbol used to represent a Schottky diode in circuit diagrams?

- a. D
- b. SD
- c. S
- d. Z

Answer: c.

66. What is the term for the voltage drop across a Schottky diode when it is conducting in the forward direction?

- a. Barrier potential
- b. Forward voltage
- c. Breakdown voltage
- d. Reverse voltage

Answer: b.

67. Which metal is commonly used for the metal-semiconductor junction in a Schottky diode?

- a. Gold
- b. Silver

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- c. Platinum
- d. Aluminum

Answer: d.

68. What is the primary factor contributing to the low forward voltage drop in a Schottky diode?

- a. High breakdown voltage
- b. Small barrier potential
- c. Large reverse recovery time
- d. Low reverse voltage

Answer: b.

69. Which of the following statements is true regarding the reverse recovery time of Schottky diodes?

- a. It is significant.
- b. It is minimal.
- c. It is zero.
- d. It is variable.

Answer: c.

70. In a Schottky diode, what is responsible for the formation of a depletion region?

- a. Electrons
- b. Holes
- c. Ions
- d. Neutrons

Answer: c.



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1. What is the most common semiconductor material used in electronic devices?

- a. Silicon
- b. Copper
- c. Aluminum
- d. Gold

Answer: a.

2. In which state is a semiconductor's conductivity between that of a conductor and an insulator?

- a. High
- b. Low
- c. Variable
- d. Constant

Answer: c.

3. Which of the following is a typical dopant for creating n-type semiconductors?

- a. Boron
- b. Phosphorus
- c. Aluminum
- d. Gallium

Answer: b.

4. What is the majority charge carrier in an n-type semiconductor?

- a. Electrons
- b. Holes
- c. Protons
- d. Neutrons

Answer: a.

5. Which semiconductor device acts as a one-way valve for electric current?

- a. Diode
- b. Transistor
- c. Capacitor
- d. Resistor

Answer: a.

6. What is the process of adding controlled impurities to a semiconductor to alter its electrical properties?

- a. Doping
- b. Etching
- c. Sintering
- d. Annealing

Answer: a.

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7. What is the energy gap between the valence band and conduction band in a semiconductor called?

- a. Fermi level
- b. Bandwidth
- c. Bandgap
- d. Energy barrier

Answer: c.

8. Which type of semiconductor has more holes as charge carriers?

- a. N-type
- b. P-type
- c. Intrinsic
- d. Extrinsic

Answer: b.

9. What is the basic building block of a semiconductor device?

- a. Diode
- b. Transistor
- c. Capacitor
- d. Resistor

Answer: a.

10. What is the function of a rectifier in a semiconductor device?

- a. Amplify signals
- b. Store electrical charge
- c. Control flow of current
- d. Convert AC to DC

Answer: d.

11. Which semiconductor device can amplify signals and act as a switch?

- a. Diode
- b. Resistor
- c. Transistor
- d. Capacitor

Answer: c.

12. What does the term "P-N junction" refer to in a semiconductor device?

- a. A type of resistor
- b. A type of transistor
- c. The boundary between p-type and n-type materials
- d. A type of diode

Answer: c.

13. What happens to the resistance of a semiconductor as temperature increases?

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- a. Increases
- b. Decreases
- c. Remains constant
- d. Becomes zero

Answer: a.

14. Which semiconductor material is commonly used in light-emitting diodes (LEDs)?

- a. Silicon
- b. Germanium
- c. Gallium arsenide
- d. Indium phosphide

Answer: c.

15. In a diode, which region allows current to flow easily?

- a. Depletion region
- b. P-region
- c. N-region
- d. Junction region

Answer: c.

16. What is the purpose of a semiconductor amplifier in electronic circuits?

- a. Increase voltage
- b. Increase current
- c. Increase power
- d. Increase signal strength

Answer: d.

17. Which semiconductor device is used for storing electric charge?

- a. Diode
- b. Transistor
- c. Capacitor
- d. Resistor

Answer: c.

18. What is the term for the phenomenon where a semiconductor becomes a better conductor as it gets warmer?

- a. Photoconductivity
- b. Thermionic emission
- c. Negative temperature coefficient
- d. Positive temperature coefficient

Answer: c.

19. Which semiconductor device can be used for voltage regulation in electronic circuits?

- a. Diode
- b. Transistor

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- c. Capacitor
- d. Resistor

Answer: a.

20. Which of the following is a characteristic of intrinsic semiconductors?

- a. They have impurities added.
- b. They have equal numbers of electrons and holes.
- c. They conduct electricity well.
- d. They are typically used in electronic devices.

Answer: b.

21. What is the function of a Schottky diode in a semiconductor circuit?

- a. Voltage regulation
- b. Rectification
- c. Signal amplification
- d. Switching

Answer: b.

22. Which semiconductor material is commonly used in solar cells?

- a. Silicon
- b. Germanium
- c. Gallium arsenide
- d. Indium phosphide

Answer: a.

23. What is the primary function of a Zener diode in a semiconductor circuit?

- a. Voltage regulation
- b. Rectification
- c. Signal amplification
- d. Switching

Answer: a.

24. In a P-N junction diode, what happens when a forward bias is applied?

- a. Current flows easily
- b. Current is blocked
- c. Reverse current flows
- d. No effect on current

Answer: a.

25. Which of the following materials is a common dopant for creating P-type semiconductors?

- a. Phosphorus
- b. Arsenic
- c. Boron
- d. Antimony

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Answer: c.

26. What is the primary purpose of a semiconductor diode in electronic circuits?

- a. Store electrical charge
- b. Control current flow
- c. Amplify signals
- d. Increase resistance

Answer: b.

27. Which semiconductor device is commonly used as an amplifier in audio circuits?

- a. Diode
- b. Transistor
- c. Capacitor
- d. Resistor

Answer: b.

28. What is the term for a semiconductor device that allows current to flow in one direction only?

- a. Diode
- b. Transistor
- c. Capacitor
- d. Resistor

Answer: a.

29. What is the primary purpose of a semiconductor rectifier in electronic circuits?

- a. Amplify signals
- b. Store electrical charge
- c. Control current flow
- d. Convert AC to DC

Answer: d.

30. Which semiconductor material is commonly used in the manufacturing of integrated circuits (ICs)?

- a. Silicon
- b. Germanium
- c. Gallium arsenide
- d. Indium phosphide

Answer: a.

31. What is the primary characteristic of an insulator?

- a. High electrical conductivity
- b. Low electrical conductivity
- c. Variable electrical conductivity
- d. Superconductivity

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Answer: b.

32. Which of the following materials is commonly used as an electrical insulator?

- a. Copper
- b. Aluminum
- c. Glass
- d. Silver

Answer: c.

33. In insulating materials, what happens to electrons when an electric field is applied?

- a. They move freely
- b. They are attracted to positive charges
- c. They remain stationary
- d. They are repelled by positive charges

Answer: c.

34. What is the primary purpose of insulators in electrical systems?

- a. Conduct electricity
- b. Store electrical charge
- c. Control current flow
- d. Prevent electrical leakage

Answer: d.

35. Which insulating material is commonly used for high-voltage applications such as power lines?

- a. Rubber
- b. PVC (Polyvinyl chloride)
- c. Porcelain
- d. Glass

Answer: c.

36. In an insulator, what is the energy band gap typically like?

- a. Small
- b. Large
- c. Nonexistent
- d. Constant

Answer: b.

37. Which of the following is an example of a naturally occurring insulator?

- a. Copper
- b. Wood
- c. Aluminum
- d. Silver

Answer: b.

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38. What happens to the resistance of an insulator as temperature increases?

- a. Increases
- b. Decreases
- c. Remains constant
- d. Becomes zero

Answer: a.

39. Which insulating material is commonly used to coat electrical wires for protection?

- a. Rubber
- b. Glass
- c. PVC (Polyvinyl chloride)
- d. Porcelain

Answer: c.

40. What is the primary role of insulators in electronic circuits?

- a. Facilitate current flow
- b. Store electrical energy
- c. Prevent current leakage
- d. Increase conductivity

Answer: c.

41. Which property of insulators makes them suitable for applications requiring electrical insulation?

- a. High thermal conductivity
- b. High electrical conductivity
- c. Low thermal conductivity
- d. Low resistivity

Answer: c.

42. What is the primary factor that determines the electrical breakdown strength of an insulator?

- a. Thickness
- b. Color
- c. Density
- d. Temperature

Answer: a.

43. Which insulator is commonly used for thermal insulation in buildings?

- a. PVC (Polyvinyl chloride)
- b. Fiberglass
- c. Rubber
- d. Porcelain

Answer: b.

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44. What is the primary function of insulating materials in transformers?

- a. Increase voltage
- b. Decrease voltage
- c. Store electrical charge
- d. Prevent electrical leakage

Answer: d.

45. In the context of insulators, what does the term "dielectric strength" refer to?

- a. Ability to conduct electricity
- b. Ability to store charge
- c. Ability to withstand high voltages
- d. Ability to generate heat

Answer: c.

46. Which property of insulators makes them suitable for protecting electrical equipment from moisture?

- a. Hydrophobicity
- b. Hydrophilicity
- c. Porosity
- d. Conductivity

Answer: a.

47. What is the primary function of insulators in high-voltage transmission lines?

- a. Increase current flow
- b. Decrease resistance
- c. Prevent electrical leakage
- d. Facilitate heat dissipation

Answer: c.

48. Which insulating material is commonly used in the manufacture of capacitors?

- a. Glass
- b. PVC (Polyvinyl chloride)
- c. Rubber
- d. Mica

Answer: d.

49. In electrical circuits, what is the purpose of insulating sleeves on wires and cables?

- a. Increase conductivity
- b. Provide mechanical strength
- c. Facilitate current flow
- d. Prevent short circuits

Answer: d.



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50. Which of the following materials is commonly used as an insulator in electronic devices?

- a. Copper
- b. Silicon
- c. Aluminum
- d. Gold

Answer: b.

51. What is the primary advantage of using insulators in the construction of electrical devices and systems?

- a. High conductivity
- b. Low cost
- c. Safety from electric shock
- d. High thermal conductivity

Answer: c.

52. Which property of insulators makes them suitable for use in high-frequency applications?

- a. Low dielectric constant
- b. High dielectric constant
- c. Low resistivity
- d. High thermal conductivity

Answer: b.

53. What is the term for the maximum electric field that an insulating material can withstand without electrical breakdown?

- a. Dielectric constant
- b. Dielectric strength
- c. Resistivity
- d. Conductivity

Answer: b.

54. Which insulator is commonly used for insulating electrical wires in homes?

- a. Rubber
- b. PVC (Polyvinyl chloride)
- c. Glass
- d. Porcelain

Answer: b.

55. What is the primary role of insulators in electrical switches?

- a. Increase resistance
- b. Facilitate current flow
- c. Prevent electrical leakage
- d. Store electrical charge

Answer: c.

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56. Which insulator is commonly used for high-temperature applications, such as in ovens and furnaces?

- a. PVC (Polyvinyl chloride)
- b. Rubber
- c. Glass
- d. Ceramic

Answer: d.

57. What is the primary function of insulators in power transformers?

- a. Increase voltage
- b. Decrease voltage
- c. Store electrical charge
- d. Prevent electrical leakage

Answer: d.

58. Which insulator is commonly used for insulating electrical cables buried underground?

- a. Rubber
- b. PVC (Polyvinyl chloride)
- c. Glass
- d. Porcelain

Answer: b.

59. What is the term for the process of removing electrons from an insulating material by exposure to high voltage?

- a. Ionization
- b. Discharge
- c. Polarization
- d. Breakdown

Answer: b.

60. Which property of insulators is crucial for their use in preventing electric shocks in electrical appliances?

- a. Low dielectric constant
- b. High dielectric strength
- c. Low resistivity
- d. High thermal conductivity

Answer: b.

61. In the forward bias arrangements of a PN junction diode

- a. The N end is connected to the positive terminal of the battery
- b. The P end is connected to the positive terminal of the battery
- c. The direction of the current is from N end to the P end in the diode
- d. The P end is connected to the negative terminal of the battery

Answer: (b)

# IGCSE Physics Past Papers

62. In a PN junction diode

- a. The current in the reverse biased condition is generally very small
- b. The current in the reverse biased condition is generally very small but the forward-biased current is independent of the bias voltage
- c. The reverse-biased current is strongly dependent on the applied bias voltage
- d. The forward biased current is very small in comparison to reverse-biased current.

Answer: (a)

63. The cut-in voltage for silicon diode is approximately

- a. 0.2 V
- b. 0.6 V
- c. 1.1 V
- d. 1.4 V

Answer: (b)

64. The electrical resistance of the depletion layer is large because

- a. It has no charge carriers
- b. It has a large number of charge carriers
- c. It contains electrons as charge carriers
- d. It has holes as charge carriers

Answers: (a)

65. If the forward voltage in a semiconductor diode is doubled, the width of the depletion layer will

- a. Become half
- b. Become one-fourth
- c. Remain unchanged
- d. Become double

Answer: (a)

66. The PN junction diode is used as

- a. An amplifier
- b. A rectifier
- c. An oscillator
- d. A modulator

Answer: (b)

67. When a PN junction diode is reverse biased

- a. Electrons and holes are attracted towards each other and move towards the depletion region
- b. Electrons and holes move away from the junction depletion region
- c. Height of the potential barrier decreases
- d. No change in the current takes place

Answer: (b)

# IGCSE Physics Past Papers

68. What is a diode primarily used for in electronic circuits?

- a. Voltage regulation
- b. Signal amplification
- c. Current rectification
- d. Capacitance measurement

Answer: c.

69. Which semiconductor material is commonly used in the fabrication of diodes?

- a. Silicon
- b. Copper
- c. Aluminum
- d. Gold

Answer: a.

70. In a forward-biased diode, what happens to the barrier potential?

- a. Increases
- b. Decreases
- c. Remains constant
- d. Becomes zero

Answer: b.

# O-Levels Physics Past Papers

1. What is the primary source of energy for the Sun?

- A) Nuclear Fusion
- B) Nuclear Fission
- C) Solar Flares
- D) Solar Wind

Correct Answer: A)

2. Which planet is known as the "Red Planet"?

- A) Venus
- B) Mars
- C) Jupiter
- D) Saturn

Correct Answer: B)

3. What is the largest moon of Jupiter?

- A) Europa
- B) Ganymede
- C) Callisto
- D) Io

Correct Answer: B)

4. The Hubble Space Telescope observes the universe in which part of the electromagnetic spectrum?

- A) X-rays
- B) Infrared
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5. What causes the phenomenon known as the Northern Lights (Aurora Borealis)?

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- B) Volcanic Activity
- C) Earth's Magnetic Field
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6. What is the escape velocity of Earth?

- A)  $9.8 \text{ m/s}^2$
- B)  $11.2 \text{ km/s}$
- C)  $299,792 \text{ km/s}$
- D)  $1,000 \text{ m/s}$

Correct Answer: B)

7. Which space probe provided the first close-up images of Pluto in 2015?

# O-Levels Physics Past Papers

- A) Voyager 1
- B) New Horizons
- C) Cassini
- D) Curiosity

Correct Answer: B)

8. What is the main component of the atmospheres of Venus and Mars?

- A) Nitrogen
- B) Oxygen
- C) Carbon Dioxide
- D) Hydrogen

Correct Answer: C)

9. The Kuiper Belt is a region of the solar system that is found beyond the orbit of which planet?

- A) Jupiter
- B) Neptune
- C) Mars
- D) Saturn

Correct Answer: B)

10. Which law of planetary motion states that a planet orbits the Sun in an elliptical shape?

- A) Kepler's First Law
- B) Kepler's Second Law
- C) Kepler's Third Law
- D) Newton's Law of Gravitation

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- B) Milky Way
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- D) Sombrero

Correct Answer: B)

12. Which phenomenon occurs when the Moon passes directly between the Sun and Earth, casting a shadow on Earth?

- A) Solar Eclipse
- B) Lunar Eclipse
- C) Equinox
- D) Solstice

Correct Answer: A)

13. The process by which a star converts hydrogen into helium is known as:

# O-Levels Physics Past Papers

- A) Fusion
  - B) Fission
  - C) Combustion
  - D) Sublimation
- Correct Answer: A)

14. What is the name of the largest volcano in our solar system, located on Mars?

- A) Olympus Mons
  - B) Mauna Kea
  - C) Mount Everest
  - D) Krakatoa
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15. In which year was the first human-made object, Sputnik 1, launched into space?

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  - B) 1961
  - C) 1971
  - D) 1981
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16. What is the approximate age of the universe?

- A) 4.5 million years
  - B) 4.5 billion years
  - C) 13.8 billion years
  - D) 13.8 million years
- Correct Answer: C)

17. Which force is responsible for shaping the structure of the universe on large scales?

- A) Electromagnetic Force
  - B) Gravitational Force
  - C) Strong Nuclear Force
  - D) Weak Nuclear Force
- Correct Answer: B)

18. The concept of black holes is a prediction of which theory of physics?

- A) Quantum Mechanics
  - B) General Relativity
  - C) Special Relativity
  - D) Electromagnetism
- Correct Answer: B)

19. Which spacecraft was the first to successfully land on Mars and transmit data back to Earth?

- A) Viking 1
- B) Pathfinder

# O-Levels Physics Past Papers

- C) Spirit
- D) Opportunity

Correct Answer: A)

20. What is the name of the region of space where gravitational forces are so strong that nothing, not even light, can escape?

- A) Event Horizon
- B) Singularity
- C) Wormhole
- D) Quasar

Correct Answer: A)

21. Which moon of Saturn is known for its geysers that shoot out icy particles into space?

- A) Titan
- B) Enceladus
- C) Iapetus
- D) Rhea

Correct Answer: B)

22. What is the name of the point in an orbit where a satellite is closest to Earth?

- A) Apogee
- B) Perigee
- C) Zenith
- D) Nadir

Correct Answer: B)

23. Which planet has the longest day, lasting more than 243 Earth days?

- A) Venus
- B) Jupiter
- C) Saturn
- D) Mars

Correct Answer: A)

24. What is the name of the process by which a star exhausts its nuclear fuel and collapses under its own gravity?

- A) Supernova
- B) Black Hole Formation
- C) Nebula Formation
- D) Red Giant Phase

Correct Answer: A)

25. The Oort Cloud is believed to be the source of:

- A) Comets
- B) Asteroids



# O-Levels Physics Past Papers

C) Meteoroids

D) Planets

Correct Answer: A)

26. Which space mission successfully landed the first humans on the Moon?

A) Apollo 8

B) Apollo 11

C) Apollo 13

D) Apollo 17

Correct Answer: B)

27. What is the name of the process by which a star transforms helium into heavier elements?

A) Fusion

B) Fission

C) Nucleosynthesis

D) Ionization

Correct Answer: C)

28. Which gas is the most abundant in Earth's atmosphere?

A) Oxygen

B) Nitrogen

C) Carbon Dioxide

D) Argon

Correct Answer: B)

29. What is the name of the region of space where the gravitational pull of a celestial body is so strong that nothing can escape, not even light?

A) Event Horizon

B) Singularity

C) Photon Sphere

D) Accretion Disk

Correct Answer: A)

30. The Great Red Spot is a prominent feature on which planet?

A) Earth

B) Mars

C) Jupiter

D) Saturn

Correct Answer: C)

31. What is the fundamental particle found in the nucleus of an atom?

A) Proton

B) Electron

C) Neutron

# O-Levels Physics Past Papers

D) Positron

Correct Answer: A)

32. Which force is responsible for holding the nucleus of an atom together?

A) Gravitational Force

B) Electromagnetic Force

C) Strong Nuclear Force

D) Weak Nuclear Force

Correct Answer: C)

33. What is the process by which a heavy nucleus splits into two lighter nuclei?

A) Nuclear Fusion

B) Beta Decay

C) Nuclear Fission

D) Alpha Decay

Correct Answer: C)

34. In a nuclear reaction, what is the term for the mass that is converted into energy?

A) Binding Energy

B) Rest Mass

C) Kinetic Energy

D) Potential Energy

Correct Answer: A)

35. Which particle is emitted during the process of alpha decay?

A) Proton

B) Neutron

C) Alpha Particle

D) Beta Particle

Correct Answer: C)

36. What is the half-life of a radioactive substance?

A) The time it takes for half of the substance to decay

B) The time it takes for the substance to double its activity

C) The time it takes for the substance to lose all of its radioactivity

D) The time it takes for the substance to reach equilibrium

Correct Answer: A)

37. Which element is commonly used as fuel in nuclear reactors?

A) Uranium-235

B) Plutonium-239

C) Thorium-232

D) Radium-226

Correct Answer: A)

# O-Levels Physics Past Papers

38. What is the process by which a nucleus captures an electron and converts a proton into a neutron?

- A) Electron Capture
- B) Beta Decay
- C) Alpha Decay
- D) Positron Emission

Correct Answer: A)

39. Which scientist proposed the famous equation  $E=mc^2$ , relating energy and mass?

- A) Isaac Newton
- B) Albert Einstein
- C) Niels Bohr
- D) Marie Curie

Correct Answer: B)

40. What is the name for the process in which a high-energy photon interacts with matter, producing an electron-positron pair?

- A) Pair Annihilation
- B) Pair Production
- C) Beta Decay
- D) Electron Capture

Correct Answer: B)

41. Which particle is equivalent to an electron but has a positive charge?

- A) Positron
- B) Neutrino
- C) Antineutrino
- D) Muon

Correct Answer: A)

42. What is the term for the minimum amount of fissionable material required to sustain a nuclear chain reaction?

- A) Critical Mass
- B) Subcritical Mass
- C) Supercritical Mass
- D) Equilibrium Mass

Correct Answer: A)

43. In a nuclear power plant, what is the purpose of the control rods?

- A) To absorb neutrons and control the rate of the reaction
- B) To produce electricity directly
- C) To shield workers from radiation
- D) To cool the reactor core

# O-Levels Physics Past Papers

Correct Answer: A)

44. Which type of radiation consists of high-energy photons without mass or charge?

- A) Alpha Radiation
- B) Beta Radiation
- C) Gamma Radiation
- D) Neutron Radiation

Correct Answer: C)

45. What is the primary fuel used in hydrogen bombs (thermonuclear bombs)?

- A) Uranium-235
- B) Plutonium-239
- C) Deuterium
- D) Tritium

Correct Answer: C)

46. What is the process by which a nucleus gains a proton, changing into a different element?

- A) Alpha Decay
- B) Beta Decay
- C) Gamma Decay
- D) Proton Emission

Correct Answer: D)

47. Which phenomenon is responsible for the "cooling" of a star as it converts hydrogen into helium in its core?

- A) Nuclear Fusion
- B) Gravitational Contraction
- C) Nuclear Fission
- D) Neutrino Emission

Correct Answer: A)

48. What is the term for the process by which a nucleus spontaneously emits a particle or radiation?

- A) Nuclear Fusion
- B) Nuclear Fission
- C) Radioactive Decay
- D) Neutron Activation

Correct Answer: C)

49. Which element is commonly used as a moderator in nuclear reactors to slow down neutrons?

- A) Boron
- B) Graphite
- C) Heavy Water (Deuterium)

# O-Levels Physics Past Papers

D) Cadmium

Correct Answer: B)

50. What is the primary product of the fusion reactions that power the sun?

A) Helium-3

B) Helium-4

C) Carbon-12

D) Oxygen-16

Correct Answer: B)

51. Which subatomic particle is emitted during beta decay?

A) Proton

B) Neutron

C) Electron

D) Positron

Correct Answer: C)

52. What is the term for a region of an atom where an electron is likely to be found?

A) Nucleus

B) Orbital

C) Quark

D) Hadron

Correct Answer: B)

53. The phenomenon of nuclear fusion powers the energy emitted by:

A) Stars

B) Black Holes

C) Neutron Stars

D) Quasars

Correct Answer: A)

54. Which isotope of uranium is commonly used as fuel in nuclear reactors?

A) Uranium-235

B) Uranium-238

C) Uranium-234

D) Uranium-236

Correct Answer: A)

55. The process of converting a substance into a vapor is called:

A) Sublimation

B) Evaporation

C) Condensation

D) Fusion

Correct Answer: B)

# O-Levels Physics Past Papers

56. What is the term for a reaction in which two nuclei combine to form a heavier nucleus?

- A) Nuclear Fission
- B) Nuclear Fusion
- C) Beta Decay
- D) Alpha Decay

Correct Answer: B)

57. Which particle has the same mass as an electron but a positive charge?

- A) Neutron
- B) Proton
- C) Positron
- D) Antineutrino

Correct Answer: C)

58. The process of converting a gas into a liquid is called:

- A) Sublimation
- B) Evaporation
- C) Condensation
- D) Fusion

Correct Answer: C)

59. In a nuclear power plant, what is the purpose of the coolant?

- A) To slow down neutrons
- B) To absorb excess heat
- C) To transport electricity
- D) To regulate the chain reaction

Correct Answer: B)

60. What is the primary function of a Geiger-Muller tube?

- A) Measure temperature
- B) Detect radioactivity
- C) Generate electricity
- D) Produce X-rays

Correct Answer: B)

61. Which process involves the ejection of a neutron from a nucleus?

- A) Beta Decay
- B) Proton Emission
- C) Neutron Activation
- D) Neutron Emission

Correct Answer: D)

62. Which of the following particles is electrically neutral?

# O-Levels Physics Past Papers

- A) Proton
- B) Electron
- C) Neutron
- D) Positron

Correct Answer: C)

63. What is the term for the minimum mass of fissile material required to sustain a nuclear chain reaction without an external neutron source?

- A) Critical Mass
- B) Subcritical Mass
- C) Supercritical Mass
- D) Equilibrium Mass

Correct Answer: A)

64. Which of the following particles is considered a lepton?

- A) Proton
- B) Neutron
- C) Electron
- D) Positron

Correct Answer: C)

65. What is the primary product of the nuclear reaction in the Sun, where hydrogen nuclei fuse to form helium?

- A) Deuterium
- B) Tritium
- C) Helium-3
- D) Helium-4

Correct Answer: D)

66. In a nuclear reactor, what is the moderator's role?

- A) Absorb neutrons
- B) Increase reactor temperature
- C) Slow down neutrons
- D) Control chain reactions

Correct Answer: C)

67. Which radioactive isotope is commonly used in carbon dating?

- A) Uranium-235
- B) Carbon-14
- C) Thorium-232
- D) Potassium-40

Correct Answer: B)

68. What is the term for a substance that induces fission in a nuclear reactor?

# O-Levels Physics Past Papers

- A) Moderator
- B) Absorber
- C) Catalyst
- D) Fuel

Correct Answer: D)

69. The process by which an unstable atomic nucleus loses energy by emitting radiation is known as:

- A) Nuclear Fusion
- B) Nuclear Fission
- C) Radioactive Decay
- D) Alpha Decay

Correct Answer: C)

70. Which phenomenon involves the change of a neutron into a proton with the emission of an electron?

- A) Beta Decay
- B) Alpha Decay
- C) Gamma Decay
- D) Electron Capture

Correct Answer: A)



# A-Levels Physics Past Papers

1. What is the fundamental particle found in the nucleus of an atom?

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Correct Answer: A)

2. Which scientist proposed the famous equation  $E=mc^2$ , relating energy and mass?

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- B) Albert Einstein
- C) Niels Bohr
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3. What is the name for the process in which a high-energy photon interacts with matter, producing an electron-positron pair?

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6. In a nuclear power plant, what is the purpose of the control rods?

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# A-Levels Physics Past Papers

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# A-Levels Physics Past Papers

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# A-Levels Physics Past Papers

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- A) Venus
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- C) Jupiter
- D) Saturn

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- A) Europa
- B) Ganymede
- C) Callisto
- D) Io

Correct Answer: B)

# A-Levels Physics Past Papers

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- C) Ultraviolet
- D) Radio waves

Correct Answer: C)

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- C) Cassini
- D) Curiosity

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# A-Levels Physics Past Papers

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- A) Andromeda
- B) Milky Way
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- C) 1971
- D) 1981

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# A-Levels Physics Past Papers

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  - B) 4.5 billion years
  - C) 13.8 billion years
  - D) 13.8 million years
- Correct Answer: C)

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  - C) Strong Nuclear Force
  - D) Weak Nuclear Force
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- A) Quantum Mechanics
  - B) General Relativity
  - C) Special Relativity
  - D) Electromagnetism
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- A) Viking 1
  - B) Pathfinder
  - C) Spirit
  - D) Opportunity
- Correct Answer: A)

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  - B) Singularity
  - C) Wormhole
  - D) Quasar
- Correct Answer: A)

54. Which moon of Saturn is known for its geysers that shoot out icy particles into space?

- A) Titan
  - B) Enceladus
  - C) Iapetus
  - D) Rhea
- Correct Answer: B)

55. What is the name of the point in an orbit where a satellite is closest to Earth?

- A) Apogee

# A-Levels Physics Past Papers

- B) Perigee
- C) Zenith
- D) Nadir

Correct Answer: B)

56. Which planet has the longest day, lasting more than 243 Earth days?

- A) Venus
- B) Jupiter
- C) Saturn
- D) Mars

Correct Answer: A)

57. What is the name of the process by which a star exhausts its nuclear fuel and collapses under its own gravity?

- A) Supernova
- B) Black Hole Formation
- C) Nebula Formation
- D) Red Giant Phase

Correct Answer: A)

58. The Oort Cloud is believed to be the source of:

- A) Comets
- B) Asteroids
- C) Meteoroids
- D) Planets

Correct Answer: A)

59. Which space mission successfully landed the first humans on the Moon?

- A) Apollo 8
- B) Apollo 11
- C) Apollo 13
- D) Apollo 17

Correct Answer: B)

60. What is the name of the process by which a star transforms helium into heavier elements?

- A) Fusion
- B) Fission
- C) Nucleosynthesis
- D) Ionization

Correct Answer: C)

61. Which gas is the most abundant in Earth's atmosphere?

- A) Oxygen
- B) Nitrogen

# A-Levels Physics Past Papers

C) Carbon Dioxide

D) Argon

Correct Answer: B)

62. What is the name of the region of space where the gravitational pull of a celestial body is so strong that nothing can escape, not even light?

A) Event Horizon

B) Singularity

C) Photon Sphere

D) Accretion Disk

Correct Answer: A)

63. The Great Red Spot is a prominent feature on which planet?

A) Earth

B) Mars

C) Jupiter

D) Saturn

Correct Answer: C)

64. Which force is responsible for holding the nucleus of an atom together?

A) Gravitational Force

B) Electromagnetic Force

C) Strong Nuclear Force

D) Weak Nuclear Force

Correct Answer: C)

65. What is the process by which a heavy nucleus splits into two lighter nuclei?

A) Nuclear Fusion

B) Beta Decay

C) Nuclear Fission

D) Alpha Decay

Correct Answer: C)

66. In a nuclear reaction, what is the term for the mass that is converted into energy?

A) Binding Energy

B) Rest Mass

C) Kinetic Energy

D) Potential Energy

Correct Answer: A)

67. Which particle is emitted during the process of alpha decay?

A) Proton

B) Neutron

C) Alpha Particle

D) Beta Particle

# A-Levels Physics Past Papers

Correct Answer: C)

68. What is the half-life of a radioactive substance?

- A) The time it takes for half of the substance to decay
- B) The time it takes for the substance to double its activity
- C) The time it takes for the substance to lose all of its radioactivity
- D) The time it takes for the substance to reach equilibrium

Correct Answer: A)

69. Which element is commonly used as fuel in nuclear reactors?

- A) Uranium-235
- B) Plutonium-239
- C) Thorium-232
- D) Radium-226

Correct Answer: A)

70. What is the process by which a nucleus captures an electron and converts a proton into a neutron?

- A) Electron Capture
- B) Beta Decay
- C) Alpha Decay
- D) Positron Emission

Correct Answer: A)

# Bachelors Physics Past Papers

1. The voltage drop across a 1.5-kW toaster that draws 12 A of current is:

- A. 18 kV
- B. 125 V
- C. 120 V
- D. 10.42 V

Correct Answer: B

2. The maximum current that a 2W, 80 k $\Omega$  resistor can safely conduct is:

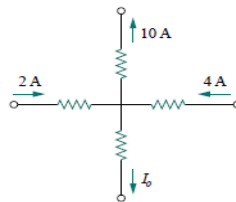
- A. 160 kA
- B. 40 kA
- C. 5 mA
- D. 25 Ma

Correct Answer: C

3. The current  $I_o$  in the following figure is:

- A. -4 A
- B. -2 A
- C. 4 A
- D. 16 A

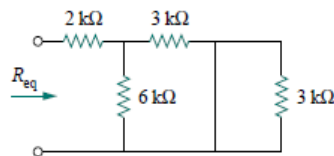
Correct Answer: B



4. The equivalent resistance of the circuit in the following figure is:

- A. 4 k $\Omega$
- B. 5 k $\Omega$
- C. 8 k $\Omega$
- D. 14 k $\Omega$

Correct Answer: A



5. For superposition, it is not required that only one independent source be considered at a time; any number of independent sources may be considered simultaneously.

- A. True
- B. False

Correct Answer: B

6. The Norton resistance  $R_N$  is exactly equal to the Thevenin resistance  $R_{Th}$ .

- A. True
- B. False

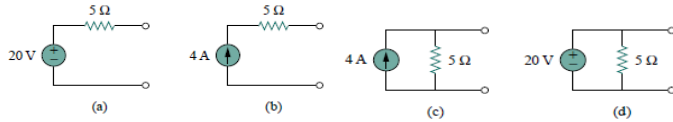
Correct Answer: A

7. Which pair of circuits shown below are equivalent?

# Bachelors Physics Past Papers

- A. a and b
- B. b and d
- C. a and c
- D. c and d

Correct Answer: C



8. The source is supplying the maximum power to the load when the load resistance equals the source resistance.

- A. True
- B. False

Correct Answer: A

9. What charge is on a 5-F capacitor when it is connected across a 120-V source?

- A. 600 C
- B. 300 C
- C. (c) 24 C
- D. (d) 12 C

Correct Answer: A

10. An  $RC$  circuit has  $R = 2 \text{ } \Omega$  and  $C = 4 \text{ F}$ . The time constant is:

- A. 0.5 s
- B. 2 s
- C. 4 s
- D. 8 s
- E. 15 s

Correct Answer: D

11. If  $v_1 = 30 \sin(\omega t + 10)$  and  $v_2 = 20 \sin(\omega t + 50)$ , which of these statements are true?

- A.  $v_1$  leads  $v_2$
- B.  $v_2$  leads  $v_1$
- C.  $v_2$  lags  $v_1$
- D.  $v_1$  lags  $v_2$
- E.  $v_1$  and  $v_2$  are in phase
- F. Both B and D

Correct Answer: E

12. The impedance of a capacitor increases with increasing frequency.

- A. True
- B. False

Correct Answer: B

13. A series  $RC$  circuit has  $V_R = 12 \text{ V}$  and  $V_C = 5 \text{ V}$ . The supply voltage is:

- A. -7 V
- B. 7 V
- C. 13 V
- D. 17 V

Correct Answer: D

14. The average power absorbed by an inductor is zero.

- A. True
- B. False

# Bachelors Physics Past Papers

Correct Answer: B

15. Reactive power is measured in:
- A. watts
  - B. VA
  - C. VAR
  - D. none of these

Correct Answer: C

16. In a series RC circuit, the voltage across the resistance is
- A. ZERO at equilibrium
  - B. Lagging the source voltage by 90 degrees
  - C. In phase with current
  - D. Lagging the current by 90 degrees

Correct Answer: A

17. In a series RC circuit the voltage across the capacitor is
- A. In phase with the source voltage
  - B. Lagging the resistor voltage by 90 degrees
  - C. In phase with current
  - D. Lagging the source voltage by 90 degrees

Correct Answer: A

18. When the frequency of the voltage applied to a series RC circuit is decreased, the impedance
- A. increases
  - B. decreases
  - C. remain the same
  - D. become erratic

Correct Answer: B

19. When  $R = X_c$ , the phase angle is
- A. 0 degree
  - B. +90 degrees
  - C. -90 degrees
  - D. 45 degrees

Correct Answer: D

20. In a parallel RC circuits, there is 1 A rms through the resistive branch and 1 A rms through the capacitive branch. The total rms current is
- A. 1 A
  - B. 2 A
  - C. 2.28 A
  - D. 1.414 A

Correct Answer: D

21. To decrease the phase angle below 45 degrees. The following condition must exist
- A.  $R = X_c$
  - B.  $R < X_c$
  - C.  $R > X_c$
  - D.  $R = 10X_c$

Correct Answer: C

22. In a series RC circuit when the frequency and the resistance are doubled, the impedance (should be CAN'T)!
- A. Doubles

# Bachelors Physics Past Papers

- B. Is halved
- C. Is quadrupled
- D. Can be determined without values

Correct Answer: D

23. For a certain Load the true power is 10 W and the reactive power is 10 VA. The apparent power is

- A. 5 VA
- B. 20 VA
- C. 14.14 VA
- D. 100 VA

Correct Answer: C



# Bachelors Physics Past Papers

24. Which of the following power factor results in less energy being converted to heat in an RL circuit

- A. 1
- B. 0.9
- C. 0.5
- D. 0.1

Correct Answer: A

25. In a parallel RL circuit there are 2A rms in the resistive branch and 2A rms in the inductive branch. The total rms current is

- A. 4 A
- B. 5.656A
- C. 2 A
- D. 2.828A

Correct Answer: D

26. When the resistor voltage in a series RL circuit becomes greater than the inductor voltage, the phase angle

- A. increases
- B. decreases
- C. remains unaffected

Correct Answer: B

27. To reduce the current in a series RL circuit the frequency should be

- A. increased
- B. decreased
- C. constant
- D. prevent loading on the source

Correct Answer: A

28. The maximum output voltage of certain low-pass filter is 10V.the output voltage at the critical frequency

- A. 10V
- B. 0V
- C. 7.07V
- D. 1.414V

Correct Answer: C

29. In a passive filter, the ratio of  $V_{out}/V_{in}$  is called

- A. roll-off
- B. gain
- C. Attenuation
- D. critical reduction

Correct Answer: B

30. At series resonance

- A.  $X_c = X_L$
- B.  $X_c > X_L$
- C.  $X_c < X_L$
- D.  $X_c = 10X_L$

Correct Answer: A

31. In a certain parallel resonant band-pass filter the resonant frequency is 10KHz.If the bandwidth is 2KHz the lower critical frequency is

- A. 5 KHz
- B. 12 KHz

# Bachelors Physics Past Papers

- C. 9 KHz
- D. not determinable

Correct Answer: C

32. Which one of the following is effected by the turns ratio of a transformer
- A. primary voltage
  - B. dc voltage
  - C. secondary voltage
  - D. none of these

Correct Answer: C

33. A certain transformer has turn ratios of 1 and 0.95 coefficient of coupling. When a 1 V ac is applied to the primary. The secondary voltage is
- A. 1 V
  - B. 1.95 V
  - C. 0.95 V
  - D. 20 V

Correct Answer: C

34. The turn ratios required to match a 50ohms source to a 200ohms Load is
- A. 0.25
  - B. 0.5
  - C. 4
  - D. 2

Correct Answer: A

35. If a 10W of power are applied to the primary of an ideal transformer with a turns ratio of 5,the power delivered to the secondary load is
- A. 50 W
  - B. 0.5 W
  - C. 0 W
  - D. 10 W

Correct Answer: D

36. In a three phase system, the voltages are separated by
- A. 90°
  - B. 30°
  - C. 180°
  - D. 120°

Correct Answer: D

37. Advantages of three-phase system over a single-phase system are
- A. smaller cross-sectional area for the copper conductors
  - B. slower rotor speed
  - C. constant power
  - D. smaller chance of overheating
  - E. both A & C
  - F. both B & C

Correct Answer: E

38. A certain  $\Delta$  connected generator produces phase voltages of 30 volts. The magnitude of line voltages is
- A. 10V
  - B. 30V
  - C. 60V
  - D. None of these.

Correct Answer: B

# Bachelors Physics Past Papers

39. If the source phase voltages of a  $\Delta$ -Y system are 220 volts, the magnitude of load voltages is

- A. 220V
- B. 381V
- C. 127V
- D. 73.3V

Correct Answer: B

40. In applying the superposition theorem

- A. all sources are considered simultaneously
- B. all voltage sources are considered simultaneously
- C. all sources are considered one at a time with all others replaced by a short
- D. the sources are considered one at a time with all others replaced by their internal impedances

Correct Answer: D

41. A Thevenin ac equivalent circuit always consists of an equivalent ac voltage source

- A. and equivalent capacitance
- B. and an equivalent inductive reactance
- C. and an equivalent impedance
- D. in series with an equivalent capacitive reactance

Correct Answer: C

42. The Thevenin equivalent voltage is

- A. the open circuit voltage
- B. the short circuit voltage
- C. the voltage across an equivalent load
- D. none of the above

Correct Answer: A

43. A Norton ac equivalent circuit always consists of

- A. an equivalent ac current source in series with an equivalent impedance
- B. an equivalent ac current source in parallel with an equivalent reactance
- C. an equivalent ac current source in parallel with an equivalent impedance
- D. an equivalent ac voltage source in parallel with an equivalent impedance

Correct Answer: C

44. The Norton equivalent current is

- A. the total current from the source
- B. the short circuit current
- C. the current to an equivalent load
- D. none of the above

Correct Answer: B

45. In order to get maximum power transfer from a capacitive source, the load must

- A. have a capacitance equal to the source capacitance
- B. have an impedance equal in magnitude to the source impedance
- C. be inductive
- D. have an impedance that is the complex conjugate of the source impedance
- E. answers A and D.

Correct Answer: D

# Bachelors Physics Past Papers

46. The maximum output voltage of a certain low-pass filter is 10 V. The output voltage at the critical frequency is

- A. 10V
- B. 0V
- C. 7.07V
- D. 1.414V

Correct Answer: C

47. At the critical frequency, the output of a filter is down from its maximum by

- A. 0dB
- B. -3dB
- C. -20dB
- D. -6Db

Correct Answer: B

48. At the critical frequency, the phase shift through a high pass filter is

- A.  $90^\circ$
- B.  $0^\circ$
- C.  $45^\circ$
- D. Dependant on reactance

Correct Answer: C

# Bachelors Physics Past Papers

49. At series resonance,

- A.  $X_c = X_L$
- B.  $X_c > X_L$
- C.  $X_c < X_L$

Correct Answer: A

50. In a band-pass filter the output voltage at the resonant frequency is

- A. minimum
- B. maximum
- C. 70.7% of maximum
- D. 70.7% of minimum

Correct Answer: B

51. The total reactance of a series RLC circuit at resonance is

- A. zero
- B. equal to the resistance
- C. infinity
- D. capacitive

Correct Answer: B

52. The impedance at the resonant frequency of a series RLC circuit with  $L=15\text{mH}$ ,  $C=0.015\text{ }\mu\text{F}$  and  $R_w=80\text{ }\Omega$  is

- A.  $15\text{K}\omega$
- B.  $80\Omega$
- C.  $30\Omega$
- D.  $0\text{ }\Omega$

Correct Answer: B

53. If the value of C in a series RLC circuit is increased the resonant frequency

- A. is not affected
- B. increases
- C. remains the same
- D. decreases

Correct Answer: D

54. To tune a parallel resonance circuit to a lower frequency, the capacitance should be

- A. increased
- B. decreased
- C. left alone
- D. replaced with inductance

Correct Answer: A

55. When the frequency of the voltage applied to a series RL circuit is increased, the

- A. Impedance
- B. Decreases
- C. Increases
- D. does not change

Correct Answer: C

# Bachelors Physics Past Papers

56. To reduce the current in a series RL circuit, the frequency should be  
A. increased

B. decreased

C. constant

Correct Answer: A

57. In a series RL circuit, 10 Vrms is measured across the resistor, and 10 Vrms is measured across the inductor. The peak value of the source voltage is

A. 14.14 V

B. 28.28 V

C. 10 V

D. 20 V

Correct Answer: A

58. In a parallel RL circuit, there are 2 A rms in the resistive branch and 2 A rms in the inductive branch. The total rms current is

A. 4 A

B. 5.656 A

C. 2 A

D. 2.828 A

Correct Answer: D

59. Which of the following power factors results in less energy being converted to heat in an RL circuit?

A. 1

B. 0.9

C. 0.5

D. 0.1

Correct Answer: A

60. For a certain load, the true power is 10W and the reactive power is 10VAR. The apparent power is

A. 5VA

B. 20VA

C. 14.14VA

D. 100VA

Correct Answer: C

61. Which one of the following is affected by the turns ratio of a transformer?

A. primary voltage

B. dc voltage

C. secondary voltage

D. none of these

Correct Answer: C

62. When the turns ratio of a transformer is 10 and the primary voltage is 6 Volts, the secondary voltage is

A. 60 V

B. 0.6 V

C. 6 V

D. 36 V

Correct Answer: A

63. A certain transformer has 500 turns in the primary winding and 2500 turns in the secondary winding. The turns ratio is

A. 0.2

# Bachelors Physics Past Papers

- B. 2.5
- C. 5
- D. 0.5

Correct Answer: C

64. When a  $1\text{k}\Omega$  load resistor is connected across the secondary of a transformer with a turns ratio of 2, the source 'sees' a reflected load of

- A.  $250\Omega$
- B.  $2\text{k}\Omega$
- C.  $4\text{k}\Omega$
- D.  $1.0\text{K}\omega$

Correct Answer: A

65. The turns required to match a  $50\Omega$  source to  $200\Omega$  load is

- A. 0.25
- B. 0.5
- C. 4
- D. 2

Correct Answer: D

66. When a 12 V battery is connected across the primary of a transformer with a turns Ratio of 4, the secondary voltage is

- A. 0 V
- B. 12 V
- C. 48 V
- D. 3 V

Correct Answer: C

67. According to KCL as applied to a junction in a network of conductors

- A. a total sum of currents meeting at the junction is zero.
- B. no current can leave the junction without some current entering it.
- C. net current flow at the junction is positive.
- D. Algebraic sum of the currents meeting at the junction is zero

Correct Answer: D

68. Kirchhoff's current law is applicable to only

- A. closed loops in a circuit.
- B. electronic circuits.
- C. Junctions in a network.
- D. electric circuits.

Correct Answer: C

69. In a series RC circuit, the voltage across the resistance is

- A. In phase with the source voltage
- B. Lagging the source voltage by 90 degrees
- C. In phase with current
- D. Lagging the current by 90 degrees

Correct Answer: C

70. In a series RC circuit, the voltage across the capacitor is

- A. In phase with the source voltage
- B. Lagging the resistor voltage by 90 degrees
- C. In phase with current
- D. Lagging the source voltage by 90 degrees

Correct Answer: A

# **Bachelors Physics Past Papers**



# DAE Physics Past Papers

1. What is the fundamental particle found in the nucleus of an atom?

- A) Proton
- B) Electron
- C) Neutron
- D) Positron

Correct Answer: A)

2. Which force is responsible for holding the nucleus of an atom together?

- A) Gravitational Force
- B) Electromagnetic Force
- C) Strong Nuclear Force
- D) Weak Nuclear Force

Correct Answer: C)

3. What is the process by which a heavy nucleus splits into two lighter nuclei?

- A) Nuclear Fusion
- B) Beta Decay
- C) Nuclear Fission
- D) Alpha Decay

Correct Answer: C)

4. In a nuclear reaction, what is the term for the mass that is converted into energy?

- A) Binding Energy
- B) Rest Mass
- C) Kinetic Energy
- D) Potential Energy

Correct Answer: A)

5. Which particle is emitted during the process of alpha decay?

- A) Proton
- B) Neutron
- C) Alpha Particle
- D) Beta Particle

Correct Answer: C)

6. What is the half-life of a radioactive substance?

- A) The time it takes for half of the substance to decay
- B) The time it takes for the substance to double its activity
- C) The time it takes for the substance to lose all of its radioactivity
- D) The time it takes for the substance to reach equilibrium

Correct Answer: A)

7. Which element is commonly used as fuel in nuclear reactors?

# DAE Physics Past Papers

- A) Uranium-235
- B) Plutonium-239
- C) Thorium-232
- D) Radium-226

Correct Answer: A)

8. What is the process by which a nucleus captures an electron and converts a proton into a neutron?

- A) Electron Capture
- B) Beta Decay
- C) Alpha Decay
- D) Positron Emission

Correct Answer: A)

9. Which scientist proposed the famous equation  $E=mc^2$ , relating energy and mass?

- A) Isaac Newton
- B) Albert Einstein
- C) Niels Bohr
- D) Marie Curie

Correct Answer: B)

10. What is the name for the process in which a high-energy photon interacts with matter, producing an electron-positron pair?

- A) Pair Annihilation
- B) Pair Production
- C) Beta Decay
- D) Electron Capture

Correct Answer: B)

11. Which particle is equivalent to an electron but has a positive charge?

- A) Positron
- B) Neutrino
- C) Antineutrino
- D) Muon

Correct Answer: A)

12. What is the term for the minimum amount of fissionable material required to sustain a nuclear chain reaction?

- A) Critical Mass
- B) Subcritical Mass
- C) Supercritical Mass
- D) Equilibrium Mass

Correct Answer: A)

# DAE Physics Past Papers

13. In a nuclear power plant, what is the purpose of the control rods?

- A) To absorb neutrons and control the rate of the reaction
- B) To produce electricity directly
- C) To shield workers from radiation
- D) To cool the reactor core

Correct Answer: A)

14. Which type of radiation consists of high-energy photons without mass or charge?

- A) Alpha Radiation
- B) Beta Radiation
- C) Gamma Radiation
- D) Neutron Radiation

Correct Answer: C)

15. What is the primary fuel used in hydrogen bombs (thermonuclear bombs)?

- A) Uranium-235
- B) Plutonium-239
- C) Deuterium
- D) Tritium

Correct Answer: C)

16. What is the process by which a nucleus gains a proton, changing into a different element?

- A) Alpha Decay
- B) Beta Decay
- C) Gamma Decay
- D) Proton Emission

Correct Answer: D)

17. Which phenomenon is responsible for the "cooling" of a star as it converts hydrogen into helium in its core?

- A) Nuclear Fusion
- B) Gravitational Contraction
- C) Nuclear Fission
- D) Neutrino Emission

Correct Answer: A)

18. What is the term for the process by which a nucleus spontaneously emits a particle or radiation?

- A) Nuclear Fusion
- B) Nuclear Fission
- C) Radioactive Decay
- D) Neutron Activation

Correct Answer: C)

# DAE Physics Past Papers

19. Which element is commonly used as a moderator in nuclear reactors to slow down neutrons?

- A) Boron
- B) Graphite
- C) Heavy Water (Deuterium)
- D) Cadmium

Correct Answer: B)

20. What is the primary product of the fusion reactions that power the sun?

- A) Helium-3
- B) Helium-4
- C) Carbon-12
- D) Oxygen-16

Correct Answer: B)

21. Which subatomic particle is emitted during beta decay?

- A) Proton
- B) Neutron
- C) Electron
- D) Positron

Correct Answer: C)

22. What is the term for a region of an atom where an electron is likely to be found?

- A) Nucleus
- B) Orbital
- C) Quark
- D) Hadron

Correct Answer: B)

23. The phenomenon of nuclear fusion powers the energy emitted by:

- A) Stars
- B) Black Holes
- C) Neutron Stars
- D) Quasars

Correct Answer: A)

24. Which isotope of uranium is commonly used as fuel in nuclear reactors?

- A) Uranium-235
- B) Uranium-238
- C) Uranium-234
- D) Uranium-236

Correct Answer: A)

25. The process of converting a substance into a vapor is called:

# DAE Physics Past Papers

- A) Sublimation
- B) Evaporation
- C) Condensation
- D) Fusion

Correct Answer: B)

26. What is the term for a reaction in which two nuclei combine to form a heavier nucleus?

- A) Nuclear Fission
- B) Nuclear Fusion
- C) Beta Decay
- D) Alpha Decay

Correct Answer: B)

27. Which particle has the same mass as an electron but a positive charge?

- A) Neutron
- B) Proton
- C) Positron
- D) Antineutrino

Correct Answer: C)

28. The process of converting a gas into a liquid is called:

- A) Sublimation
- B) Evaporation
- C) Condensation
- D) Fusion

Correct Answer: C)

29. In a nuclear power plant, what is the purpose of the coolant?

- A) To slow down neutrons
- B) To absorb excess heat
- C) To transport electricity
- D) To regulate the chain reaction

Correct Answer: B)

30. What is the primary function of a Geiger-Muller tube?

- A) Measure temperature
- B) Detect radioactivity
- C) Generate electricity
- D) Produce X-rays

Correct Answer: B)

31. Which process involves the ejection of a neutron from a nucleus?

- A) Beta Decay
- B) Proton Emission

# DAE Physics Past Papers

C) Neutron Activation

D) Neutron Emission

Correct Answer: D)

32. Which of the following particles is electrically neutral?

A) Proton

B) Electron

C) Neutron

D) Positron

Correct Answer: C)

33. What is the term for the minimum mass of fissile material required to sustain a nuclear chain reaction without an external neutron source?

A) Critical Mass

B) Subcritical Mass

C) Supercritical Mass

D) Equilibrium Mass

Correct Answer: A)

34. Which of the following particles is considered a lepton?

A) Proton

B) Neutron

C) Electron

D) Positron

Correct Answer: C)

35. What is the primary product of the nuclear reaction in the Sun, where hydrogen nuclei fuse to form helium?

A) Deuterium

B) Tritium

C) Helium-3

D) Helium-4

Correct Answer: D)

36. In a nuclear reactor, what is the moderator's role?

A) Absorb neutrons

B) Increase reactor temperature

C) Slow down neutrons

D) Control chain reactions

Correct Answer: C)

37. Which radioactive isotope is commonly used in carbon dating?

A) Uranium-235

B) Carbon-14

# DAE Physics Past Papers

C) Thorium-232

D) Potassium-40

Correct Answer: B)

38. What is the term for a substance that induces fission in a nuclear reactor?

A) Moderator

B) Absorber

C) Catalyst

D) Fuel

Correct Answer: D)

39. The process by which an unstable atomic nucleus loses energy by emitting radiation is known as:

A) Nuclear Fusion

B) Nuclear Fission

C) Radioactive Decay

D) Alpha Decay

Correct Answer: C)

40. Which phenomenon involves the change of a neutron into a proton with the emission of an electron?

A) Beta Decay

B) Alpha Decay

C) Gamma Decay

D) Electron Capture

Correct Answer: A)

41. What is the primary source of energy for the Sun?

A) Nuclear Fusion

B) Nuclear Fission

C) Solar Flares

D) Solar Wind

Correct Answer: A)

42. Which planet is known as the "Red Planet"?

A) Venus

B) Mars

C) Jupiter

D) Saturn

Correct Answer: B)

43. What is the largest moon of Jupiter?

A) Europa

B) Ganymede

# DAE Physics Past Papers

C) Callisto

D) Io

Correct Answer: B)

44. The Hubble Space Telescope observes the universe in which part of the electromagnetic spectrum?

A) X-rays

B) Infrared

C) Ultraviolet

D) Radio waves

Correct Answer: C)

45. What causes the phenomenon known as the Northern Lights (Aurora Borealis)?

A) Solar Winds

B) Volcanic Activity

C) Earth's Magnetic Field

D) Global Warming

Correct Answer: A)

46. What is the escape velocity of Earth?

A)  $9.8 \text{ m/s}^2$

B)  $11.2 \text{ km/s}$

C)  $299,792 \text{ km/s}$

D)  $1,000 \text{ m/s}$

Correct Answer: B)

47. Which space probe provided the first close-up images of Pluto in 2015?

A) Voyager 1

B) New Horizons

C) Cassini

D) Curiosity

Correct Answer: B)

48. What is the main component of the atmospheres of Venus and Mars?

A) Nitrogen

B) Oxygen

C) Carbon Dioxide

D) Hydrogen

Correct Answer: C)

49. The Kuiper Belt is a region of the solar system that is found beyond the orbit of which planet?

A) Jupiter

B) Neptune



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C) Mars

D) Saturn

Correct Answer: B)

50. Which law of planetary motion states that a planet orbits the Sun in an elliptical shape?

A) Kepler's First Law

B) Kepler's Second Law

C) Kepler's Third Law

D) Newton's Law of Gravitation

Correct Answer: A)

51. What is the name of the galaxy that contains our solar system?

A) Andromeda

B) Milky Way

C) Triangulum

D) Sombrero

Correct Answer: B)

52. Which phenomenon occurs when the Moon passes directly between the Sun and Earth, casting a shadow on Earth?

A) Solar Eclipse

B) Lunar Eclipse

C) Equinox

D) Solstice

Correct Answer: A)

53. The process by which a star converts hydrogen into helium is known as:

A) Fusion

B) Fission

C) Combustion

D) Sublimation

Correct Answer: A)

54. What is the name of the largest volcano in our solar system, located on Mars?

A) Olympus Mons

B) Mauna Kea

C) Mount Everest

D) Krakatoa

Correct Answer: A)

55. In which year was the first human-made object, Sputnik 1, launched into space?

A) 1957

B) 1961

C) 1971

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D) 1981

Correct Answer: A)

56. What is the approximate age of the universe?

A) 4.5 million years

B) 4.5 billion years

C) 13.8 billion years

D) 13.8 million years

Correct Answer: C)

57. Which force is responsible for shaping the structure of the universe on large scales?

A) Electromagnetic Force

B) Gravitational Force

C) Strong Nuclear Force

D) Weak Nuclear Force

Correct Answer: B)

58. The concept of black holes is a prediction of which theory of physics?

A) Quantum Mechanics

B) General Relativity

C) Special Relativity

D) Electromagnetism

Correct Answer: B)

59. Which spacecraft was the first to successfully land on Mars and transmit data back to Earth?

A) Viking 1

B) Pathfinder

C) Spirit

D) Opportunity

Correct Answer: A)

60. What is the name of the region of space where gravitational forces are so strong that nothing, not even light, can escape?

A) Event Horizon

B) Singularity

C) Wormhole

D) Quasar

Correct Answer: A)

61. Which moon of Saturn is known for its geysers that shoot out icy particles into space?

A) Titan

B) Enceladus

C) Iapetus

D) Rhea

# DAE Physics Past Papers

Correct Answer: B)

62. What is the name of the point in an orbit where a satellite is closest to Earth?

- A) Apogee
- B) Perigee
- C) Zenith
- D) Nadir

Correct Answer: B)

63. Which planet has the longest day, lasting more than 243 Earth days?

- A) Venus
- B) Jupiter
- C) Saturn
- D) Mars

Correct Answer: A)

64. What is the name of the process by which a star exhausts its nuclear fuel and collapses under its own gravity?

- A) Supernova
- B) Black Hole Formation
- C) Nebula Formation
- D) Red Giant Phase

Correct Answer: A)

65. The Oort Cloud is believed to be the source of:

- A) Comets
- B) Asteroids
- C) Meteoroids
- D) Planets

Correct Answer: A)

66. Which space mission successfully landed the first humans on the Moon?

- A) Apollo 8
- B) Apollo 11
- C) Apollo 13
- D) Apollo 17

Correct Answer: B)

67. What is the name of the process by which a star transforms helium into heavier elements?

- A) Fusion
- B) Fission
- C) Nucleosynthesis
- D) Ionization

Correct Answer: C)

# DAE Physics Past Papers

68. Which gas is the most abundant in Earth's atmosphere?

- A) Oxygen
- B) Nitrogen
- C) Carbon Dioxide
- D) Argon

Correct Answer: B)

69. What is the name of the region of space where the gravitational pull of a celestial body is so strong that nothing can escape, not even light?

- A) Event Horizon
- B) Singularity
- C) Photon Sphere
- D) Accretion Disk

Correct Answer: A)

70. The Great Red Spot is a prominent feature on which planet?

- A) Earth
- B) Mars
- C) Jupiter
- D) Saturn

Correct Answer: C)

# Masters Physics Past Papers

1. Kirchhoff's voltage law is concerned with
- A. IR drops
  - B. battery e.m.f.s
  - C. junction voltages
  - D. both (a) and (b)
- Answer: D
2. According to KVL, the algebraic sum of all IR drops and e.m.f.s in any closed loop of a network is always
- A. Zero
  - B. Positive
  - C. Negative
  - D. Determined by battery e.m.f.s
- Answer: A
3. The *algebraic sign* of an IR drop is primarily dependant upon the
- A. amount of current flowing through it
  - B. value of R
  - C. Direction of current flow
  - D. battery connection
- Answer: C
4. When  $R=X_c$ , the phase angle is
- A. 0 degree
  - B. +90 degrees
  - C. -90 degrees
  - D. 45 degrees
- Answer: D
5. *Loop Current* method of solving electrical networks
- A. uses branch currents
  - B. utilizes KVL
  - C. is confined to single loop circuits.
  - D. is a network reduction method
- Answer: B
6. When the resistor voltage in a series RL circuit becomes greater than the inductor Voltage, the phase angle
- A. Increases
  - B. Decreases
  - C. Remains unaffected
- Answer: B
7. To reduce the current in a series RL circuit the frequency should be
- A. Increased
  - B. Decreased
  - C. Constant
  - D. Prevent loading on the source
- Answer: A
8. *Point out the wrong statement* In the node-voltage technique of solving networks, choice of a reference node does not
- A. Affect the operation of the circuit
  - B. Change the voltage across any element
  - C. Alter the p.d. Between any pair of nodes
  - D. affect the voltages of various nodes

# Masters Physics Past Papers

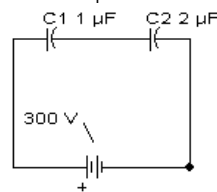
Answer: D

9. In a certain parallel resonant band-pass filter the resonant frequency is 10kHz. If the Bandwidth is 2KHZ the lower critical frequency is

A. 5 kHz  
B. 12 kHz  
C. 9 kHz  
D. Not determinable

Answer: C

10. In the figure shown below, voltage across  $C_1$  will be .....volt



A. 100  
B. 200  
C. 150  
D. 300

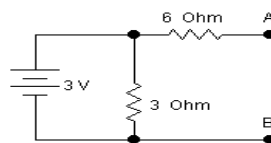
Answer: B

11. The capacitance of a capacitor is NOT influenced by

A. plate thickness  
B. plate area  
C. plate separation  
D. nature of dielectric

Answer: A

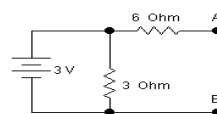
12. Thevenin resistance of the circuit shown across terminals A and B is.....Ohms



A. 6  
B. 3  
C. 9  
D. 2

Answer: A

13. The load resistance needed to extract maximum power from the shown circuit is



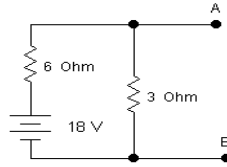
A. 2  
B. 9  
C. 6

# Masters Physics Past Papers

D. 18

Answer: C

14. The Norton equivalent circuit for the network shown below between A and B is ----- current resource with parallel resistance of -----.



- A. 2A,  $6\Omega$   
 B. 3A,  $2\Omega$   
 C. 2A,  $3\Omega$   
 D. 3A,  $9\Omega$

Answer: B

15. The Norton equivalent of a circuit consists of a 2A current source, parallel with a 4 Ohm resistor. Thevenin equivalent of this circuit is a ----- volt source in series with a 4 Ohm resistor.

- A. 2  
 B. 0.5  
 C. 6  
 D. 8

Answer: D

16. If two identical 3A,  $4\Omega$  Norton equivalents circuits are connected in parallel with like polarity to like, the combined Norton equivalent circuit is

- A. 6A,  $4\Omega$   
 B. 6A,  $2\Omega$   
 C. 3A,  $2\Omega$   
 D. 6A,  $8\Omega$

Answer: B

17. Two 6 Volt,  $2\Omega$  batteries are connected in series aiding. This combination can be replaced by a single equivalent current generator of ----- with a parallel resistance of ----- Ohm/s.

- A. 3A,  $4\Omega$   
 B. 3A,  $2\Omega$   
 C. 3A,  $1\Omega$   
 D. 6A,  $2\Omega$

Answer: A

18. Two identical 3 Volt,  $1\Omega$  batteries are connected in parallel with like polarity to like. The Norton equivalent circuit of this combination is

- A. 3A,  $0.5\Omega$   
 B. 6A,  $1\Omega$   
 C. 3A,  $1\Omega$   
 D. 6A,  $0.5\Omega$

Answer: D

19. In a parallel RC circuit, there is 1 A rms through the resistive branch and 1 A rms through the capacitive branch. The total rms current is

- A. 1 A  
 B. 2 A  
 C. 2.28 A

# Masters Physics Past Papers

D. 1.414 A

Answer: B

20. To decrease the phase angle below 45 degrees. The following condition must exist

- A.  $R=X_c$
- B.  $R<X_c$
- C.  $R>X_c$
- D.  $R=10X_c$

Answer: C

21. The time constant of an RC network is defined as the time during which capacitor charging current becomes ----- percent of the ----- value.

- A. 37, final
- B. 63, final
- C. 63, initial
- D. 37, initial

Answer: B

22. In a series RC circuit when the frequency and the resistance are doubled, the impedance (CAN'T?!)

- A. Doubles
- B. Is halved
- C. Is quadrupled
- D. Can be determined without values

Answer: D

23. For a certain Load, the true power is 10 W and the reactive power is 10 VA. The apparent power is

- A. 5 VA
- B. 20 VA
- C. 14.14 VA
- D. 100 VA

Answer: C

24. Which of the following power factor results in less energy being converted to heat in an RL circuit

- A. 1
- B. 0.9
- C. 0.5
- D. 0.1

Answer: A

25. In a parallel RL circuit there are 2A rms in the resistive branch and 2A rms in the inductive branch. The total rms current is

- A. 4 A
- B. 5.656A
- C. 2 A
- D. 2.828 A

Answer: A

26. The maximum output voltage of certain low-pass filter is 10V.the output voltage at the critical frequency

- A. 10V
- B. 0V
- C. 7.07V



# Masters Physics Past Papers

D. 1.414V

Answer: C

27. In a passive filter, the ratio of  $V_{out}/V_{in}$  is called

- A. roll-off
- B. gain
- C. Attenuation
- D. critical reduction

Answer: B

28. At series resonance

- A.  $X_c = X_L$
- B.  $X_c > X_L$
- C.  $X_c < X_L$
- D.  $X_c = 10X_L$

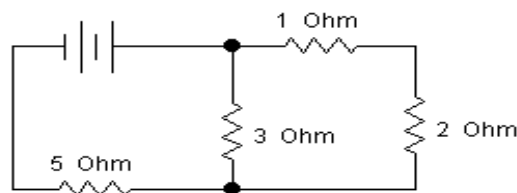
Answer: A

29. While calculating  $R_{th}$ , constant-current sources in the circuit are

- A. replaced by 'opens'
- B. replaced by 'shorts'
- C. treated in parallel with other voltage sources.
- D. converted into equivalent voltage sources.

Answer: A

30. Whatever the battery voltage in the figure shown below, highest current flows in the ..... ohm resistor



- A. 2
- B. 5
- C. 3
- D. 1

Answer: B

31. Which of the following statement is TRUE both for series and parallel dc circuits?

- A. powers are additive
- B. voltages are additive
- C. currents are additive
- D. elements have individual currents

Answer: A

32. Two resistors are said to be connected in series when

- A. both carry the same value of current
- B. total current equals the sum of branch currents
- C. sum of IR drop equals the applied e.m.f.
- D. same current passes in turn through both

Answer: D

33. A certain transformer has turn ratios of 1 and 0.95 coefficient of coupling. When a 1 V ac is applied to the primary. The secondary voltage is

- A. 1 V

# Masters Physics Past Papers

- B. 1.95 V
- C. 0.95 V
- D. 20 V

Answer: C

34. The turn ratios required to match a 50ohms source to a 200ohms Load is
- A. 0.25
  - B. 0.5
  - C. 4
  - D. 2

Answer: A

35. If a 10W of power are applied to the primary of an ideal transformer with a turns ratio of 5,the power delivered to the secondary load is
- A. 50 W
  - B. 0.5 W
  - C. 0 W
  - D. 10 W

Answer: D

36. In a three phase system, the voltages are separated by
- A. 90°
  - B. 30°
  - C. 180°
  - D. 120°

Answer: D

37. Advantages of three-phase system over a single-phase system are
- A. smaller cross-sectional area for the copper conductors
  - B. slower rotor speed
  - C. constant power
  - D. smaller chance of overheating
  - E. both A & C
  - F. both B & C

Answer: E

38. A certain  $\Delta$  connected generator produces phase voltages of 30 volts. The magnitude of line voltages is
- A. 10V
  - B. 30V
  - C. 60V
  - D. None of these.

Answer: B

39. If the source phase voltages of a  $\Delta$ -Y system are 220 volts, the magnitude of load voltages is
- A. 220V
  - B. 381V
  - C. 127V
  - D. 73.3V

Answer: B

40. In applying the superposition theorem
- A. all sources are considered simultaneously
  - B. all voltage sources are considered simultaneously
  - C. all sources are considered one at a time with all others replaced by a short

# Masters Physics Past Papers

- D. the sources are considered one at a time with all others replaced by their internal impedances

Answer: D

41. A Thevenin ac equivalent circuit always consists of an equivalent ac voltage source

- A. and equivalent capacitance
- B. and an equivalent inductive reactance
- C. and an equivalent impedance
- D. in series with an equivalent capacitive reactance

Answer: C

42. The Thevenin equivalent voltage is

- A. the open circuit voltage
- B. the short circuit voltage
- C. the voltage across an equivalent load
- D. none of the above

Answer: A

43. A Norton ac equivalent circuit always consists of

- A. an equivalent ac current source in series with an equivalent impedance
- B. an equivalent ac current source in parallel with an equivalent reactance
- C. an equivalent ac current source in parallel with an equivalent impedance
- D. an equivalent ac voltage source in parallel with an equivalent impedance

Answer: C

44. The Norton equivalent current is

- A. the total current from the source
- B. the short circuit current
- C. the current to an equivalent load
- D. none of the above

Answer: B

45. In order to get maximum power transfer from a capacitive source, the load must

- A. have a capacitance equal to the source capacitance
- B. have an impedance equal in magnitude to the source impedance
- C. be inductive
- D. have an impedance that is the complex conjugate of the source impedance
- E. answers A and D.

Answer: D

46. The maximum output voltage of a certain low-pass filter is 10 V. The output voltage at the critical frequency is

- A. 10V
- B. 0V
- C. 7.07V
- D. 1.414V

Answer: C

47. At the critical frequency, the output of a filter is down from its maximum by

- A. 0dB
- B. -3dB
- C. -20dB

# Masters Physics Past Papers

D. -6Db

Answer: B

48. At the critical frequency, the phase shift through a high pass filter is

A.  $90^\circ$

B.  $0^\circ$

C.  $45^\circ$

D. Dependant on reactance

Answer: C

# Masters Physics Past Papers

49. At series resonance,
- A.  $X_c = X_L$
  - B.  $X_c > X_L$
  - C.  $X_c < X_L$

Answer: A

50. In a band-pass filter the output voltage at the resonant frequency is
- A. minimum
  - B. maximum
  - C. 70.7% of maximum
  - D. 70.7% of minimum

Answer: B

51. The total reactance of a series RLC circuit at resonance is
- A. zero
  - B. equal to the resistance
  - C. infinity
  - D. capacitive

Answer: B

52. The impedance at the resonant frequency of a series RLC circuit with  $L=15\text{mH}$ ,  $C=0.015\text{ }\mu\text{F}$  and  $R_w=80\text{ }\Omega$  is
- A.  $15K\omega$
  - B.  $80\Omega$
  - C.  $30\Omega$
  - D.  $0\text{ }\Omega$

Answer: B

53. If the value of C in a series RLC circuit is increased the resonant frequency
- A. is not affected
  - B. increases
  - C. remains the same
  - D. decreases

Answer: D

54. To tune a parallel resonance circuit to a lower frequency, the capacitance should be
- A. increased
  - B. decreased
  - C. left alone
  - D. replaced with inductance

Answer: A

55. When the frequency of the voltage applied to a series RL circuit is increased, the
- A. Impedance
  - B. Decreases
  - C. Increases
  - D. does not change

Answer: C

# Masters Physics Past Papers

56. To reduce the current in a series RL circuit, the frequency should be  
A. increased

B. decreased  
C. constant

Answer: A

57. In a series RL circuit, 10 Vrms is measured across the resistor, and 10 Vrms is measured across the inductor. The peak value of the source voltage is  
A. 14.14 V

B. 28.28 V  
C. 10 V  
D. 20 V

Answer: A

58. In a parallel RL circuit, there are 2 A rms in the resistive branch and 2 A rms in the inductive branch. The total rms current is

A. 4 A  
B. 5.656 A  
C. 2 A  
D. 2.828 A

Answer: D

59. Which of the following power factors results in less energy being converted to heat in an RL circuit?

A. 1  
B. 0.9  
C. 0.5  
D. 0.1

Answer: A

60. For a certain load, the true power is 10W and the reactive power is 10VAR. The apparent power is

A. 5VA  
B. 20VA  
C. 14.14VA  
D. 100VA

Answer: C

61. Which one of the following is affected by the turns ratio of a transformer?

A. primary voltage  
B. dc voltage  
C. secondary voltage  
D. none of these

62. When the turns ratio of a transformer is 10 and the primary voltage is 6 Volts, the secondary voltage is

A. 60 V  
B. 0.6 V  
C. 6 V  
D. 36 V

Answer: A

63. A certain transformer has 500 turns in the primary winding and 2500 turns in the secondary winding. The turns ratio is

A. 0.2

# Masters Physics Past Papers

B. 2.5

C. 5

D. 0.5

Answer: C

# Masters Physics Past Papers

64. When a  $1\text{k}\Omega$  load resistor is connected across the secondary of a transformer with a turns ratio of 2, the source 'sees' a reflected load of

- A.  $250\Omega$
- B.  $2\text{k}\Omega$
- C.  $4\text{k}\Omega$
- D.  $1.0\text{K}\omega$

Answer: A

65. The turns required to match a  $50\Omega$  source to  $200\Omega$  load is

- A. 0.25
- B. 0.5
- C. 4
- D. 2

Answer: D

66. When a 12 V battery is connected across the primary of a transformer with a turns Ratio of 4, the secondary voltage is

- A. 0 V
- B. 12 V
- C. 48 V
- D. 3 V

Answer: C

67. According to KCL as applied to a junction in a network of conductors

- A. a total sum of currents meeting at the junction is zero.
- B. no current can leave the junction without some current entering it.
- C. net current flow at the junction is positive.
- D. Algebraic sum of the currents meeting at the junction is zero

Answer: D

68. Kirchhoff's current law is applicable to only

- A. closed loops in a circuit.
- B. electronic circuits.
- C. Junctions in a network.
- D. electric circuits.

Answer: C

69. In a series RC circuit, the voltage across the resistance is

- A. In phase with the source voltage
- B. Lagging the source voltage by 90 degrees
- C. In phase with current
- D. Lagging the current by 90 degrees

Answer: C

70. In a series RC circuit, the voltage across the capacitor is

- A. In phase with the source voltage
- B. Lagging the resistor voltage by 90 degrees
- C. In phase with current
- D. Lagging the source voltage by 90 degrees

Answer: A





**NATIONAL SCIENCE OLYMPIAD  
ROUND-II PAST PAPER 2023  
ENGLISH GRAMMAR  
(FOR ALL CLASSES)**

## 1. Introduction

This document would help users easily find the past papers and understand the different topics. There may be some errors in past papers in their answers or questions. Student should verify all answers through teachers, Google etc.

Moreover, to understand these papers & other scenarios of the Olympiads links YouTube tutorials are given below. Watch the videos and clear your understanding.

Click to Watch Video about Syllabus <https://youtu.be/ZH2Ad8tGAXo>

Click to Watch Video about Model Paper  
<https://youtu.be/6yNQNLkC1RA>

Click to Watch Video about Past Papers <https://youtu.be/iG8htCRrW4I>

# Round-II Past Paper of National Science Olympiad

1. The peacock is our national bird. Subject of the sentence is?
- The peacock
  - National bird
  - Both of them
  - None of these

Answer: A

2. What is your father name? The statement is
- interrogative
  - assertive
  - imperative
  - None of these

Answer: A

3. Get me a piece of paper. This statement is
- exclamatory
  - assertive
  - interrogative
  - imperative

Answer: D

4. The bird \_\_\_\_\_ I caught flew away
- what
  - this
  - which
  - their

Answer: C

5. Get me a piece of paper. This statement is
- exclamatory
  - assertive
  - interrogative
  - imperative

Answer: D

6. Which word is a preposition in the sentence: "The cat jumped \_\_\_\_\_ the fence."
- The
  - Cat
  - Jumped
  - Over

# Round-II Past Paper of National Science Olympiad

Answer: D

7. Choose the correct plural form of "lady":

- a. ladys
- b. ladies
- c. ladie
- d. lady's

Answer: B

1. Which word is a preposition in the sentence: "The cat is \_\_\_\_\_ the table."

- a. The
- b. Cat
- c. Is
- d. under

Answer: D

9. Identify the noun in the sentence: "The sunshine made me happy."

- a. The
- b. made
- c. happy
- d. sunshine

Answer: D

10. Which pronoun can replace the underlined words in the sentence: "My brother and I enjoy playing games."

- a. We
- b. us
- c. them
- d. their

Answer: We

11. Which sentence is in the future tense?

- a. They are playing soccer now
- b. She read a book yesterday
- c. We will go to the beach next weekend
- d. He is eating lunch.

Answer: C

12. Which sentence is in the present continuous tense?

- a. They are playing soccer now
- b. She read a book yesterday
- c. We will go to the beach next weekend
- d. He was eating lunch.

# Round-II Past Paper of National Science Olympiad

Answer: A

13. Which sentence is in the future tense?
- a. They are playing soccer now
  - b. She read a book yesterday
  - c. We will go to the beach next weekend
  - d. He is eating lunch.

Answer: C

14. Father /my/me/trusts
- a. Trusts me my father
  - b. Father my me trusts
  - c. Trusts father me my
  - d. My father trusts me

Answer: D

15. They \_\_\_\_\_ the movie last night. Choose the correct form of the verb to complete the sentence.
- a. watched
  - b. watching
  - c. watches
  - d. watch

Answer: A

16. They \_\_\_\_\_ the movie last night. Choose the correct form of the verb to complete the sentence.
- a. watched
  - b. watching
  - c. watches
  - d. watch

Answer: A

17. What is past tense of the verb eat?
- a. eating
  - b. eats
  - c. ate
  - d. eat

# Round-II Past Paper of National Science Olympiad

Answer: C

18. They \_\_\_\_\_ the movie last night. Choose the correct form of the verb to complete the sentence.
- a. watched
  - b. watching
  - c. watches
  - d. watch

Answer: A

19. What is the correct way to write the abbreviation for "Monday"?
- a. MO.
  - b. Mon
  - c. mond
  - d. Mond.

Answer: B

20. Which word is an adjective in the sentence: "The happy children played in the park."
- a. children
  - b. park
  - c. happy
  - d. played

Answer: C

21. Which word is a conjunction in the sentence: "I wanted to go swimming, so I put on my swimsuit."
- a. I
  - b. swimming
  - c. wanted
  - d. so

Answer: D

22. Choose the synonyms for the word "Eager."
- a. Interested
  - b. Finish
  - c. Terminate
  - d. Just

# Round-II Past Paper of National Science Olympiad

Answer: A

23. Choose the synonyms for the word “Smart.”

- a. Slow
- b. Finish
- c. Intelligent
- d. Just

Answer: C

24. Choose the antonyms for the word “Abound.”

- a. destitute
- b. rival
- c. intelligent
- d. Just

Answer: A

25. \_\_\_\_\_ is used for two peoples.

- a. between
- b. among
- c. None of them
- d. Both a and b

Answer: A

26. My favorite movie will be \_\_\_\_\_ television tonight.

- a. on
- b. at
- c. over
- d. of

Answer: A

27. He is bathing \_\_\_\_\_ the river.

- a. in
- b. on
- c. at
- d. under

Answer: A

## Round-II Past Paper of National Science Olympiad

28. She carried an umbrella \_\_\_\_\_ her head
- a. over
  - b. on
  - c. under
  - d. none of them

Answer: A

29. There is some milk in the fridge. Change the sentence into negative sentence.
- a. There is no milk in the fridge
  - b. There were no milk in the fridge
  - c. Were there some milk in the fridge
  - d. All of them

Answer: A

30. Feminine of wizard is?
- a. Witch
  - b. sir
  - c. lizard
  - d. nephew

Answer: A

31. Appreciation is related to Reward in the same way as Disgrace is related to \_\_\_\_\_?
- (A) Crime
  - (B) Guilt
  - (C) Allegation
  - (D) Punishment
- Answer: D

32. Retirement is related to Service in the same way as Dismissal is related to \_\_\_\_\_?
- (A) Agreement
  - (B) Communication
  - (C) Discipline
  - (D) Adoption
- Answer: C



## Round-II Past Paper of National Science Olympiad

33. Drummer is related to Orchestra in the same way as Minister is related to \_\_\_\_\_?

- (A) Voter
- (B) Constituency
- (C) Cabinet
- (D) Department

Answer: C

34. Starvation is related to Nutrition in the same way as Exhaustion is related to \_\_\_\_\_?

- (A) Energy
- (B) Bravery
- (C) Freshness
- (D) Courage

Answer: A

35. Accident is related to Carefulness in the same way as Disease is related to \_\_\_\_\_?

- (A) Sanitation
- (B) Treatment
- (C) Medicine
- (D) Doctor

Answer: A

36. Author is related to Book in the same way as Choreographer related to \_\_\_\_\_?

- (A) Drama
- (B) Dance
- (C) Masque
- (D) Opera

Answer: B

37. Thick is related to Thin in the same way as Idle is related to \_\_\_\_\_?

- (A) Virtuous
- (B) Business
- (C) Active
- (D) Activity

Answer: C

## Round-II Past Paper of National Science Olympiad

38. Court is related to Justice in the same way as School is related to?

- (A) Teacher
- (B) Student
- (C) Ignorance
- (D) Education

Answer: A

39. Choose the best word to fill in the blank. Hira \_\_\_\_\_ to know which languages are spoken in Ecuador.

- (A) Wants
- (B) Wanted
- (C) Want

Answer: A

40. "Mort" means \_\_\_\_\_.

- (A) dead
- (B) dieing
- (C) death

Answer: A

41. The details of the accident were hard for the driver to \_\_\_\_\_ because it happened so fast.

- (A) narrative
- (B) Fable
- (C) mythical
- (D) recount

Answer: D

42. "Complete or humiliating failure" is described as

- (A) MSUE
- (B) SUBSEQUENTLY
- (C) Racket
- (D) Fiasco

Answer: D

43. Which of the following is an oxymoron?

- (A) Eat your broccoli
- (B) Agree to disagree
- (C) Hide and seek
- (D) Play the field

Answer: B

## Round-II Past Paper of National Science Olympiad

44. What is the use of components in a sentence that are grammatically the same or similar in their construction, sound, meaning or meter called:

- (A) Parallelism
- (B) Foreshadowing
- (C) Alliteration
- (D) Suspense

Answer: A

45. A \_\_\_\_\_ looks like a winking child who still has something to say.

- (A) Semicolon
- (B) Comma
- (C) Quotation
- (D) Colon

Answer: D

46. Use a \_\_\_\_\_ before FANBOYS when it joins independent clauses in a compound sentence.

- (A) Semicolon
- (B) Comma
- (C) Quotation
- (D) Colon

Answer: B

47. The root SENT, SENS means:

- (A) to think, determine
- (B) to believe, trust
- (C) to feel
- (D) to believe

Answer: C

48. What is the term for a word that is spelled the same but has different meanings and pronunciations?

- (A) Homonym
- (B) Synonym
- (C) Antonym
- (D) Homophone

Answer: A

49. Identify the sentence with a misplaced modifier:

## Round-II Past Paper of National Science Olympiad

- (A) Running quickly, the finish line was crossed by the athlete.
- (B) The athlete crossed the finish line quickly.
- (C) Quick as lightning, the finish line was crossed by the athlete.
- (D) The finish line was crossed by the athlete, running quickly.

Answer: A

50. Choose the correct sentence:

- (A) Neither of the answers are correct.
- (B) Neither of the answers is correct.
- (C) Neither of the answers were correct.
- (D) Neither of the answers was correct.

Answer: B

51. What literary device involves a part representing the whole or the whole representing a part?

- (A) Hyperbole
- (B) Metonymy
- (C) Synecdoche
- (D) Oxymoron

Answer: C

52. Identify the sentence with a subjunctive mood:

- (A) If I was you, I would study harder.
- (B) If I were you, I would study harder.
- (C) If I have been you, I would study harder.
- (D) If I am you, I would study harder.

Answer: b) If I were you, I would study harder.

53. What is an anaphora?

- (A) A type of metaphor
- (B) The repetition of a word or phrase at the beginning of successive clauses
- (C) A figure of speech that combines contradictory words
- (D) A type of rhyme scheme

Answer: b) The repetition of a word or phrase at the beginning of successive clauses

54. Which sentence uses an ellipsis correctly?

- (A) The cat...jumped over the fence.
- (B) The cat jumped...over the fence.
- (C) The cat jumped over...the fence.
- (D) The cat jumped over the fence....

## Round-II Past Paper of National Science Olympiad

Answer: a) The cat...jumped over the fence.

55. In the phrase "tooth and nail," what literary device is being used?

- (A) Simile
- (B) Alliteration
- (C) Oxymoron
- (D) Hyperbole

Answer: c) Oxymoron

56. Identify the correct use of a semicolon:

- (A) I enjoy hiking; it's relaxing.
- (B) I enjoy hiking, it's relaxing.
- (C) I enjoy hiking: it's relaxing.
- (D) I enjoy hiking - it's relaxing.

Answer: a) I enjoy hiking; it's relaxing.

57. What is the term for a word that is imitative of the sound it represents?

- (A) Metaphor
- (B) Onomatopoeia
- (C) Allusion
- (D) Euphemism

Answer: b) Onomatopoeia

58. Choose the sentence with the correct use of a dangling participle:

- (A) Walking to class, the rain started to fall.
- (B) While walking to class, the rain started to fall.
- (C) Walking to class, I got caught in the rain.
- (D) Walking to class, umbrellas were opened.

Answer: C

59. What is the term for a play on words that relies on multiple meanings or similar sounds of words?

- (A) Pun
- (B) Irony
- (C) Hyperbole
- (D) Allegory

Answer: A

60. Identify the sentence with correct subject-verb agreement:

- (A) The group of students is excited for the field trip.
- (B) The group of students are excited for the field trip.

## Round-II Past Paper of National Science Olympiad

- (C) The group of students were excited for the field trip.
- (D) The group of students was excited for the field trip.

Answer: A

61. What is a zeugma?

- (A) A type of metaphor
- (B) The repetition of similar vowel sounds
- (C) A figure of speech in which a word applies to multiple parts of the sentence
- (D) A type of parallelism

Answer: C

62. Choose the sentence with the correct use of "affect" and "effect":

- (A) The medicine had a positive affect on his health.
- (B) The medicine had a positive effect on his health.
- (C) His attitude had an affect on the outcome.
- (D) His attitude had an effect on the outcome.

Answer: B

63. What is the term for a brief and indirect reference to a person, place, thing, or idea of historical, cultural, literary, or political significance?

- (A) Paradox
- (B) Symbolism
- (C) Allusion
- (D) Allegory

Answer: C

64. Identify the sentence with correct parallel structure:

- (A) She enjoys reading, hiking, and to travel.
- (B) She enjoys to read, hike, and travel.
- (C) She enjoys reading, hiking, and traveling.
- (D) She enjoys reading, to hike, and traveling.

Answer: C

65. What is the term for a statement that contradicts itself?

- (A) Paradox
- (B) Irony
- (C) Hyperbole
- (D) Oxymoron

Answer: A

## Round-II Past Paper of National Science Olympiad

66. Choose the sentence with the correct use of a comma splice:

- (A) The book was fascinating, I couldn't put it down.
- (B) The book was fascinating; I couldn't put it down.
- (C) The book was fascinating: I couldn't put it down.
- (D) The book was fascinating I couldn't put it down.

Answer: B

67. What is the term for the attribution of a personal nature or human characteristics to something non-human?

- (A) Anthropomorphism
- (B) Personification
- (C) Allegory
- (D) Parody

Answer: C

68. Identify the sentence with the correct use of the subjunctive mood:

- (A) If she would have known, she could have helped.
- (B) If she knows, she can help.
- (C) If she knew, she could have helped.
- (D) If she had known, she could have helped.

Answer: D

69. What is the term for a comparison between two unlike things using "like" or "as"?

- (A) Allegory
- (B) Simile
- (C) Paradox
- (D) Synecdoche

Answer: B

70. Choose the sentence with the correct use of "their," "there," and "they're":

- (A) Their going to the park over there because they're excited.
- (B) They're going to the park over their because there excited.
- (C) They're going to the park over there because they're excited.
- (D) There going to the park over they're because their excited.

Answer: C

## Round-II Past Paper of National Science Olympiad

71. What is the term for the repetition of initial consonant sounds in a series of words?

- (A) Alliteration
- (B) Assonance
- (C) Consonance
- (D) Onomatopoeia

Answer: A

72. Identify the sentence with correct capitalization:

- (A) The sun sets in the West, doesn't it?
- (B) The Sun sets in the west, doesn't it?
- (C) The sun sets in the west, Doesn't it?
- (D) The sun sets in the west, doesn't It?

Answer: A

73. What is a chiasmus?

- (A) A type of rhyme scheme
- (B) A figure of speech involving exaggeration
- (C) A rhetorical device in which words or concepts are repeated in reverse order
- (D) A type of parallel structure

Answer: C

74. Choose the sentence with the correct use of "fewer" and "less":

- (A) There were fewer people at the concert than I expected.
- (B) There were less people at the concert than I expected.
- (C) There were fewer amount of people at the concert than I expected.
- (D) There were less amount of people at the concert than I expected.

Answer: A

75. What is the term for a figure of speech in which a part is substituted for a whole or a whole for a part?

- (A) Metaphor
- (B) Synecdoche
- (C) Alliteration
- (D) Oxymoron

Answer: B

76. Identify the sentence with correct punctuation:



## Round-II Past Paper of National Science Olympiad

- (A) She said; "I'll be there in five minutes."
- (B) She said "I'll be there in five minutes."
- (C) She said, "I'll be there in five minutes."
- (D) She said "I'll be there in five minutes".

Answer: C

77. What is a cacophony?

- (A) A harmonious blend of sounds
- (B) A harsh, discordant mixture of sounds
- (C) A type of rhetorical question
- (D) A form of rhyme scheme

Answer: B

78. What is the term for a word that is spelled the same but has different meanings and pronunciations?

- a) Homonym
- b) Synonym
- c) Antonym
- d) Homophone

Answer: a

79. Identify the sentence with a misplaced modifier:

- a) Running quickly, the finish line was crossed by the athlete.
- b) The athlete crossed the finish line quickly.
- c) Quick as lightning, the finish line was crossed by the athlete.
- d) The finish line was crossed by the athlete, running quickly.

Answer: a

80. Choose the correct sentence:

- a) Neither of the answers are correct.
- b) Neither of the answers is correct.
- c) Neither of the answers were correct.
- d) Neither of the answers was correct.

Answer: b

81. What literary device involves a part representing the whole or the whole representing a part?

- a) Hyperbole
- b) Metonymy
- c) Synecdoche
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Answer: c

82. Identify the sentence with a subjunctive mood:

- a) If I was you, I would study harder.
- b) If I were you, I would study harder.
- c) If I have been you, I would study harder.

# Round-II Past Paper of National Science Olympiad

d) If I am you, I would study harder.

Answer: b

83. What is an anaphora?

- a) A type of metaphor
- b) The repetition of a word or phrase at the beginning of successive clauses
- c) A figure of speech that combines contradictory words
- d) A type of rhyme scheme

Answer: b

84. Which sentence uses an ellipsis correctly?

- a) The cat...jumped over the fence.
- b) The cat jumped...over the fence.
- c) The cat jumped over...the fence.
- d) The cat jumped over the fence....

Answer: a

85. In the phrase "tooth and nail," what literary device is being used?

- a) Simile
- b) Alliteration
- c) Oxymoron
- d) Hyperbole

Answer: c

86. Identify the correct use of a semicolon:

- a) I enjoy hiking; it's relaxing.
- b) I enjoy hiking, it's relaxing.
- c) I enjoy hiking: it's relaxing.
- d) I enjoy hiking - it's relaxing.

Answer: a

87. What is the term for a word that is imitative of the sound it represents?

- a) Metaphor
- b) Onomatopoeia
- c) Allusion
- d) Euphemism

Answer: b

88. Choose the sentence with the correct use of a dangling participle:

- a) Walking to class, the rain started to fall.
- b) While walking to class, the rain started to fall.
- c) Walking to class, I got caught in the rain.
- d) Walking to class, umbrellas were opened.

Answer: c

89. What is the term for a play on words that relies on multiple meanings or similar sounds of words?

- a) Pun
- b) Irony

# Round-II Past Paper of National Science Olympiad

c) Hyperbole

d) Allegory

Answer: a

90. Identify the sentence with correct subject-verb agreement:

a) The group of students is excited for the field trip.

b) The group of students are excited for the field trip.

c) The group of students were excited for the field trip.

d) The group of students was excited for the field trip.

Answer: a

91. What is a zeugma?

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b) The repetition of similar vowel sounds

c) A figure of speech in which a word applies to multiple parts of the sentence

d) A type of parallelism

Answer: c

92. Choose the sentence with the correct use of "affect" and "effect":

a) The medicine had a positive affect on his health.

b) The medicine had a positive effect on his health.

c) His attitude had an affect on the outcome.

d) His attitude had an effect on the outcome.

Answer: b

93. What is the term for a brief and indirect reference to a person, place, thing, or idea of historical, cultural, literary, or political significance?

a) Paradox

b) Symbolism

c) Allusion

d) Allegory

Answer: c

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a) She enjoys reading, hiking, and to travel.

b) She enjoys to read, hike, and travel.

c) She enjoys reading, hiking, and traveling.

d) She enjoys reading, to hike, and traveling.

Answer: c

95. What is the term for a statement that contradicts itself?

a) Paradox

b) Irony

c) Hyperbole

d) Oxymoron

Answer: a

96. Choose the sentence with the correct use of a comma splice:

a) The book was fascinating, I couldn't put it down.

## Round-II Past Paper of National Science Olympiad

- b) The book was fascinating; I couldn't put it down.
- c) The book was fascinating: I couldn't put it down.
- d) The book was fascinating I couldn't put it down.

Answer: b

97. What is the term for the attribution of a personal nature or human characteristics to something non-human?

- a) Anthropomorphism
- b) Personification
- c) Allegory
- d) Parody

Answer: b

98. Identify the sentence with the correct use of the subjunctive mood:

- a) If she would have known, she could have helped.
- b) If she knows, she can help.
- c) If she knew, she could have helped.
- d) If she had known, she could have helped.

Answer: d

99. What is the term for a comparison between two unlike things using "like" or "as"?

- a) Allegory
- b) Simile
- c) Paradox
- d) Synecdoche

Answer: b

100. Choose the sentence with the correct use of "their," "there," and "they're":

- a) Their going to the park over there because they're excited.
- b) They're going to the park over their because there excited.
- c) They're going to the park over there because they're excited.
- d) There going to the park over they're because their excited.

Answer: c



**NATIONAL SCIENCE OLYMPIAD  
ROUND-III PAST PAPER 2023  
GENERAL KNOWLEDGE  
(FOR ALL CLASSES)**

## 1. Introduction

This document would help users easily find the past papers and understand the different topics. There may be some errors in past papers in their answers or questions. Student should verify all answers through teachers, Google etc.

Moreover, to understand these papers & other scenarios of the Olympiads links YouTube tutorials are given below. Watch the videos and clear your understanding.

Click to Watch Video about Syllabus <https://youtu.be/ZH2Ad8tGAXo>

Click to Watch Video about Model Paper  
<https://youtu.be/6yNQNLkC1RA>

Click to Watch Video about Past Papers <https://youtu.be/iG8htCRrW4I>

## Final Round (Round-III) Past Papers of National Science Olympiad

1. Who was the first President of Pakistan?

- a) Allama Iqbal
- b) Liaquat Ali Khan
- c) Iskander Mirza
- d) Ayub Khan

Answer: c

2. The Lahore Resolution, which eventually led to the creation of Pakistan, was passed in which year?

- a) 1937
- b) 1940
- c) 1947
- d) 1949

Answer: b

3. The Indus Valley Civilization is primarily associated with which modern-day country?

- a) India
- b) Pakistan
- c) Bangladesh
- d) Nepal

Answer: b

4. Who is known as the founder of Pakistan?

- a) Allama Iqbal
- b) Liaquat Ali Khan
- c) Quaid-e-Azam Muhammad Ali Jinnah
- d) Zulfikar Ali Bhutto

Answer: c

5. The Pakistan Resolution was presented at which session of the All-India Muslim League?

- a) Lucknow Session
- b) Karachi Session
- c) Lahore Session
- d) Delhi Session

Answer: c

6. The first constitution of Pakistan was adopted in which year?

- a) 1947
- b) 1956
- c) 1962
- d) 1973

Answer: b

7. Which mountain range separates Pakistan from Afghanistan?

- a) Himalayas
- b) Karakoram Range
- c) Hindu Kush
- d) Pamir Mountains

Answer: c

## Final Round (Round-III) Past Papers of National Science Olympiad

8. Which of the following rivers does not flow through Pakistan?

- a) Indus
- b) Jhelum
- c) Chenab
- d) Yamuna

Answer: d

9. What was the name of the capital city of Pakistan before Islamabad?

- a) Lahore
- b) Karachi
- c) Rawalpindi
- d) Quetta

Answer: b

10. The Simla Agreement between India and Pakistan was signed in which year?

- a) 1965
- b) 1971
- c) 1972
- d) 1974

Answer: c

11. The Battle of Plassey, a significant event in the history of British India, took place in which year?

- a) 1757
- b) 1857
- c) 1947
- d) 1965

Answer: a

12. Which Pakistani leader was known as the "Iron Lady"?

- a) Fatima Jinnah
- b) Benazir Bhutto
- c) Asma Jahangir
- d) Hina Rabbani Khar

Answer: b

13. The historic "March 23 Resolution" demanding a separate state for Muslims of India was passed by the All-India Muslim League in which year?

- a) 1940
- b) 1942
- c) 1945
- d) 1947

Answer: a

14. The Rann of Kutch dispute was a territorial conflict between Pakistan and which country?

- a) China
- b) Afghanistan
- c) India



## Final Round (Round-III) Past Papers of National Science Olympiad

d) Iran

Answer: c

15. The first Prime Minister of Pakistan was:

a) Liaquat Ali Khan

b) Iskander Mirza

c) Zulfikar Ali Bhutto

d) Ayub Khan

Answer: a

16. The province of Balochistan shares its border with which two countries?

a) India and Afghanistan

b) Afghanistan and Iran

c) China and Iran

d) Afghanistan and China

Answer: b

17. The "Red Fort" in Delhi was the site of the trial of which historic figure?

a) Allama Iqbal

b) Sir Syed Ahmed Khan

c) Quaid-e-Azam Muhammad Ali Jinnah

d) Bahadur Shah Zafar

Answer: d

18. The "Tashkent Agreement" signed in 1966 was a peace agreement between India and Pakistan after which conflict?

a) First Kashmir War

b) Second Kashmir War

c) 1965 War

d) Bangladesh Liberation War

Answer: c

19. Which famous Pakistani scientist won the Nobel Prize in Physics for his work on the photoelectric effect?

a) Abdul Qadeer Khan

b) Pervez Hoodbhoy

c) Abdus Salam

d) Atta-ur-Rahman

Answer: c

20. The largest desert in Pakistan is known as:

a) Thar Desert

b) Cholistan Desert

c) Kharan Desert

d) Nara Desert

Answer: b

21. Who was the first President of Pakistan?

a) Allama Iqbal

b) Liaquat Ali Khan

c) Iskander Mirza

## Final Round (Round-III) Past Papers of National Science Olympiad

d) Ayub Khan

Answer: c

22. The Lahore Resolution, which eventually led to the creation of Pakistan, was passed in which year?

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c) 1947

d) 1949

Answer: b

23. The Indus Valley Civilization is primarily associated with which modern-day country?

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c) Bangladesh

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24. Who is known as the founder of Pakistan?

a) Allama Iqbal

b) Liaquat Ali Khan

c) Quaid-e-Azam Muhammad Ali Jinnah

d) Zulfikar Ali Bhutto

Answer: c

25. The Pakistan Resolution was presented at which session of the All-India Muslim League?

a) Lucknow Session

b) Karachi Session

c) Lahore Session

d) Delhi Session

Answer: c

26. The first constitution of Pakistan was adopted in which year?

a) 1947

b) 1956

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d) 1973

Answer: b

27. Which mountain range separates Pakistan from Afghanistan?

a) Himalayas

b) Karakoram Range

c) Hindu Kush

d) Pamir Mountains

Answer: c

28. Which of the following rivers does not flow through Pakistan?

a) Indus

b) Jhelum

## Final Round (Round-III) Past Papers of National Science Olympiad

- c) Chenab
  - d) Yamuna
- Answer: d

29. What was the name of the capital city of Pakistan before Islamabad?
- a) Lahore
  - b) Karachi
  - c) Rawalpindi
  - d) Quetta
- Answer: b

30. The Simla Agreement between India and Pakistan was signed in which year?
- a) 1965
  - b) 1971
  - c) 1972
  - d) 1974
- Answer: c

31. Which famous scientist formulated the laws of motion and universal gravitation?
- a) Isaac Newton
  - b) Albert Einstein
  - c) Galileo Galilei
  - d) Marie Curie
- Correct Answer: a

32. What is the largest bone in the human body?
- a) Femur
  - b) Humerus
  - c) Tibia
  - d) Radius
- Correct Answer: a

33. Which continent is known as the "Dark Continent"?
- a) Europe
  - b) Asia
  - c) Africa
  - d) South America
- Correct Answer: c

34. Who painted the famous artwork "Starry Night"?
- a) Pablo Picasso
  - b) Vincent van Gogh
  - c) Leonardo da Vinci
  - d) Michelangelo
- Correct Answer: b

## Final Round (Round-III) Past Papers of National Science Olympiad

35. What is the process by which water vapor turns into water droplets?

- a) Evaporation
- b) Condensation
- c) Sublimation
- d) Precipitation

Correct Answer: b

36. What is the chemical symbol for gold?

- a) Ag
- b) Au
- c) Go
- d) Gd

Correct Answer: b

37. Which gas do humans primarily inhale and use for respiration?

- a) Oxygen
- b) Carbon Dioxide
- c) Nitrogen
- d) Hydrogen

Correct Answer: a

38. Who wrote the play "Romeo and Juliet"?

- a) William Shakespeare
- b) Mark Twain
- c) Charles Dickens
- d) Jane Austen

Correct Answer: a

39. What is the largest land animal on Earth?

- a) Elephant
- b) Blue Whale
- c) Giraffe
- d) Hippopotamus

Correct Answer: a

40. Which gas do humans exhale during respiration?

- a) Oxygen
- b) Carbon Dioxide
- c) Nitrogen
- d) Hydrogen

Correct Answer: b

41. Who is known as the "Father of Modern Physics"?

- a) Isaac Newton

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b) Albert Einstein

c) Galileo Galilei

d) Marie Curie

Correct Answer: b

42. What is the capital of Australia?

a) Sydney

b) Melbourne

c) Canberra

d) Brisbane

Correct Answer: c

43. What is the process by which rocks are broken down into smaller particles by wind, water, or other natural forces?

a) Erosion

b) Sedimentation

c) Deposition

d) Subduction

Correct Answer: a

44. Who discovered penicillin, the first antibiotic?

a) Alexander Fleming

b) Louis Pasteur

c) Robert Koch

d) Jonas Salk

Correct Answer: a

45. What is the smallest planet in our solar system?

a) Mercury

b) Venus

c) Mars

d) Jupiter

Correct Answer: a

46. Which famous scientist proposed the heliocentric model of the solar system?

a) Isaac Newton

b) Albert Einstein

c) Nicolaus Copernicus

d) Galileo Galilei

Correct Answer: c

47. What is the chemical symbol for water?

a) H<sub>2</sub>O

b) CO<sub>2</sub>

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c) O<sub>2</sub>

d) N<sub>2</sub>

Correct Answer: a

48. Which planet has the most visible rings?

a) Earth

b) Mars

c) Jupiter

d) Saturn

Correct Answer: d

49. Who wrote the novel "To Kill a Mockingbird"?

a) Harper Lee

b) J.K. Rowling

c) George Orwell

d) Mark Twain

Correct Answer: a

50. What is the largest type of shark?

a) Great White Shark

b) Hammerhead Shark

c) Tiger Shark

d) Whale Shark

Correct Answer: d

51. What is the capital of France?

a) London

b) Paris

c) Madrid

d) Berlin

Answer: b

52. Which planet is known as the "Red Planet"?

a) Venus

b) Mars

c) Jupiter

d) Saturn

Answer: b

53. What is the smallest prime number?

a) 0

b) 1

c) 2

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d) 3

Answer: c

54. How many sides does a triangle have?

a) 2

b) 3

c) 4

d) 5

Answer: b

55. Which is the longest river in the world?

a) Nile

b) Amazon

c) Mississippi

d) Yangtze

Answer: a

56. What is the process by which plants make their own food?

a) Respiration

b) Photosynthesis

c) Digestion

d) Circulation

Answer: b

57. What is the largest planet in our solar system?

a) Earth

b) Venus

c) Saturn

d) Jupiter

Answer: d

58. What is the main gas that humans breathe in?

a) Oxygen

b) Carbon dioxide

c) Nitrogen

d) Hydrogen

Answer: a

59. Which is the largest ocean on Earth?

a) Atlantic Ocean

b) Indian Ocean

c) Pacific Ocean

d) Arctic Ocean

Answer: c

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60. What is the capital of China?

- a) Tokyo
- b) Beijing
- c) Seoul
- d) Shanghai

Answer: b

61. How many continents are there on Earth?

- a) 4
- b) 6
- c) 7
- d) 8

Answer: c

62. Which is the largest land mammal?

- a) Lion
- b) Elephant
- c) Giraffe
- d) Rhino

Answer: b

63. The Battle of Plassey, a significant event in the history of British India, took place in which year?

- a) 1757
- b) 1857
- c) 1947
- d) 1965

Answer: a

64. Which Pakistani leader was known as the "Iron Lady"?

- a) Fatima Jinnah
- b) Benazir Bhutto
- c) Asma Jahangir
- d) Hina Rabbani Khar

Answer: b

65. The historic "March 23 Resolution" demanding a separate state for Muslims of India was passed by the All-India Muslim League in which year?

- a) 1940
- b) 1942
- c) 1945
- d) 1947

Answer: a



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66. The Rann of Kutch dispute was a territorial conflict between Pakistan and which country?

- a) China
- b) Afghanistan
- c) India
- d) Iran

Answer: c

67. The first Prime Minister of Pakistan was:

- a) Liaquat Ali Khan
- b) Iskander Mirza
- c) Zulfikar Ali Bhutto
- d) Ayub Khan

Answer: a

68. The province of Balochistan shares its border with which two countries?

- a) India and Afghanistan
- b) Afghanistan and Iran
- c) China and Iran
- d) Afghanistan and China

Answer: b

69. The "Red Fort" in Delhi was the site of the trial of which historic figure?

- a) Allama Iqbal
- b) Sir Syed Ahmed Khan
- c) Quaid-e-Azam Muhammad Ali Jinnah
- d) Bahadur Shah Zafar

Answer: d

70. The "Tashkent Agreement" signed in 1966 was a peace agreement between India and Pakistan after which conflict?

- a) First Kashmir War
- b) Second Kashmir War
- c) 1965 War
- d) Bangladesh Liberation War

Answer: c

71. Which famous Pakistani scientist won the Nobel Prize in Physics for his work on the photoelectric effect?

- a) Abdul Qadeer Khan
- b) Pervez Hoodbhoy
- c) Abdus Salam
- d) Atta-ur-Rahman

Answer: c

72. The largest desert in Pakistan is known as:

- a) Thar Desert
- b) Cholistan Desert
- c) Kharan Desert

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d) Nara Desert

Answer: b

73. The concept of "natural rights" was advocated by:

A) Karl Marx

B) John Locke

C) Vladimir Lenin

D) Adam Smith

Answer: B

74. The political ideology that emphasizes the abolition of social classes and the establishment of a classless society is known as:

A) Capitalism

B) Feudalism

C) Socialism

D) Anarchism

Answer: C

75. The famous "Boston Tea Party" was a protest against:

A) Taxation without representation

B) British monarchy

C) French influence

D) Religious discrimination

Answer: A

76. Which river is associated with the ancient civilization of Mesopotamia?

A) Nile

B) Ganges

C) Tigris and Euphrates

D) Yangtze

Answer: C

77. The system of apartheid was a policy of racial segregation implemented in:

A) India

B) United States

C) South Africa

D) Brazil

Answer: C

78. The "Treaty of Versailles," signed after World War I, placed heavy reparations and restrictions on which country?

A) Italy

B) France

C) Germany

D) United Kingdom

Answer: C

79. The "Cuban Missile Crisis" of 1962 was a confrontation between:

A) USA and Soviet Union

B) Cuba and Mexico

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C) France and Germany

D) China and Japan

Answer: A

80. The caste system is most closely associated with the social structure of:

A) Ancient Egypt

B) Ancient Greece

C) Medieval Europe

D) Ancient India

Answer: D

81. The term "Enlightenment" refers to a period in history marked by:

A) Scientific advancements

B) Religious conflicts

C) Technological innovations

D) Philosophical and intellectual growth

Answer: D

82. Which famous scientist developed the theory of relativity?

a) Isaac Newton

b) Albert Einstein

c) Galileo Galilei

d) Nikola Tesla

Answer: b)

83. The Great Barrier Reef is located in which country?

a) Australia

b) Brazil

c) India

d) South Africa

Answer: a)

84. Which ocean is the largest?

a) Atlantic Ocean

b) Indian Ocean

c) Arctic Ocean

d) Pacific Ocean

Answer: d)

85. What is the capital city of France?

a) Berlin

b) London

c) Paris

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d) Rome

Answer: c)

86. Who painted the Mona Lisa?

- a) Vincent van Gogh
- b) Leonardo da Vinci
- c) Pablo Picasso
- d) Michelangelo

Answer: b)

87. What is the process by which plants make their own food using sunlight?

- a) Respiration
- b) Photosynthesis
- c) Digestion
- d) Fermentation

Answer: b)

88. Which mountain is the tallest in the world?

- a) Mount Kilimanjaro
- b) Mount Everest
- c) Mount McKinley
- d) Mount Fuji

Answer: b)

89. What is the largest mammal on Earth?

- a) African Elephant
- b) Blue Whale
- c) Polar Bear
- d) Giraffe

Answer: b)

90. Who wrote the play "Romeo and Juliet"?

- a) William Shakespeare
- b) Charles Dickens
- c) Jane Austen
- d) Mark Twain

Answer: a)

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91. What gas do plants use for photosynthesis?

- a) Oxygen
- b) Carbon Dioxide
- c) Nitrogen
- d) Hydrogen

Answer: b)

92. Which planet is known as the "Red Planet"?

- a) Venus
- b) Mars
- c) Jupiter
- d) Saturn

Answer: b)

93. Which famous scientist formulated the laws of motion and universal gravitation?

- a) Isaac Newton
- b) Galileo Galilei
- c) Albert Einstein
- d) Nikola Tesla

Answer: a)

94. What is the currency of Japan?

- a) Yen
- b) Won
- c) Euro
- d) Rupee

Answer: a)

95. What is the world's longest river?

- a) Amazon River
- b) Nile River
- c) Mississippi River
- d) Yangtze River

Answer: b)

96. Which continent is known as the "Dark Continent"?

- a) Europe
- b) Africa
- c) Asia
- d) Australia

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Answer: b)

97. What is the largest type of shark?

- a) Hammerhead Shark
- b) Tiger Shark
- c) Great White Shark
- d) Bull Shark

Answer: c)

98. Which planet is known for its beautiful rings?

- a) Mars
- b) Jupiter
- c) Saturn
- d) Uranus

Answer: c)

99. Who is the author of the Harry Potter book series?

- a) J.R.R. Tolkien
- b) George R.R. Martin
- c) J.K. Rowling
- d) C.S. Lewis

Answer: c)

100. What famous historic event is commemorated on July 4th in the United States?

- a) Thanksgiving
- b) Independence Day
- c) Veterans Day
- d) Labor Day

Answer: b)



**THANKS**