NATIONAL SCIENCE OLYMPIAD
ROUND-I PAST PAPER 2023
CHEMISTRY
(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 4th Chemistry Past Papers

1. What is the smallest unit of matter?

a) Cell
b) Atom
c) Molecule
d) Particle
Answer: b) Atom

2. Which of the following is a gas?

a) Water
b) Oxygen
c) Iron
d) Wood
Answer: b) Oxygen

3. What is the chemical symbol for water?

a) W
b) H2O
c) O2
d) H2
Answer: b) H2O

4. What is the main gas in the air we breathe?

a) Oxygen
b) Nitrogen
c) Carbon dioxide
d) Hydrogen
Answer: b) Nitrogen

5. Which of the following is a metal?

a) Glass
b) Plastic
c) Copper
d) Wood
Answer: c) Copper

6. What happens when you mix baking soda and vinegar?

a) Fire
b) Explosion
c) Fizzing
d) Nothing
Answer: c) Fizzing

7. What is the process of turning a liquid into a gas called?

a) Melting
b) Freezing

Class 4th Chemistry Past Papers

c) Evaporation
d) Condensation
Answer: c) Evaporation

8. Which of the following is a renewable resource?
a) Coal
b) Sunlight
c) Oil
d) Natural gas
Answer: b) Sunlight

9. What is the chemical symbol for gold?
a) G
b) Au
c) Ag
d) Fe
Answer: b) Au

10. What is the hardest natural substance on Earth?
a) Gold
b) Diamond
c) Iron
d) Wood
Answer: b) Diamond

11. What do plants take in from the air during photosynthesis?
a) Oxygen
b) Carbon dioxide
c) Nitrogen
d) Hydrogen
Answer: b) Carbon dioxide

12. What is the chemical symbol for oxygen?
a) O2
b) O3
c) N2
d) CO2
Answer: a) O2

13. Which of the following is a liquid?
a) Air
b) Ice
c) Water
d) Rock
Answer: c) Water

Class 4th Chemistry Past Papers

14. What is the chemical symbol for helium?

a) H
b) He
c) Ha
d) Ho
Answer: b) He

15. What is the process of a solid turning into a liquid called?

a) Melting
b) Freezing
c) Evaporation
d) Condensation
Answer: a) Melting

16. Which of the following is a non-metal?

a) Copper
b) Oxygen
c) Iron
d) Silver
Answer: b) Oxygen

17. What is the chemical formula for carbon dioxide?

a) CO
b) CO2
c) O2
d) C2H6
Answer: b) CO2

18. Which gas do plants release during photosynthesis?

a) Oxygen
b) Carbon dioxide
c) Nitrogen
d) Hydrogen
Answer: a) Oxygen

19. What is the chemical symbol for silver?

a) S
b) Si
c) Ag
d) Au
Answer: c) Ag

20. What is the process of a gas turning into a liquid called?

a) Melting

Class 4th Chemistry Past Papers

b) Freezing
c) Evaporation
d) Condensation
Answer: d) Condensation

21. Which of the following is a source of light and heat in our solar system?
a) Moon
b) Earth
c) Sun
d) Mars
Answer: c) Sun

22. What is the chemical symbol for carbon?
a) C
b) Ca
c) Co
d) Cu
Answer: a) C

23. What is the process of a liquid turning into a solid called?
a) Melting
b) Freezing
c) Evaporation
d) Condensation
Answer: b) Freezing

24. Which of the following is a conductor of electricity?
a) Rubber
b) Plastic
c) Copper
d) Wood
Answer: c) Copper

25. What is the chemical formula for water?
a) H
b) O
c) H2O
d) CO2
Answer: c) H2O

26. Which of the following is a primary color?
a) Green
b) Orange
c) Blue
d) Brown

Class 4th Chemistry Past Papers

Answer: c) Blue

27. What gas do we breathe out?

a) Oxygen
b) Nitrogen
c) Carbon dioxide
d) Hydrogen
Answer: c) Carbon dioxide

28. What is the chemical symbol for iron?

a) I
b) Fe
c) Ir
d) In
Answer: b) Fe

29. Which of the following is a fossil fuel?

a) Sunlight
b) Wind
c) Coal
d) Natural gas
Answer: c) Coal

30. What is the chemical symbol for nitrogen?

a) N
b) Ni
c) Na
d) Ne
Answer: a) N

31. What is the process of a gas turning into a solid without becoming a liquid called?

a) Melting
b) Freezing
c) Sublimation
d) Condensation
Answer: c) Sublimation

32. Which of the following is a renewable source of energy?

a) Coal
b) Oil
c) Wind
d) Natural gas
Answer: c) Wind

33. What is the chemical formula for methane?

Class 4th Chemistry Past Papers

a) CH4
b) CO2
c) H2O
d) O2
Answer: a) CH4

34. What is the chemical symbol for copper?
a) Cu
b) Co
c) Ca
d) C
Answer: a) Cu

35. Which of the following is a byproduct of burning fossil fuels?
a) Oxygen
b) Carbon dioxide
c) Nitrogen
d) Hydrogen
Answer: b) Carbon dioxide

36. What is the chemical symbol for sodium?
a) So
b) Sa
c) Na
d) No
Answer: c) Na

37. Which of the following is a greenhouse gas?
a) Oxygen
b) Carbon dioxide
c) Nitrogen
d) Helium
Answer: b) Carbon dioxide

38. What is the chemical formula for glucose?
a) C6H12O6
b) CO2
c) H2O
d) O2
Answer: a) C6H12O6

39. What is the process of a gas turning into a liquid called?
a) Melting
b) Freezing
c) Evaporation

Class 4th Chemistry Past Papers

d) Condensation
Answer: d) Condensation

40. Which of the following is a characteristic of metals?
a) Brittle
b) Malleable
c) Non-conductor of electricity
d) Dull
Answer: b) Malleable

41. What is the chemical symbol for carbon monoxide?
a) CO
b) CO2
c) O2
d) C2H6
Answer: a) CO

42. Which of the following is a product of photosynthesis?
a) Oxygen
b) Carbon dioxide
c) Nitrogen
d) Hydrogen
Answer: a) Oxygen

43. What is the chemical symbol for phosphorus?
a) P
b) Ph
c) Po
d) Pt
Answer: a) P

44. What is the process of a liquid turning into a gas called?
a) Melting
b) Freezing
c) Evaporation
d) Condensation
Answer: c) Evaporation

45. Which of the following is a metalloid?
a) Aluminum
b) Silicon
c) Gold
d) Mercury
Answer: b) Silicon

Class 4th Chemistry Past Papers

46. What is the chemical formula for table salt?

a) NaCl
b) KCl
c) CaCl2
d) MgCl2
Answer: a) NaCl

47. Which of the following is a noble gas?

a) Oxygen
b) Neon
c) Nitrogen
d) Hydrogen
Answer: b) Neon

48. What is the chemical symbol for lead?

a) L
b) Le
c) Li
d) Pb
Answer: d) Pb

49. What is the process of a gas turning into a liquid called?

a) Melting
b) Freezing
c) Evaporation
d) Condensation
Answer: d) Condensation

50. Which of the following is a property of acids?

a) Sour taste
b) Sweet taste
c) Slippery feel
d) Bitter taste
Answer: a) Sour taste

51. What is the atomic number of carbon?

a) 6
b) 12
c) 14
d) 18
Answer: a) 6

52. Which of the following is a halogen?

a) Sodium
b) Chlorine

Class 4th Chemistry Past Papers

c) Calcium
d) Iron
Answer: b) Chlorine

53. What is the chemical formula for sulfuric acid?
a) HCl
b) H2SO4
c) HNO3
d) H3PO4
Answer: b) H2SO4

54. What is the process of a substance changing directly from a solid to a gas called?
a) Sublimation
b) Condensation
c) Evaporation
d) Melting
Answer: a) Sublimation

55. Which of the following is a characteristic of bases?
a) Sour taste
b) Turns litmus paper blue
c) Reacts with metals to produce hydrogen gas
d) Has a high concentration of H+ ions
Answer: b) Turns litmus paper blue

56. What is the chemical symbol for potassium?
a) P
b) K
c) Ko
d) Pt
Answer: b) K

57. What is the formula for methane?
a) CH4
b) CO2
c) H2O
d) O2
Answer: a) CH4

58. Which of the following is a noble gas?
a) Helium
b) Fluorine
c) Sodium
d) Sulfur
Answer: a) Helium

Class 4th Chemistry Past Papers

59. What is the chemical formula for ammonia?
a) NH3
b) N2H4
c) HNO3
d) H2SO4
Answer: a) NH3

60. What is the process of breaking down complex substances into simpler ones called?
a) Synthesis
b) Decomposition
c) Combustion
d) Oxidation
Answer: b) Decomposition

61. Which of the following is a transition metal?
a) Zinc
b) Aluminum
c) Magnesium
d) Potassium
Answer: a) Zinc

62. What is the chemical formula for hydrochloric acid?
a) HCl
b) H2SO4
c) NaOH
d) HI
Answer: a) HCl

63. What is the chemical symbol for iron?
a) I
b) Fe
c) Ir
d) In
Answer: b) Fe

64. Which of the following is a greenhouse gas?
a) Oxygen
b) Methane
c) Nitrogen
d) Hydrogen
Answer: b) Methane

65. What is the process of a gas turning into a liquid called?
a) Melting

Class 4th Chemistry Past Papers

b) Freezing
c) Evaporation
d) Condensation
Answer: d) Condensation

66. What is the chemical symbol for mercury?
a) Me
b) Mg
c) Mn
d) Hg
Answer: d) Hg

67. Which of the following is a property of acids?
a) Turns blue litmus paper red
b) Bitter taste
c) Slippery feel
d) Turns red litmus paper blue
Answer: a) Turns blue litmus paper red

68. What is the chemical formula for carbon tetrachloride?
a) CCl4
b) CHCl3
c) C2H5Cl
d) C6H12Cl2
Answer: a) CCl4

69. What is the chemical symbol for silver?
a) S
b) Si
c) Ag
d) Au
Answer: c) Ag

70. Which of the following is a metalloid?
a) Silicon
b) Sodium
c) Sulfur
d) Silver
Answer: a) Silicon

Class 5th Chemistry Past Papers

1. What is the process of a liquid turning into a gas called?

a) Melting
b) Freezing
c) Evaporation
d) Condensation
Answer: c) Evaporation

2. What is the chemical symbol for neon?

a) Ne
b) Na
c) Ni
d) No
Answer: a) Ne

3. Which of the following is a non-metal?

a) Calcium
b) Sodium
c) Chlorine
d) Iron
Answer: c) Chlorine

4. What is the chemical formula for nitric acid?

a) HCl
b) H_2SO_4
c) HNO_3
d) H_3PO_4
Answer: c) HNO_3

5. What is the atomic number of oxygen?

a) 6
b) 8
c) 14
d) 18
Answer: b) 8

6. Which of the following is a property of bases?

a) Turns blue litmus paper red
b) Bitter taste
c) Slippery feel
d) Turns red litmus paper blue
Answer: c) Slippery feel

7. What is the chemical formula for hydrofluoric acid?

a) HCl

Class 5th Chemistry Past Papers

b) HF
c) HNO_3
d) H_2SO_4
Answer: b) HF

8. What is the process of a solid turning directly into a gas without becoming a liquid called?
a) Melting
b) Freezing
c) Sublimation
d) Condensation
Answer: c) Sublimation

9. Which of the following is a characteristic of metals?
a) Brittle
b) Malleable
c) Non-conductor of electricity
d) Dull
Answer: b) Malleable

10. What is the chemical symbol for sodium?
a) So
b) Sa
c) Na
d) No
Answer: c) Na

11. Which of the following is a product of cellular respiration?
a) Oxygen
b) Carbon dioxide
c) Nitrogen
d) Hydrogen
Answer: b) Carbon dioxide

12. What is the chemical formula for potassium hydroxide?
a) KOH
b) KCl
c) K_2O
d) KO_2
Answer: a) KOH

13. What is the chemical symbol for phosphorus?
a) P
b) Ph
c) Po

Class 5th Chemistry Past Papers

d) Pt
Answer: a) P

14. Which of the following is a metal?
a) Oxygen
b) Iron
c) Sulfur
d) Chlorine
Answer: b) Iron

15. What is the process of a liquid turning into a solid called?
a) Melting
b) Freezing
c) Evaporation
d) Condensation
Answer: b) Freezing

16. What is the chemical formula for carbon monoxide?
a) CO
b) CO2
c) O2
d) C2H6
Answer: a) CO

17. Which of the following is a metal?
a) Gold
b) Phosphorus
c) Fluorine
d) Carbon
Answer: a) Gold

18. What is the chemical symbol for helium?
a) H
b) He
c) Ha
d) Ho
Answer: b) He

19. Which of the following is a characteristic of acids?
a) Slippery feel
b) Turns blue litmus paper red
c) Turns red litmus paper blue
d) Bitter taste
Answer: b) Turns blue litmus paper red

Class 5th Chemistry Past Papers

20. What is the chemical formula for water?

a) H
b) O
c) H_2O
d) CO_2
Answer: c) H_2O

21. What is the process of a gas turning into a liquid called?

a) Melting
b) Freezing
c) Evaporation
d) Condensation
Answer: d) Condensation

22. Which of the following is a noble gas?

a) Oxygen
b) Neon
c) Nitrogen
d) Hydrogen
Answer: b) Neon

23. What is the chemical symbol for lead?

a) L
b) Le
c) Li
d) Pb
Answer: d) Pb

24. What is the chemical formula for methane?

a) CH_4
b) CO_2
c) H_2O
d) O_2
Answer: a) CH_4

25. What is the smallest unit of matter?

a) Cell
b) Atom
c) Molecule
d) Particle
Answer: b) Atom

Class 5th Chemistry Past Papers

26. Which of the following is a gas?
a) Water
b) Oxygen
c) Iron
d) Wood
Answer: b) Oxygen

27. What is the chemical symbol for water?
a) W
b) H2O
c) O2
d) H2
Answer: b) H2O

28. What is the main gas in the air we breathe?
a) Oxygen
b) Nitrogen
c) Carbon dioxide
d) Hydrogen
Answer: b) Nitrogen

29. Which of the following is a metal?
a) Glass
b) Plastic
c) Copper
d) Wood
Answer: c) Copper

30. What happens when you mix baking soda and vinegar?
a) Fire
b) Explosion
c) Fizzing
d) Nothing
Answer: c) Fizzing

31. What is the process of turning a liquid into a gas called?
a) Melting
b) Freezing
c) Evaporation
d) Condensation
Answer: c) Evaporation

32. Which of the following is a renewable resource?
a) Coal

Class 5th Chemistry Past Papers

b) Sunlight
c) Oil
d) Natural gas
Answer: b) Sunlight

33. What is the chemical symbol for gold?
a) G
b) Au
c) Ag
d) Fe
Answer: b) Au

34. What is the hardest natural substance on Earth?
a) Gold
b) Diamond
c) Iron
d) Wood
Answer: b) Diamond

35. What do plants take in from the air during photosynthesis?
a) Oxygen
b) Carbon dioxide
c) Nitrogen
d) Hydrogen
Answer: b) Carbon dioxide

36. What is the chemical symbol for oxygen?
a) O2
b) O3
c) N2
d) CO2
Answer: a) O2

37. Which of the following is a liquid?
a) Air
b) Ice
c) Water
d) Rock
Answer: c) Water

38. What is the chemical symbol for helium?
a) H
b) He
c) Ha

Class 5th Chemistry Past Papers

d) Ho
Answer: b) He

39. What is the process of a solid turning into a liquid called?
a) Melting
b) Freezing
c) Evaporation
d) Condensation
Answer: a) Melting

40. Which of the following is a non-metal?
a) Copper
b) Oxygen
c) Iron
d) Silver
Answer: b) Oxygen

41. What is the chemical formula for carbon dioxide?
a) CO
b) CO2
c) O2
d) C2H6
Answer: b) CO2

42. Which gas do plants release during photosynthesis?
a) Oxygen
b) Carbon dioxide
c) Nitrogen
d) Hydrogen
Answer: a) Oxygen

43. What is the chemical symbol for silver?
a) S
b) Si
c) Ag
d) Au
Answer: c) Ag

44. What is the process of a gas turning into a liquid called?
a) Melting
b) Freezing
c) Evaporation
d) Condensation
Answer: d) Condensation

Class 5th Chemistry Past Papers

45. Which of the following is a source of light and heat in our solar system?

a) Moon
b) Earth
c) Sun
d) Mars
Answer: c) Sun

46. What is the chemical symbol for carbon?

a) C
b) Ca
c) Co
d) Cu
Answer: a) C

47. What is the process of a liquid turning into a solid called?

a) Melting
b) Freezing
c) Evaporation
d) Condensation
Answer: b) Freezing

48. Which of the following is a conductor of electricity?

a) Rubber
b) Plastic
c) Copper
d) Wood
Answer: c) Copper

49. What is the chemical formula for water?

a) H
b) O
c) H_2O
d) CO_2
Answer: c) H_2O

50. Which of the following is a primary color?

a) Green
b) Orange
c) Blue
d) Brown
Answer: c) Blue

51. What gas do we breathe out?

Class 5th Chemistry Past Papers

a) Oxygen
b) Nitrogen
c) Carbon dioxide
d) Hydrogen
Answer: c) Carbon dioxide

52. What is the chemical symbol for iron?
a) I
b) Fe
c) Ir
d) In
Answer: b) Fe

53. Which of the following is a fossil fuel?
a) Sunlight
b) Wind
c) Coal
d) Natural gas
Answer: c) Coal

54. What is the chemical symbol for nitrogen?
a) N
b) Ni
c) Na
d) Ne
Answer: a) N

55. What is the process of a gas turning into a solid without becoming a liquid called?
a) Melting
b) Freezing
c) Sublimation
d) Condensation
Answer: c) Sublimation

56. Which of the following is a renewable source of energy?
a) Coal
b) Oil
c) Wind
d) Natural gas
Answer: c) Wind

57. What is the chemical formula for methane?
a) CH4
b) CO2

Class 5th Chemistry Past Papers

c) H2O
d) O2
Answer: a) CH4

58. What is the chemical symbol for copper?
a) Cu
b) Co
c) Ca
d) C
Answer: a) Cu

59. Which of the following is a byproduct of burning fossil fuels?
a) Oxygen
b) Carbon dioxide
c) Nitrogen
d) Hydrogen
Answer: b) Carbon dioxide

60. What is the chemical symbol for sodium?
a) So
b) Sa
c) Na
d) No
Answer: c) Na

61. Which of the following is a greenhouse gas?
a) Oxygen
b) Carbon dioxide
c) Nitrogen
d) Helium
Answer: b) Carbon dioxide

62. What is the chemical formula for glucose?
a) C6H12O6
b) CO2
c) H2O
d) O2
Answer: a) C6H12O6

63. What is the process of a gas turning into a liquid called?
a) Melting
b) Freezing
c) Evaporation
d) Condensation

Class 5th Chemistry Past Papers

Answer: d) Condensation

64. Which of the following is a characteristic of metals?
a) Brittle
b) Malleable
c) Non-conductor of electricity
d) Dull
Answer: b) Malleable

65. What is the chemical symbol for carbon monoxide?
a) CO
b) CO2
c) O2
d) C2H6
Answer: a) CO

66. Which of the following is a product of photosynthesis?
a) Oxygen
b) Carbon dioxide
c) Nitrogen
d) Hydrogen
Answer: a) Oxygen

67. What is the chemical symbol for phosphorus?
a) P
b) Ph
c) Po
d) Pt
Answer: a) P

68. What is the process of a liquid turning into a gas called?
a) Melting
b) Freezing
c) Evaporation
d) Condensation
Answer: c) Evaporation

69. Which of the following is a metalloid?
a) Aluminum
b) Silicon
c) Gold
d) Mercury
Answer: b) Silicon

Class 5th Chemistry Past Papers

70. What is the chemical formula for table salt?

a) NaCl

b) KCl

c) CaCl2

d) MgCl2

Answer: a) NaCl

Class 6th Chemistry Past Papers

1. What is the atomic number of carbon?

a) 6
b) 12
c) 14
d) 18
Answer: a)

2. Which of the following is a halogen?

a) Sodium
b) Chlorine
c) Calcium
d) Iron
Answer: b)

3. What is the chemical formula for sulfuric acid?

a) HCl
b) H_2SO_4
c) HNO_3
d) H_3PO_4
Answer: b)

4. What is the process of a substance changing directly from a solid to a gas called?

a) Sublimation
b) Condensation
c) Evaporation
d) Melting
Answer: a)

5. Which of the following is a characteristic of bases?

a) Sour taste
b) Turns litmus paper blue
c) Reacts with metals to produce hydrogen gas
d) Has a high concentration of H^+ ions
Answer: b)

6. What is the chemical symbol for potassium?

a) P
b) K
c) Ko
d) Pt
Answer: b)

7. What is the formula for methane?

a) CH_4

Class 6th Chemistry Past Papers

b) CO_2
c) H_2O
d) O_2
Answer: a)

8. Which of the following is a noble gas?
a) Helium
b) Fluorine
c) Sodium
d) Sulfur
Answer: a)

9. What is the chemical formula for ammonia?
a) NH_3
b) N_2H_4
c) HNO_3
d) H_2SO_4
Answer: a)

10. What is the process of breaking down complex substances into simpler ones called?
a) Synthesis
b) Decomposition
c) Combustion
d) Oxidation
Answer: b)

11. Which of the following is a transition metal?
a) Zinc
b) Aluminum
c) Magnesium
d) Potassium
Answer: a)

12. What is the chemical formula for hydrochloric acid?
a) HCl
b) H_2SO_4
c) NaOH
d) HI
Answer: a)

13. What is the chemical symbol for iron?
a) I
b) Fe
c) Ir

Class 6th Chemistry Past Papers

d) In
Answer: b)

14. Which of the following is a greenhouse gas?
a) Oxygen
b) Methane
c) Nitrogen
d) Hydrogen
Answer: b)

15. What is the process of a gas turning into a liquid called?
a) Melting
b) Freezing
c) Evaporation
d) Condensation
Answer: d)

16. What is the chemical symbol for mercury?
a) Me
b) Mg
c) Mn
d) Hg
Answer: d)

17. Which of the following is a property of acids?
a) Turns blue litmus paper red
b) Bitter taste
c) Slippery feel
d) Turns red litmus paper blue
Answer: a)

18. What is the chemical formula for carbon tetrachloride?
a) CCl4
b) CHCl3
c) C2H5Cl
d) C6H12Cl2
Answer: a)

19. What is the chemical symbol for silver?
a) S
b) Si
c) Ag
d) Au
Answer: c)

Class 6th Chemistry Past Papers

20. Which of the following is a metalloid?

a) Silicon
b) Sodium
c) Sulfur
d) Silver
Answer: a)

21. What is the chemical formula for glucose?

a) C6H12O6
b) CO2
c) H2O
d) O2
Answer: a)

22. What is the process of a liquid turning into a gas called?

a) Melting
b) Freezing
c) Evaporation
d) Condensation
Answer: c)

23. What is the chemical symbol for neon?

a) Ne
b) Na
c) Ni
d) No
Answer: a)

24. Which of the following is a non-metal?

a) Calcium
b) Sodium
c) Chlorine
d) Iron
Answer: c)

25. What is the chemical formula for nitric acid?

a) HCl
b) H2SO4
c) HNO3
d) H3PO4
Answer: c)

26. What is the atomic number of oxygen?

Class 6th Chemistry Past Papers

a) 6
b) 8
c) 14
d) 18
Answer: b)

27. Which of the following is a property of bases?
a) Turns blue litmus paper red
b) Bitter taste
c) Slippery feel
d) Turns red litmus paper blue
Answer: c)

28. What is the chemical formula for hydrofluoric acid?
a) HCl
b) HF
c) HNO3
d) H2SO4
Answer: b)

29. What is the process of a solid turning directly into a gas without becoming a liquid called?
a) Melting
b) Freezing
c) Sublimation
d) Condensation
Answer: c)

30. Which of the following is a characteristic of metals?
a) Brittle
b) Malleable
c) Non-conductor of electricity
d) Dull
Answer: b)

31. What is the chemical symbol for sodium?
a) So
b) Sa
c) Na
d) No
Answer: c)

32. Which of the following is a product of cellular respiration?
a) Oxygen
b) Carbon dioxide

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c) Nitrogen
d) Hydrogen
Answer: b)

33. What is the chemical formula for potassium hydroxide?
a) KOH
b) KCl
c) K2O
d) KO2
Answer: a)

34. What is the chemical symbol for phosphorus?
a) P
b) Ph
c) Po
d) Pt
Answer: a)

35. Which of the following is a metal?
a) Oxygen
b) Iron
c) Sulfur
d) Chlorine
Answer: b)

36. What is the process of a liquid turning into a solid called?
a) Melting
b) Freezing
c) Evaporation
d) Condensation
Answer: b)

37. What is the chemical formula for carbon monoxide?
a) CO
b) CO2
c) O2
d) C2H6
Answer: a)

38. Which of the following is a metal?
a) Gold
b) Phosphorus
c) Fluorine
d) Carbon

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Answer: a)

39. What is the chemical symbol for helium?
a) H
b) He
c) Ha
d) Ho
Answer: b)

40. Which of the following is a characteristic of acids?
a) Slippery feel
b) Turns blue litmus paper red
c) Turns red litmus paper blue
d) Bitter taste
Answer: b)

41. What is the chemical formula for water?
a) H
b) O
c) H2O
d) CO2
Answer: c)

42. What is the process of a gas turning into a liquid called?
a) Melting
b) Freezing
c) Evaporation
d) Condensation
Answer: d)

43. Which of the following is a noble gas?
a) Oxygen
b) Neon
c) Nitrogen
d) Hydrogen
Answer: b)

44. What is the chemical symbol for lead?
a) L
b) Le
c) Li
d) Pb
Answer: d)

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45. What is the chemical formula for methane?

a) CH4
b) CO2
c) H2O
d) O2
Answer: a)

46. What is the process of a gas turning into a liquid called?

a) Melting
b) Freezing
c) Evaporation
d) Condensation
Answer: d)

47. Which of the following is a transition metal?

a) Zinc
b) Aluminum
c) Magnesium
d) Potassium
Answer: a)

48. What is the chemical formula for hydrochloric acid?

a) HCl
b) H2SO4
c) NaOH
d) HI
Answer: a)

49. What is the chemical symbol for iron?

a) I
b) Fe
c) Ir
d) In
Answer: b)

50. Which of the following is a greenhouse gas?

a) Oxygen
b) Methane
c) Nitrogen
d) Hydrogen
Answer: b)

51. What is the chemical formula for carbon tetrachloride?

a) CCl4

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b) $CHCl_3$
c) C_2H_5Cl
d) $C_6H_{12}Cl_2$
Answer: a)

52. What is the chemical symbol for silver?
a) S
b) Si
c) Ag
d) Au
Answer: c)

53. Which of the following is a metalloid?
a) Silicon
b) Sodium
c) Sulfur
d) Silver
Answer: a)

54. What is the chemical formula for glucose?
a) $C_6H_{12}O_6$
b) CO_2
c) H_2O
d) O_2
Answer: a)

55. What is the process of a liquid turning into a gas called?
a) Melting
b) Freezing
c) Evaporation
d) Condensation
Answer: c)

56. What is the chemical symbol for neon?
a) Ne
b) Na
c) Ni
d) No
Answer: a)

57. Which of the following is a non-metal?
a) Calcium
b) Sodium
c) Chlorine

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d) Iron
Answer: c)

58. What is the chemical formula for nitric acid?
a) HCl
b) H2SO4
c) HNO3
d) H3PO4
Answer: c)

59. What is the atomic number of oxygen?
a) 6
b) 8
c) 14
d) 18
Answer: b)

60. Which of the following is a property of bases?
a) Turns blue litmus paper red
b) Bitter taste
c) Slippery feel
d) Turns red litmus paper blue
Answer: c)

61. What is the chemical formula for hydrofluoric acid?
a) HCl
b) HF
c) HNO3
d) H2SO4
Answer: b)

62. What is the process of a solid turning directly into a gas without becoming a liquid called?
a) Melting
b) Freezing
c) Sublimation
d) Condensation
Answer: c)

63. Which of the following is a characteristic of metals?
a) Brittle
b) Malleable
c) Non-conductor of electricity
d) Dull
Answer: b)

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64. What is the chemical symbol for sodium?

a) So
b) Sa
c) Na
d) No
Answer: c)

65. Which of the following is a product of cellular respiration?

a) Oxygen
b) Carbon dioxide
c) Nitrogen
d) Hydrogen
Answer: b)

66. What is the chemical formula for potassium hydroxide?

a) KOH
b) KCl
c) K2O
d) KO2
Answer: a)

67. Which of the following is a property of acids?

a) Turns blue litmus paper red
b) Bitter taste
c) Slippery feel
d) Turns red litmus paper blue
Answer: a)

68. What is the chemical formula for carbon tetrachloride?

a) CCl4
b) CHCl3
c) C2H5Cl
d) C6H12Cl2
Answer: a)

69. What is the chemical symbol for silver?

a) S
b) Si
c) Ag
d) Au
Answer: c)

70. Which of the following is a metalloid?

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a) Silicon
b) Sodium
c) Sulfur
d) Silver
Answer: a)

Class 7th Chemistry Past Papers

1. What is the primary characteristic that distinguishes solids from liquids and gases?
a. Shape
b. Volume
c. Density
d. Temperature
Answer: a.

2. In which state of matter do particles have the most energy and move freely?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: c.

3. What is the process of a gas changing into a liquid called?
a. Condensation
b. Evaporation
c. Sublimation
d. Freezing
Answer: a.

4. Which state of matter has a definite shape and volume?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: a.

5. What happens to the particles of a substance when it changes from a solid to a liquid?
a. They slow down.
b. They vibrate more.
c. They move closer together.
d. They move farther apart.
Answer: d.

6. What is the boiling point of water in Celsius?
a. 0°C
b. 100°C
c. -273°C
d. 212°C
Answer: b.

7. Which of the following is an example of a gas?
a. Ice

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b. Water
c. Oxygen
d. Salt
Answer: c.

8. What happens to the particles of a substance when it changes from a liquid to a gas?
a. They slow down.
b. They vibrate more.
c. They move closer together.
d. They move farther apart.
Answer: d.

9. What is the process of a liquid changing into a gas called?
a. Melting
b. Freezing
c. Boiling
d. Condensation
Answer: c.

10. Which of the following has the highest kinetic energy?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: d.

11. At what temperature does water freeze in Fahrenheit?
a. 0°F
b. 32°F
c. 100°F
d. 212°F
Answer: b.

12. Which state of matter has a definite volume but no definite shape?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: b.

13. What is the process of a solid changing directly into a gas without passing through the liquid state called?
a. Melting
b. Sublimation

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c. Freezing
d. Evaporation
Answer: b.

14. Which of the following is an example of a plasma?
a. Fire
b. Ice
c. Steam
d. Mercury
Answer: a.

15. In which state of matter are particles closely packed together but can still move past each other?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: b.

16. What is the formula for density?
a. Density = Mass/Volume
b. Density = Volume/Mass
c. Density = Mass × Volume
d. Density = Mass - Volume
Answer: a.

17. What is the unit of temperature in the metric system?
a. Fahrenheit
b. Kelvin
c. Celsius
d. Rankine
Answer: c.

18. Which of the following is an example of a solid?
a. Air
b. Wood
c. Water
d. Oxygen
Answer: b.

19. What happens to the particles of a substance when it changes from a gas to a liquid?
a. They slow down.
b. They vibrate more.

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c. They move closer together.
d. They move farther apart.
Answer: c.

20. What is the process of a liquid changing into a solid called?
a. Melting
b. Freezing
c. Boiling
d. Condensation
Answer: b.

21. What is the state of matter that does not have a fixed shape or volume?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: c.

22. What is the term for the change of a substance from a gas to a liquid?
a. Condensation
b. Evaporation
c. Sublimation
d. Fusion
Answer: a.

23. Which of the following statements about gases is true?
a. Gases have definite shape and volume.
b. Gases have definite shape but no definite volume.
c. Gases have no definite shape but definite volume.
d. Gases have neither definite shape nor volume.
Answer: d.

24. What is the state of matter that occurs at extremely high temperatures and consists of charged particles?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: d.

25. What happens to the particles of a substance when it changes from a gas to a solid without passing through the liquid state?
a. Melting
b. Freezing

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c. Sublimation
d. Condensation
Answer: c.

26. What is the term for the change of a substance from a liquid to a gas at its boiling point?
a. Condensation
b. Evaporation
c. Sublimation
d. Fusion
Answer: b.

27. Which of the following is an example of a physical change?
a. Burning wood
b. Rusting iron
c. Boiling water
d. Baking a cake
Answer: c.

28. What is the unit of pressure in the metric system?
a. Pascal
b. Newton
c. Joule
d. Kilogram
Answer: a.

29. What is the term for the resistance of a liquid to flow?
a. Viscosity
b. Conductivity
c. Elasticity
d. Density
Answer: a.

30. Which of the following is an example of a chemical change?
a. Cutting paper
b. Dissolving salt in water
c. Burning wood
d. Melting ice
Answer: c.

31. What is the process of a gas changing directly into a solid without passing through the liquid state called?
a. Melting

b. Sublimation
c. Freezing
d. Condensation
Answer: b.

32. What is the term for the change of a substance from a solid to a liquid at its melting point?
a. Condensation
b. Evaporation
c. Sublimation
d. Fusion
Answer: d.

33. Which state of matter has a definite volume but takes the shape of its container?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: b.

34. What is the term for the change of a substance from a gas to a solid without passing through the liquid state?
a. Melting
b. Freezing
c. Sublimation
d. Condensation
Answer: c.

35. What is the temperature at which a substance changes from a liquid to a gas at a given pressure called?
a. Boiling point
b. Melting point
c. Freezing point
d. Sublimation point
Answer: a.

36. Which of the following is an example of a liquid?
a. Oxygen
b. Mercury
c. Helium
d. Nitrogen
Answer: b.

37. What is the process of a solid changing directly into a gas without passing through the liquid state called?

a. Melting
b. Sublimation
c. Freezing
d. Evaporation
Answer: b.

38. In which state of matter do particles have the least energy and are closely packed together?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: a.

39. What is the term for the change of a substance from a liquid to a solid at its freezing point?
a. Condensation
b. Evaporation
c. Sublimation
d. Freezing
Answer: d.

51. What is the term for the change of a substance directly from a gas to a solid without passing through the liquid state?
a. Melting
b. Sublimation
c. Freezing
d. Condensation
Answer: b.

52. In which state of matter do particles have a definite volume but take the shape of their container?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: c.

53. What is the term for the ability of a substance to dissolve in another substance?
a. Solubility
b. Viscosity
c. Density
d. Conductivity
Answer: a.

54. Which of the following is an example of a liquid?

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a. Iron
b. Helium
c. Water
d. Salt
Answer: c.

55. What is the term for the change of a substance from a gas to a liquid at temperatures below its boiling point?
a. Condensation
b. Evaporation
c. Sublimation
d. Fusion
Answer: a.

56. Which state of matter has particles that are vibrating and sliding past each other?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: b.

57. What is the temperature at which a substance changes from a gas to a liquid called at a given pressure?
a. Boiling point
b. Melting point
c. Freezing point
d. Sublimation point
Answer: a.

58. Which of the following is an example of a gas?
a. Gold
b. Oxygen
c. Sugar
d. Plastic
Answer: b.

59. What is the term for the measure of the average kinetic energy of particles in a substance?
a. Temperature
b. Pressure
c. Volume
d. Density
Answer: a.

60. What is the process of a gas changing into a liquid due to a decrease in temperature called?

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a. Condensation
b. Evaporation
c. Sublimation
d. Fusion
Answer: a.

61. Which state of matter has particles that are tightly packed and vibrate in fixed positions?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: a.

62. What is the term for the change of a substance from a liquid to a gas at temperatures below its boiling point?
a. Condensation
b. Evaporation
c. Sublimation
d. Fusion
Answer: b.

63. Which of the following is an example of a physical property?
a. Flammability
b. Boiling point
c. Reactivity
d. Corrosiveness
Answer: b.

64. What is the unit of volume in the metric system?
a. Liter
b. Gram
c. Meter
d. Second
Answer: a.

65. What is the process of a liquid changing into a gas at temperatures below its boiling point called?
a. Condensation
b. Evaporation
c. Sublimation
d. Freezing
Answer: b.

66. Which of the following is an example of a physical change?
a. Digesting food

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b. Burning paper
c. Rusting iron
d. Decomposing leaves
Answer: b.

67. What is the term for the ability of a substance to conduct electricity?
a. Solubility
b. Viscosity
c. Conductivity
d. Density
Answer: c.

68. Which state of matter has particles that are highly energized and ionized?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: d.

69. What is the temperature at which a substance changes from a solid to a liquid at a given pressure called?
a. Boiling point
b. Melting point
c. Freezing point
d. Sublimation point
Answer: b.

70. What is the term for the ability of a substance to be hammered into thin sheets?
a. Malleability
b. Ductility
c. Solubility
d. Conductivity
Answer: a.

40. Which of the following is an example of a gas?
a. Ice
b. Water
c. Steam
d. Salt
Answer: c.

41. What is the process of a liquid changing into a gas at the surface of the liquid called?
a. Condensation
b. Evaporation

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c. Sublimation
d. Freezing
Answer: b.

42. Which state of matter has particles that vibrate but do not move from their fixed positions?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: a.

43. What is the temperature at which a substance changes from a solid to a liquid called?
a. Boiling point
b. Melting point
c. Freezing point
d. Sublimation point
Answer: b.

44. Which of the following is an example of a physical property?
a. Combustibility
b. Density
c. Reactivity
d. Corrosiveness
Answer: b.

45. What is the term for the change of a substance from a gas to a liquid at its condensation point?
a. Condensation
b. Evaporation
c. Sublimation
d. Fusion
Answer: a.

46. What is the process of a gas changing into a liquid called?
a. Condensation
b. Evaporation
c. Sublimation
d. Freezing
Answer: a.

47. In which state of matter are particles arranged in a regular, repeating pattern?
a. Solid
b. Liquid
c. Gas
d. Plasma

Answer: a.

48. What is the term for the change of a substance from a solid to a gas without passing through the liquid state?
a. Melting
b. Sublimation
c. Freezing
d. Condensation
Answer: b.

49. What is the temperature at which a substance changes from a gas to a liquid at a given pressure called?
a. Boiling point
b. Melting point
c. Freezing point
d. Sublimation point
Answer: a.

50. Which of the following is an example of a physical change?
a. Digesting food
b. Burning wood
c. Decomposing leaves
d. Rusting iron
Answer: d.

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1. What is the smallest unit of an element that retains the chemical properties of that element?
a. Atom
b. Molecule
c. Ion
d. Compound
Answer: a.

2. In which group of the periodic table is the noble gases located?
a. Group 1
b. Group 2
c. Group 17
d. Group 18
Answer: d.

3. How many elements are there in the modern periodic table?
a. 92
b. 103
c. 118
d. 140
Answer: c.

4. Which element has the chemical symbol "O"?
a. Oxygen
b. Osmium
c. Gold
d. Uranium
Answer: a.

5. What is the atomic number of carbon?
a. 6
b. 8
c. 12
d. 14
Answer: a.

6. Elements in the same group of the periodic table have the same number of:
a. Neutrons
b. Electrons
c. Protons
d. Isotopes
Answer: b.

7. What is the chemical symbol for gold?
a. Gd

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b. Au
c. Ag
d. Ge
Answer: b.

8. Which element is a halogen?
a. Fluorine
b. Sodium
c. Calcium
d. Aluminum
Answer: a.

9. The elements in Group 1 of the periodic table are known as:
a. Noble gases
b. Halogens
c. Alkali metals
d. Alkaline earth metals
Answer: c.

10. What is the chemical symbol for helium?
a. H
b. He
c. Li
d. Be
Answer: b.

11. Which element is the most abundant in the Earth's crust?
a. Oxygen
b. Silicon
c. Aluminum
d. Iron
Answer: a.

12. The elements in Group 17 of the periodic table are known as:
a. Alkali metals
b. Halogens
c. Transition metals
d. Noble gases
Answer: b.

13. What is the chemical symbol for silver?
a. Sg
b. Si
c. Sr

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d. Ag
Answer: d.

14. Which element is a noble gas with the chemical symbol "Kr"?
a. Krypton
b. Kryptonite
c. Kryptonium
d. Kraken
Answer: a.

15. The element with atomic number 1 is:
a. Hydrogen
b. Helium
c. Lithium
d. Beryllium
Answer: a.

16. What is the chemical symbol for iron?
a. Ir
b. Fe
c. In
d. F
Answer: b.

17. Elements in the same period of the periodic table have the same number of:
a. Electrons
b. Protons
c. Neutrons
d. Valence electrons
Answer: a.

18. Which element is a metalloid with the chemical symbol "Si"?
a. Silicon
b. Selenium
c. Sulfur
d. Sodium
Answer: a.

19. What is the atomic number of uranium?
a. 88
b. 92
c. 96
d. 100
Answer: b.

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20. Which element is a noble gas with the chemical symbol "Xe"?
a. Xenon
b. Xerium
c. Xeon
d. Xylite
Answer: a.

21. What is the state of matter that does not have a fixed shape or volume?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: c.

22. What is the term for the change of a substance from a gas to a liquid?
a. Condensation
b. Evaporation
c. Sublimation
d. Fusion
Answer: a.

23. Which of the following statements about gases is true?
a. Gases have definite shape and volume.
b. Gases have definite shape but no definite volume.
c. Gases have no definite shape but definite volume.
d. Gases have neither definite shape nor volume.
Answer: d.

24. What is the state of matter that occurs at extremely high temperatures and consists of charged particles?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: d.

25. What happens to the particles of a substance when it changes from a gas to a solid without passing through the liquid state?
a. Melting
b. Freezing
c. Sublimation
d. Condensation
Answer: c.

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26. What is the term for the change of a substance from a liquid to a gas at its boiling point?
a. Condensation
b. Evaporation
c. Sublimation
d. Fusion
Answer: b.

27. Which of the following is an example of a physical change?
a. Burning wood
b. Rusting iron
c. Boiling water
d. Baking a cake
Answer: c.

28. What is the unit of pressure in the metric system?
a. Pascal
b. Newton
c. Joule
d. Kilogram
Answer: a.

29. What is the term for the resistance of a liquid to flow?
a. Viscosity
b. Conductivity
c. Elasticity
d. Density
Answer: a.

30. Which of the following is an example of a chemical change?
a. Cutting paper
b. Dissolving salt in water
c. Burning wood
d. Melting ice
Answer: c.

31. What is the process of a gas changing directly into a solid without passing through the liquid state called?
a. Melting
b. Sublimation
c. Freezing
d. Condensation

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Answer: b.

32. What is the term for the change of a substance from a solid to a liquid at its melting point?
a. Condensation
b. Evaporation
c. Sublimation
d. Fusion
Answer: d.

33. Which state of matter has a definite volume but takes the shape of its container?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: b.

34. What is the term for the change of a substance from a gas to a solid without passing through the liquid state?
a. Melting
b. Freezing
c. Sublimation
d. Condensation
Answer: c.

35. What is the temperature at which a substance changes from a liquid to a gas at a given pressure called?
a. Boiling point
b. Melting point
c. Freezing point
d. Sublimation point
Answer: a.

36. Which of the following is an example of a liquid?
a. Oxygen
b. Mercury
c. Helium
d. Nitrogen
Answer: b.

37. What is the process of a solid changing directly into a gas without passing through the liquid state called?
a. Melting
b. Sublimation
c. Freezing

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d. Evaporation
Answer: b.

38. In which state of matter do particles have the least energy and are closely packed together?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: a.

39. What is the term for the change of a substance from a liquid to a solid at its freezing point?
a. Condensation
b. Evaporation
c. Sublimation
d. Freezing
Answer: d.

51. What is the term for the change of a substance directly from a gas to a solid without passing through the liquid state?
a. Melting
b. Sublimation
c. Freezing
d. Condensation
Answer: b.

52. In which state of matter do particles have a definite volume but take the shape of their container?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: c.

53. What is the term for the ability of a substance to dissolve in another substance?
a. Solubility
b. Viscosity
c. Density
d. Conductivity
Answer: a.

54. Which of the following is an example of a liquid?
a. Iron
b. Helium
c. Water

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d. Salt
Answer: c.

55. What is the term for the change of a substance from a gas to a liquid at temperatures below its boiling point?
a. Condensation
b. Evaporation
c. Sublimation
d. Fusion
Answer: a.

56. Which state of matter has particles that are vibrating and sliding past each other?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: b.

57. What is the temperature at which a substance changes from a gas to a liquid called at a given pressure?
a. Boiling point
b. Melting point
c. Freezing point
d. Sublimation point
Answer: a.

58. Which of the following is an example of a gas?
a. Gold
b. Oxygen
c. Sugar
d. Plastic
Answer: b.

59. What is the term for the measure of the average kinetic energy of particles in a substance?
a. Temperature
b. Pressure
c. Volume
d. Density
Answer: a.

60. What is the process of a gas changing into a liquid due to a decrease in temperature called?
a. Condensation
b. Evaporation
c. Sublimation

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d. Fusion
Answer: a.

61. Which state of matter has particles that are tightly packed and vibrate in fixed positions?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: a.

62. What is the term for the change of a substance from a liquid to a gas at temperatures below its boiling point?
a. Condensation
b. Evaporation
c. Sublimation
d. Fusion
Answer: b.

63. Which of the following is an example of a physical property?
a. Flammability
b. Boiling point
c. Reactivity
d. Corrosiveness
Answer: b.

64. What is the unit of volume in the metric system?
a. Liter
b. Gram
c. Meter
d. Second
Answer: a.

65. What is the process of a liquid changing into a gas at temperatures below its boiling point called?
a. Condensation
b. Evaporation
c. Sublimation
d. Freezing
Answer: b.

66. Which of the following is an example of a physical change?
a. Digesting food
b. Burning paper
c. Rusting iron
d. Decomposing leaves

Class 8th Chemistry Past Papers

Answer: b.

67. What is the term for the ability of a substance to conduct electricity?
a. Solubility
b. Viscosity
c. Conductivity
d. Density
Answer: c.

68. Which state of matter has particles that are highly energized and ionized?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: d.

69. What is the temperature at which a substance changes from a solid to a liquid at a given pressure called?
a. Boiling point
b. Melting point
c. Freezing point
d. Sublimation point
Answer: b.

70. What is the term for the ability of a substance to be hammered into thin sheets?
a. Malleability
b. Ductility
c. Solubility
d. Conductivity
Answer: a.

40. Which of the following is an example of a gas?
a. Ice
b. Water
c. Steam
d. Salt
Answer: c.

41. What is the process of a liquid changing into a gas at the surface of the liquid called?
a. Condensation
b. Evaporation
c. Sublimation
d. Freezing
Answer: b.

Class 8th Chemistry Past Papers

42. Which state of matter has particles that vibrate but do not move from their fixed positions?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: a.

43. What is the temperature at which a substance changes from a solid to a liquid called?
a. Boiling point
b. Melting point
c. Freezing point
d. Sublimation point
Answer: b.

44. Which of the following is an example of a physical property?
a. Combustibility
b. Density
c. Reactivity
d. Corrosiveness
Answer: b.

45. What is the term for the change of a substance from a gas to a liquid at its condensation point?
a. Condensation
b. Evaporation
c. Sublimation
d. Fusion
Answer: a.

46. What is the process of a gas changing into a liquid called?
a. Condensation
b. Evaporation
c. Sublimation
d. Freezing
Answer: a.

47. In which state of matter are particles arranged in a regular, repeating pattern?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: a.

Class 8th Chemistry Past Papers

48. What is the term for the change of a substance from a solid to a gas without passing through the liquid state?
a. Melting
b. Sublimation
c. Freezing
d. Condensation
Answer: b.

49. What is the temperature at which a substance changes from a gas to a liquid at a given pressure called?
a. Boiling point
b. Melting point
c. Freezing point
d. Sublimation point
Answer: a.

50. Which of the following is an example of a physical change?
a. Digesting food
b. Burning wood
c. Decomposing leaves
d. Rusting iron
Answer: d.

Class 9th Chemistry Past Papers

1. Who is credited with the development of the periodic table?

A. Dmitri Mendeleev
B. Marie Curie
C. Antoine Lavoisier
D. Robert Boyle
Correct Answer: A

2. Which element is named after the Greek word for "hidden"?

A. Xenon
B. Krypton
C. Helium
D. Neodymium
Correct Answer: A

3. Which group of elements is known as the "noble gases"?

A. Group 1
B. Group 2
C. Group 17
D. Group 18
Correct Answer: D

4. What is the symbol for the element with the highest atomic number currently recognized?

A. Uub
B. Uuo
C. Uus
D. Uuh
Correct Answer: B

5. In which period is the element fluorine located?

A. 1st period
B. 2nd period
C. 3rd period
D. 4th period
Correct Answer: B

6. Which element has the highest electronegativity?

A. Fluorine
B. Oxygen
C. Chlorine
D. Nitrogen
Correct Answer: A

7. What is the common oxidation state of hydrogen in compounds?

A. -1

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B. 0
C. +1
D. +2
Correct Answer: C

8. Which element has the highest ionization energy?

A. Lithium
B. Beryllium
C. Helium
D. Neon
Correct Answer: C

9. What is the total number of electrons in a water (H_2O) molecule?

A. 2
B. 4
C. 6
D. 8
Correct Answer: D

10. How many valence electrons does carbon have?

A. 2
B. 4
C. 6
D. 8
Correct Answer: B

11. Which of the following elements is commonly found in organic molecules?

A. Sodium (Na)
B. Carbon (C)
C. Oxygen (O)
D. Fluorine (F)
Correct Answer: B

12. What is the molecular formula for methane?

A. CH_4
B. C_2H_6
C. CO_2
D. H_2O
Correct Answer: A

13. How many covalent bonds does a nitrogen (N_2) molecule have?

A. 1
B. 2
C. 3

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D. 4
Correct Answer: B

14. Which of the following is a diatomic molecule?
A. CO_2
B. O_2
C. CH_4
D. H_2O
Correct Answer: B

15. What is the shape of a methane (CH_4) molecule?
A. Linear
B. Trigonal planar
C. Tetrahedral
D. Octahedral
Correct Answer: C

16. Which element is common to all organic compounds?
A. Hydrogen (H)
B. Carbon (C)
C. Oxygen (O)
D. Nitrogen (N)
Correct Answer: B

17. What is the bond angle in a water (H_2O) molecule?
A. 90 degrees
B. 109.5 degrees
C. 120 degrees
D. 180 degrees
Correct Answer: B

18. Which type of bond involves the sharing of electrons between atoms?
A. Ionic bond
B. Covalent bond
C. Metallic bond
D. Hydrogen bond
Correct Answer: B

19. What is the only letter not used as a symbol for an element in the periodic table?
A. J
B. Q
C. X
D. W
Correct Answer: A

Class 9th Chemistry Past Papers

20. In which block of the periodic table are the transition metals located?

A. s-block
B. p-block
C. d-block
D. f-block
Correct Answer: C

21. Which element is essential for all known forms of life?

A. Carbon
B. Oxygen
C. Hydrogen
D. Nitrogen
Correct Answer: A

22. Which element has the highest melting point?

A. Tungsten
B. Rhenium
C. Osmium
D. Platinum
Correct Answer: A

23. What is the most abundant element in the Earth's crust?

A. Silicon
B. Oxygen
C. Aluminum
D. Iron
Correct Answer: B

24. Which element is named after the Norse god of thunder?

A. Thorium
B. Uranium
C. Thorium
D. Cobalt
Correct Answer: C

25. What is the chemical symbol for the element named after the planet Uranus?

A. Un
B. Ur
C. Uuq
D. Uub
Correct Answer: D

26. Which element has the highest atomic radius?

A. Francium
B. Cesium
C. Radium
D. Barium
Correct Answer: A

27. What is the only nonmetal in Group 17 (halogens)?
A. Chlorine
B. Fluorine
C. Bromine
D. Iodine
Correct Answer: B

28. In which group is the element with the highest electronegativity found?
A. Group 1
B. Group 14
C. Group 17
D. Group 18
Correct Answer: C

29. Which element has the highest density at room temperature?
A. Osmium
B. Iridium
C. Platinum
D. Gold
Correct Answer: A

30. What is the chemical symbol for the element named after the physicist Marie Curie?
A. Mc
B. Cu
C. Md
D. Mt
Correct Answer: C

31. Which element is commonly used in smoke detectors?
A. Americium
B. Curium
C. Californium
D. Berkelium
Correct Answer: A

32. What is the only noble gas that does not have eight electrons in its outer shell?
A. Helium
B. Neon

C. Argon
D. Xenon
Correct Answer: A

33. Which element has the highest first ionization energy?
A. Fluorine
B. Oxygen
C. Helium
D. Neon
Correct Answer: C

34. Which element is a metalloid and is commonly used in the semiconductor industry?
A. Silicon
B. Germanium
C. Arsenic
D. Antimony
Correct Answer: A

35. In which period is the element iodine located?
A. 5th period
B. 6th period
C. 7th period
D. 8th period
Correct Answer: B

36. What is the primary factor that determines the state of matter?
A. Temperature
B. Pressure
C. Volume
D. Density
Correct Answer: A

37. In which state of matter do particles have the least amount of energy and the most ordered arrangement?
A. Solid
B. Liquid
C. Gas
D. Plasma
Correct Answer: A

38. What happens to the volume of a gas when the pressure is increased while the temperature is kept constant?
A. Increases
B. Decreases

C. Remains constant
D. Depends on the gas
Correct Answer: B

39. Which state of matter has a definite volume but no definite shape?
A. Solid
B. Liquid
C. Gas
D. Plasma
Correct Answer: B

40. At what temperature does water boil at standard atmospheric pressure?
A. 0°C
B. 100°C
C. 273 K
D. 373 K
Correct Answer: B

41. What is the process by which a substance changes directly from a gas to a solid without passing through the liquid state?
A. Sublimation
B. Condensation
C. Deposition
D. Fusion
Correct Answer: C

42. Which of the following is an example of a colloid?
A. Saltwater
B. Milk
C. Vinegar
D. Oxygen
Correct Answer: B

43. In which state of matter are particles close together but can slide past each other?
A. Solid
B. Liquid
C. Gas
D. Plasma
Correct Answer: B

44. What is the phase transition from a gas to a liquid called?
A. Sublimation
B. Condensation
C. Deposition

D. Fusion
Correct Answer: B

45. Which of the following statements is true about plasma?
A. It has a definite shape and volume.
B. It is the most common state of matter on Earth.
C. It is composed of charged particles.
D. It only exists at extremely low temperatures.
Correct Answer: C

46. What happens to the pressure of a gas if its volume is increased while the temperature is kept constant?
A. Increases
B. Decreases
C. Remains constant
D. Depends on the gas
Correct Answer: B

47. At what temperature does absolute zero occur?
A. 0°C
B. -273.15°C
C. 100°C
D. 273 K
Correct Answer: B

48. Which state of matter has neither a definite shape nor a definite volume?
A. Solid
B. Liquid
C. Gas
D. Plasma
Correct Answer: C

49. What is the process by which a solid changes directly into a gas without passing through the liquid state?
A. Sublimation
B. Condensation
C. Deposition
D. Fusion
Correct Answer: A

50. What is the critical point of a substance?
A. The highest temperature at which it can exist as a solid
B. The lowest temperature at which it can exist as a gas
C. The combination of temperature and pressure beyond which it cannot exist as a liquid

D. The point at which it becomes plasma
Correct Answer: C

51. What is the primary greenhouse gas responsible for trapping heat in the Earth's atmosphere?

A. Carbon monoxide
B. Methane
C. Nitrous oxide
D. Carbon dioxide
Correct Answer: D

52. Which of the following pollutants is a major component of smog?

A. Carbon dioxide
B. Nitrogen dioxide
C. Sulfur dioxide
D. Ozone
Correct Answer: B

53. What is the main source of indoor air pollution in homes with incomplete combustion of fossil fuels?

A. Radon
B. Carbon monoxide
C. Volatile organic compounds (VOCs)
D. Lead
Correct Answer: B

54. Which of the following is a primary contributor to acid rain?

A. Nitrogen oxides
B. Ozone
C. Methane
D. Hydrogen peroxide
Correct Answer: A

55. What is the ozone layer primarily composed of?

A. Oxygen (O2)
B. Ozone (O3)
C. Nitrogen (N2)
D. Carbon dioxide (CO2)
Correct Answer: B

56. Which metal is commonly associated with environmental contamination through industrial activities and can cause neurological damage in humans?

A. Mercury
B. Lead
C. Cadmium
D. Chromium
Correct Answer: A

57. What is the major greenhouse gas released during deforestation and the burning of fossil fuels?

A. Methane
B. Carbon dioxide
C. Nitrous oxide
D. Water vapor
Correct Answer: B

58. Which of the following pollutants can lead to the formation of acid rain when released into the atmosphere?

A. Carbon monoxide
B. Sulfur dioxide
C. Nitrogen dioxide
D. Methane
Correct Answer: B

59. What is the main component of natural gas, a fossil fuel often used for heating and cooking?

A. Methane
B. Ethane
C. Propane
D. Butane
Correct Answer: A

60. Which environmental issue is associated with the depletion of the ozone layer?

A. Global warming
B. Acid rain
C. Ozone depletion
D. Eutrophication
Correct Answer: C

61. What is the primary cause of eutrophication in water bodies?

A. Oil spills
B. Excessive nutrients
C. Heavy metals
D. Pathogenic bacteria
Correct Answer: B

Class 9th Chemistry Past Papers

62. Which air pollutant is a major component of secondhand smoke and can lead to respiratory issues?

A. Carbon monoxide
B. Nitrogen dioxide
C. Benzene
D. Particulate matter
Correct Answer: D

63. What is the main greenhouse gas emitted from agricultural activities, including rice paddies and livestock digestion?

A. Methane
B. Carbon dioxide
C. Nitrous oxide
D. Ozone
Correct Answer: A

64. Which element is often used in batteries and can contaminate soil and water when improperly disposed of?

A. Lithium
B. Lead
C. Nickel
D. Cadmium
Correct Answer: B

65. Which gas is responsible for the "new car smell" and is a component of ground-level ozone?

A. Nitrogen dioxide
B. Benzene
C. Formaldehyde
D. Methane
Correct Answer: C

66. What is the primary greenhouse gas released during the combustion of fossil fuels for transportation?

A. Carbon monoxide
B. Nitrous oxide
C. Methane
D. Carbon dioxide
Correct Answer: D

67. Which of the following is a primary component of sewage and can contribute to water pollution if not treated properly?

A. Phosphorus
B. Potassium
C. Sodium

D. Magnesium
Correct Answer: A

68. Which gas, released from landfills and livestock, is a potent greenhouse gas with a higher warming potential than carbon dioxide?

A. Methane
B. Nitrous oxide
C. Ozone
D. Sulfur hexafluoride
Correct Answer: A

69. What is the primary source of sulfur dioxide emissions into the atmosphere?

A. Volcanic eruptions
B. Combustion of coal
C. Automobile exhaust
D. Agricultural activities
Correct Answer: B

70. Which of the following is a major contributor to indoor air pollution from household products?

A. Carbon monoxide
B. Nitrogen dioxide
C. Formaldehyde
D. Ozone
Correct Answer: C

Class 10th Chemistry Past Papers

1. What is the chemical symbol for the element named after the planet Uranus?

a. Un
b. Ur
c. Uuq
d. Uub

Correct Answer: D

2. Which element has the highest atomic radius?

a. Francium
b. Cesium
c. Radium
d. Barium

Correct Answer: A

3. What is the only nonmetal in Group 17 (halogens)?

a. Chlorine
b. Fluorine
c. Bromine
d. Iodine

Correct Answer: B

4. In which group is the element with the highest electronegativity found?

a. Group 1
b. Group 14
c. Group 17
d. Group 18

Correct Answer: C

5. Which element has the highest density at room temperature?

a. Osmium
b. Iridium
c. Platinum
d. Gold

Correct Answer: A

6. What is the chemical symbol for the element named after the physicist Marie Curie?

a. Mc
b. Cu
c. Md
d. Mt

Correct Answer: C

7. Which element is commonly used in smoke detectors?

Class 10th Chemistry Past Papers

a. Americium
b. Curium
c. Californium
d. Berkelium

Correct Answer: A

8. What is the only noble gas that does not have eight electrons in its outer shell?

a. Helium
b. Neon
c. Argon
d. Xenon

Correct Answer: A

9. Which element has the highest first ionization energy?

a. Fluorine
b. Oxygen
c. Helium
d. Neon

Correct Answer: C

10. Which element is a metalloid and is commonly used in the semiconductor industry?

a. Silicon
b. Germanium
c. Arsenic
d. Antimony

Correct Answer: A

11. In which period is the element iodine located?

a. 5th period
b. 6th period
c. 7th period
d. 8th period

Correct Answer: B

12. What is the primary factor that determines the state of matter?

a. Temperature
b. Pressure
c. Volume
d. Density

Correct Answer: A

13. In which state of matter do particles have the least amount of energy and the most ordered arrangement?

a. Solid

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c. Gas
d. Plasma

Correct Answer: A

14. What happens to the volume of a gas when the pressure is increased while the temperature is kept constant?

a. Increases
b. Decreases
c. Remains constant
d. Depends on the gas

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16. Who is credited with the development of the periodic table?

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b. Marie Curie
c. Antoine Lavoisier
d. Robert Boyle

Correct Answer: A

17. Which element is named after the Greek word for "hidden"?

a. Xenon
b. Krypton
c. Helium
d. Neodymium

Correct Answer: A

18. Which group of elements is known as the "noble gases"?

a. Group 1
b. Group 2
c. Group 17
d. Group 18

Correct Answer: D

19. What is the symbol for the element with the highest atomic number currently recognized?

a. Uub
b. Uuo

Class 10th Chemistry Past Papers

c. Uus
d. Uuh

Correct Answer: B

20. In which period is the element fluorine located?
a. 1st period
b. 2nd period
c. 3rd period
d. 4th period

Correct Answer: B

21. Which element has the highest electronegativity?
a. Fluorine
b. Oxygen
c. Chlorine
d. Nitrogen

Correct Answer: A

22. What is the common oxidation state of hydrogen in compounds?
a. -1
b. 0
c. +1
d. +2

Correct Answer: C

23. Which element has the highest ionization energy?
a. Lithium
b. Beryllium
c. Helium
d. Neon

Correct Answer: C

24. What is the total number of electrons in a water (H_2O) molecule?
a. 2
b. 4
c. 6
d. 8

Correct Answer: D

25. How many valence electrons does carbon have?
a. 2
b. 4
c. 6
d. 8

Class 10th Chemistry Past Papers

Correct Answer: B

26. Which of the following elements is commonly found in organic molecules?
a. Sodium (Na)
b. Carbon (C)
c. Oxygen (O)
d. Fluorine (F)

Correct Answer: B

27. What is the molecular formula for methane?
a. CH_4
b. C_2H_6
c. CO_2
d. H_2O

Correct Answer: A

28. How many covalent bonds does a nitrogen (N_2) molecule have?
a. 1
b. 2
c. 3
d. 4

Correct Answer: B

29. Which of the following is a diatomic molecule?
a. CO_2
b. O_2
c. CH_4
d. H_2O

Correct Answer: B

30. Which of the following is an example of a chemical change?
a. Cutting paper
b. Dissolving salt in water
c. Burning wood
d. Melting ice
Answer: c.

31. What is the process of a gas changing directly into a solid without passing through the liquid state called?
a. Melting
b. Sublimation
c. Freezing
d. Condensation
Answer: b.

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32. What is the term for the change of a substance from a solid to a liquid at its melting point?
a. Condensation
b. Evaporation
c. Sublimation
d. Fusion
Answer: d.

33. Which state of matter has a definite volume but takes the shape of its container?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: b.

34. What is the term for the change of a substance from a gas to a solid without passing through the liquid state?
a. Melting
b. Freezing
c. Sublimation
d. Condensation
Answer: c.

35. What is the temperature at which a substance changes from a liquid to a gas at a given pressure called?
a. Boiling point
b. Melting point
c. Freezing point
d. Sublimation point
Answer: a.

36. Which of the following is an example of a liquid?
a. Oxygen
b. Mercury
c. Helium
d. Nitrogen
Answer: b.

37. What is the process of a solid changing directly into a gas without passing through the liquid state called?
a. Melting
b. Sublimation
c. Freezing
d. Evaporation

Answer: b.

38. In which state of matter do particles have the least energy and are closely packed together?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: a.

39. What is the term for the change of a substance from a liquid to a solid at its freezing point?
a. Condensation
b. Evaporation
c. Sublimation
d. Freezing
Answer: d.

40. What is the term for the change of a substance directly from a gas to a solid without passing through the liquid state?
a. Melting
b. Sublimation
c. Freezing
d. Condensation
Answer: b.

41. In which state of matter do particles have a definite volume but take the shape of their container?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: c.

42. What is the term for the ability of a substance to dissolve in another substance?
a. Solubility
b. Viscosity
c. Density
d. Conductivity
Answer: a.

43. Which of the following is an example of a liquid?
a. Iron
b. Helium
c. Water
d. Salt

Answer: c.

44. What is the term for the change of a substance from a gas to a liquid at temperatures below its boiling point?
a. Condensation
b. Evaporation
c. Sublimation
d. Fusion
Answer: a.

45. Which state of matter has particles that are vibrating and sliding past each other?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: b.

46. What is the temperature at which a substance changes from a gas to a liquid called at a given pressure?
a. Boiling point
b. Melting point
c. Freezing point
d. Sublimation point
Answer: a.

47. Which of the following is an example of a gas?
a. Gold
b. Oxygen
c. Sugar
d. Plastic
Answer: b.

48. What is the term for the measure of the average kinetic energy of particles in a substance?
a. Temperature
b. Pressure
c. Volume
d. Density
Answer: a.

49. What is the process of a gas changing into a liquid due to a decrease in temperature called?
a. Condensation
b. Evaporation
c. Sublimation
d. Fusion

Answer: a.

50. Which state of matter has particles that are tightly packed and vibrate in fixed positions?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: a.

51. What is the term for the change of a substance from a liquid to a gas at temperatures below its boiling point?
a. Condensation
b. Evaporation
c. Sublimation
d. Fusion
Answer: b.

52. Which of the following is an example of a physical property?
a. Flammability
b. Boiling point
c. Reactivity
d. Corrosiveness
Answer: b.

53. What is the unit of volume in the metric system?
a. Liter
b. Gram
c. Meter
d. Second
Answer: a.

54. What is the process of a liquid changing into a gas at temperatures below its boiling point called?
a. Condensation
b. Evaporation
c. Sublimation
d. Freezing
Answer: b.

55. Which of the following is an example of a physical change?
a. Digesting food
b. Burning paper
c. Rusting iron
d. Decomposing leaves
Answer: b.

Class 10th Chemistry Past Papers

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b. Viscosity
c. Conductivity
d. Density
Answer: c.

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c. Gas
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Answer: d.

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b. Melting point
c. Freezing point
d. Sublimation point
Answer: b.

59. What is the term for the ability of a substance to be hammered into thin sheets?
a. Malleability
b. Ductility
c. Solubility
d. Conductivity
Answer: a.

60. Which of the following is an example of a gas?
a. Ice
b. Water
c. Steam
d. Salt
Answer: c.

61. What is the process of a liquid changing into a gas at the surface of the liquid called?
a. Condensation
b. Evaporation
c. Sublimation
d. Freezing
Answer: b.

Class 10th Chemistry Past Papers

62. Which state of matter has particles that vibrate but do not move from their fixed positions?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: a.

63. What is the temperature at which a substance changes from a solid to a liquid called?
a. Boiling point
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Answer: b.

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b. Density
c. Reactivity
d. Corrosiveness
Answer: b.

65. What is the term for the change of a substance from a gas to a liquid at its condensation point?
a. Condensation
b. Evaporation
c. Sublimation
d. Fusion
Answer: a.

66. What is the process of a gas changing into a liquid called?
a. Condensation
b. Evaporation
c. Sublimation
d. Freezing
Answer: a.

67. In which state of matter are particles arranged in a regular, repeating pattern?
a. Solid
b. Liquid
c. Gas
d. Plasma
Answer: a.

68. What is the term for the change of a substance from a solid to a gas without passing through the liquid state?

a. Melting
b. Sublimation
c. Freezing
d. Condensation
Answer: b.

69. What is the temperature at which a substance changes from a gas to a liquid at a given pressure called?
a. Boiling point
b. Melting point
c. Freezing point
d. Sublimation point
Answer: a.

70. Which of the following is an example of a physical change?
a. Digesting food
b. Burning wood
c. Decomposing leaves
d. Rusting iron
Answer: d.

Class 11th Chemistry Past Papers

1. In the IUPAC nomenclature system, what is the prefix for a six-carbon chain?

A. Hex-
B. Pent-
C. Hept-
D. Oct-
Correct Answer: A

2. What is the hybridization of the carbon atom in a carbocation?

A. sp
B. sp2
C. sp3
D. sp3d
Correct Answer: B

3. Which of the following is an example of a tertiary amine?

A. Ethylamine
B. Dimethylamine
C. Trimethylamine
D. Aniline
Correct Answer: C

4. In the E2 elimination reaction, what is the stereochemistry of the product?

A. Retention of configuration
B. Inversion of configuration
C. No change in configuration
D. Racemization
Correct Answer: B

5. What is the major product of the reaction between an alkene and bromine in the presence of water?

A. Vicinal dihalide
B. Halohydrin
C. Alkene oxide
D. Carbocation
Correct Answer: B

6. Which of the following is a chiral molecule?

A. 2,2-dimethylpentane
B. 2-butanol
C. 1,2-dichloroethane
D. 1-phenylethanol
Correct Answer: D

7. In a Diels-Alder reaction, what type of compounds react to form a cyclic product?

A. Alkynes and alkanes
B. Alkynes and alkenes
C. Alkenes and dienes
D. Alkanes and dienes
Correct Answer: C

8. Which functional group is present in a thioester?

A. Carbonyl
B. Sulfhydryl
C. Ester
D. Thiol
Correct Answer: A

9. What is the IUPAC name for the compound CH3CH2CH(CH3)2?

A. 2-methylbutane
B. 2,2-dimethylbutane
C. 2-ethylpentane
D. 3-methylpentane
Correct Answer: C

10. Which reaction converts an alkene into an alkane by adding hydrogen in the presence of a metal catalyst?

A. Hydrohalogenation
B. Hydrogenation
C. Halogenation
D. Dehydrogenation
Correct Answer: B

11. What is the IUPAC name for the compound with the structure CH3-C≡C-CH2-CH3?

A. Propyne
B. 2-butyne
C. 1-butyne
D. 1-pentyne
Correct Answer: B

12. Which reagent is commonly used for the reduction of aldehydes and ketones to alcohols?

A. NaBH4 (sodium borohydride)
B. LiAlH4 (lithium aluminum hydride)
C. H2O2 (hydrogen peroxide)
D. PCC (pyridinium chlorochromate)
Correct Answer: B

13. What is the product of the ozonolysis of an alkyne with two triple bonds?

A. Aldehyde

B. Carboxylic acid
C. Ketone
D. Peroxide
Correct Answer: C

14. Which of the following is a common method for the synthesis of ethers?
A. Dehydration of alcohols
B. Halogenation of alkanes
C. Williamson ether synthesis
D. Hydrogenation of alkenes
Correct Answer: C

15. What is the name for a reaction in which a nucleophile attacks the carbon of a carbonyl group, leading to the formation of a tetrahedral intermediate?
A. Aldol condensation
B. Nucleophilic substitution
C. Esterification
D. Friedel-Crafts acylation
Correct Answer: B

16. Which of the following is a common method for the synthesis of esters?
A. Grignard reaction
B. Fischer esterification
C. Wittig reaction
D. Hofmann rearrangement
Correct Answer: B

17. What is the IUPAC name for the compound CH3CH2CH2OH?
A. Ethanol
B. Propanol
C. Butanol
D. Isopropanol
Correct Answer: C

18. In which type of isomerism do molecules have the same molecular formula but different spatial arrangements?
A. Structural isomerism
B. Geometric isomerism
C. Conformational isomerism
D. Optical isomerism
Correct Answer: B

19. Which class of organic compounds is characterized by a triple bond between carbon atoms?
A. Alkynes

Class 11th Chemistry Past Papers

B. Alkenes
C. Alkanes
D. Aromatics
Correct Answer: A

20. What is the product of the reaction between an alcohol and a carboxylic acid in the presence of an acid catalyst?

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B. Ether
C. Aldehyde
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22. Which of the following is an example of a meso compound?

A. (R)-2-chlorobutane
B. (S)-2-chlorobutane
C. (R,S)-2-chlorobutane
D. (R,R)-2-chlorobutane
Correct Answer: C

23. Which functional group is present in an amide?

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Correct Answer: A

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C. Titanium
D. Chromium
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C. Copper
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B. To prevent corrosion of other metals
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D. Lithium
Correct Answer: A

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B. Lead
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B. Iron
C. Platinum
D. Palladium
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B. Nickel
C. Zinc
D. Iron
Correct Answer: B

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A. Tungsten
B. Platinum
C. Titanium
D. Zirconium
Correct Answer: A

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C. Aluminum
D. Nickel
Correct Answer: A

43. Which metal is commonly used as a reducing agent in metallurgical processes due to its high reactivity with oxygen?

A. Magnesium
B. Calcium
C. Sodium
D. Potassium
Correct Answer: A

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A. Copper
B. Zinc
C. Tin
D. Nickel
Correct Answer: B

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B. Chromium
C. Cobalt
D. Manganese
Correct Answer: B

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B. Refining
C. Electroplating
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B. Tin
C. Copper
D. Lead
Correct Answer: C

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B. Lead
C. Zinc
D. Bismuth
Correct Answer: A

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A. Palladium
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C. Nickel
D. Ruthenium
Correct Answer: C

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A. Aluminum
B. Copper
C. Zinc
D. Magnesium
Correct Answer: A

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D. Neodymium
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A. Group 1
B. Group 2
C. Group 17
D. Group 18
Correct Answer: D

55. What is the symbol for the element with the highest atomic number currently recognized?

Class 11th Chemistry Past Papers

A. Uub
B. Uuo
C. Uus
D. Uuh
Correct Answer: B

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B. 2nd period
C. 3rd period
D. 4th period
Correct Answer: B

57. Which element has the highest electronegativity?
A. Fluorine
B. Oxygen
C. Chlorine
D. Nitrogen
Correct Answer: A

58. What is the common oxidation state of hydrogen in compounds?
A. -1
B. 0
C. +1
D. +2
Correct Answer: C

59. What is the chemical formula for water?
A. H_2O_2
B. H_3O
C. H_2O
D. HO
Answer: c.

60. At what temperature does water boil at standard atmospheric pressure?
A. 0°C
B. 100°C
C. 273 K
D. 373 K
Answer: b.

61. What percentage of Earth's surface is covered by water?
A. 50%
B. 70%

C. 90%
D. 30%

Answer: b.

62. Which process involves the conversion of water vapor into liquid water?
    A. Evaporation
    B. Condensation
    C. Sublimation
    D. Precipitation

Answer: b.

63. What is the chemical name for hard water?
    A. Hydrogen oxide
    B. Calcium carbonate
    C. Sodium chloride
    D. Magnesium sulfate

Answer: b.

64. What is the pH level of pure water at room temperature?
A. 7
B. 14
C. 0
D. 1

Answer: a.

65. Which gas is dissolved in water to form carbonic acid, leading to the acidity of rain?
    A. Oxygen
    B. Nitrogen
    C. Carbon dioxide
    D. Hydrogen

Answer: c.

66. What is the freezing point of water at standard atmospheric pressure?
A. 0°C
B. 100°C
C. 273 K
D. 373 K

Answer: a.

67. Which of the following is a property of water that makes it an excellent solvent?
    A. Low boiling point
    B. High viscosity
    C. Polarity
    D. Low density

Answer: c.

68. What is the process of water molecules moving through a semipermeable membrane from an area of lower concentration to an area of higher concentration?
    A. Osmosis
    B. Diffusion
    C. Filtration
    D. Evaporation

Answer: a.

69. Which ocean is the largest by surface area?
    A. Atlantic Ocean
    B. Indian Ocean
    C. Southern Ocean
    D. Pacific Ocean

Answer: d.

70. What is the chemical symbol for the hydrogen ion in water?
    A. H^+
    B. OH^-
    C. H_2O
    D. HO_2

Answer: a.

Class 12th Chemistry Past Papers

1. What is the primary greenhouse gas released from the decomposition of organic waste in landfills?

A. Methane
B. Carbon dioxide
C. Nitrous oxide
D. Water vapor
Correct Answer: A

2. Which of the following pollutants is a component of fine particulate matter and can penetrate deep into the lungs?

A. Nitrogen dioxide
B. Sulfur dioxide
C. Carbon monoxide
D. PM2.5
Correct Answer: D

3. What is the primary contributor to ocean acidification, impacting marine life and ecosystems?

A. Carbon monoxide
B. Sulfur dioxide
C. Carbon dioxide
D. Nitrogen dioxide
Correct Answer: C

4. Which functional group is present in an alcohol?

A. Carbonyl
B. Hydroxyl
C. Amine
D. Ester
Correct Answer: B

5. What is the name of the process where a double bond in an alkene is converted into a single bond with the addition of hydrogen?

A. Halogenation
B. Hydrolysis
C. Hydrogenation
D. Dehydration
Correct Answer: C

6. What is the general formula for alkanes?

A. CnH2n+2
B. CnH2n
C. CnH2n-2
D. CnHn

Correct Answer: A

7. Which functional group is present in a carboxylic acid?

A. Carbonyl
B. Hydroxyl
C. Carboxyl
D. Alkene
Correct Answer: C

8. What is the process of breaking down large molecules into smaller ones by the addition of water molecules?

A. Hydrolysis
B. Dehydration
C. Esterification
D. Oxidation
Correct Answer: A

9. Which class of organic compounds is characterized by a closed-ring structure?

A. Alkanes
B. Alkenes
C. Aromatic compounds
D. Alkynes
Correct Answer: C

10. What is the name of the reaction where a molecule loses water to form a double bond?

A. Dehydration
B. Hydrolysis
C. Halogenation
D. Reduction
Correct Answer: A

11. Which type of isomerism occurs when the atoms are bonded in a different order in the carbon chain?

A. Geometric isomerism
B. Structural isomerism
C. Optical isomerism
D. Conformational isomerism
Correct Answer: B

12. What is the functional group in an ester?

A. Carbonyl
B. Hydroxyl
C. Ester group
D. Amine

Correct Answer: C

13. In the IUPAC nomenclature system, what is the prefix for a six-carbon chain?

A. Hex-
B. Pent-
C. Hept-
D. Oct-
Correct Answer: A

14. What is the hybridization of the carbon atom in a carbocation?

A. sp
B. sp2
C. sp3
D. sp3d
Correct Answer: B

15. Which of the following is an example of a tertiary amine?

A. Ethylamine
B. Dimethylamine
C. Trimethylamine
D. Aniline
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B. 2-butanol
C. 1,2-dichloroethane
D. 1-phenylethanol
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A. Alkynes and alkanes
B. Alkynes and alkenes
C. Alkenes and dienes
D. Alkanes and dienes
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Class 12th Chemistry Past Papers

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A. Iron
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Class 12th Chemistry Past Papers

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A. Dmitri Mendeleev
B. Marie Curie
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D. Robert Boyle
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A. Xenon
B. Krypton
C. Helium
D. Neodymium
Correct Answer: A

66. Which group of elements is known as the "noble gases"?

A. Group 1
B. Group 2
C. Group 17
D. Group 18
Correct Answer: D

Class 12th Chemistry Past Papers

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A. Uub
B. Uuo
C. Uus
D. Uuh
Correct Answer: B

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A. 1st period
B. 2nd period
C. 3rd period
D. 4th period
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A. Fluorine
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B. Beryllium
C. Helium
D. Neon
Correct Answer: C

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A. J
B. Q
C. X
D. W
Correct Answer: A

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A. s-block
B. p-block
C. d-block
D. f-block
Correct Answer: C

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C. Hydrogen
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C. Osmium
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13. What is the most abundant element in the Earth's crust?
A. Silicon
B. Oxygen
C. Aluminum

D. Iron
Correct Answer: B

14. Which element is named after the Norse god of thunder?
A. Thorium
B. Uranium
C. Thorium
D. Cobalt
Correct Answer: C

15. What is the chemical symbol for the element named after the planet Uranus?
A. Un
B. Ur
C. Uuq
D. Uub
Correct Answer: D

16. Which element has the highest atomic radius?
A. Francium
B. Cesium
C. Radium
D. Barium
Correct Answer: A

17. What is the only nonmetal in Group 17 (halogens)?
A. Chlorine
B. Fluorine
C. Bromine
D. Iodine
Correct Answer: B

18. In which group is the element with the highest electronegativity found?
A. Group 1
B. Group 14
C. Group 17
D. Group 18
Correct Answer: C

19. Which element has the highest density at room temperature?
A. Osmium
B. Iridium
C. Platinum
D. Gold
Correct Answer: A

O-Levels Chemistry Past Papers

20. What is the chemical symbol for the element named after the physicist Marie Curie?
A. Mc
B. Cu
C. Md
D. Mt
Correct Answer: C

21. Which element is commonly used in smoke detectors?
A. Americium
B. Curium
C. Californium
D. Berkelium
Correct Answer: A

22. What is the only noble gas that does not have eight electrons in its outer shell?
A. Helium
B. Neon
C. Argon
D. Xenon
Correct Answer: A

23. Which element has the highest first ionization energy?
A. Fluorine
B. Oxygen
C. Helium
D. Neon
Correct Answer: C

24. Which element is a metalloid and is commonly used in the semiconductor industry?
A. Silicon
B. Germanium
C. Arsenic
D. Antimony
Correct Answer: A

25. In which period is the element iodine located?
A. 5th period
B. 6th period
C. 7th period
D. 8th period
Correct Answer: B

26. What is the primary factor that determines the state of matter?

A. Temperature
B. Pressure
C. Volume
D. Density
Correct Answer: A

27. In which state of matter do particles have the least amount of energy and the most ordered arrangement?

A. Solid
B. Liquid
C. Gas
D. Plasma
Correct Answer: A

28. What happens to the volume of a gas when the pressure is increased while the temperature is kept constant?

A. Increases
B. Decreases
C. Remains constant
D. Depends on the gas
Correct Answer: B

29. Which state of matter has a definite volume but no definite shape?

A. Solid
B. Liquid
C. Gas
D. Plasma
Correct Answer: B

30. At what temperature does water boil at standard atmospheric pressure?

A. 0°C
B. 100°C
C. 273 K
D. 373 K
Correct Answer: B

31. What is the process by which a substance changes directly from a gas to a solid without passing through the liquid state?

A. Sublimation
B. Condensation
C. Deposition
D. Fusion
Correct Answer: C

O-Levels Chemistry Past Papers

32. Which of the following is an example of a colloid?

A. Saltwater
B. Milk
C. Vinegar
D. Oxygen
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D. Fusion
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35. Which of the following statements is true about plasma?

A. It has a definite shape and volume.
B. It is the most common state of matter on Earth.
C. It is composed of charged particles.
D. It only exists at extremely low temperatures.
Correct Answer: C

36. What happens to the pressure of a gas if its volume is increased while the temperature is kept constant?

A. Increases
B. Decreases
C. Remains constant
D. Depends on the gas
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37. At what temperature does absolute zero occur?

A. 0°C
B. -273.15°C
C. 100°C
D. 273 K
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38. Which state of matter has neither a definite shape nor a definite volume?

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C. Gas
D. Plasma
Correct Answer: C

39. What is the process by which a solid changes directly into a gas without passing through the liquid state?

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B. Condensation
C. Deposition
D. Fusion
Correct Answer: A

40. What is the critical point of a substance?

A. The highest temperature at which it can exist as a solid
B. The lowest temperature at which it can exist as a gas
C. The combination of temperature and pressure beyond which it cannot exist as a liquid
D. The point at which it becomes plasma
Correct Answer: C

41. What is the primary greenhouse gas responsible for trapping heat in the Earth's atmosphere?

A. Carbon monoxide
B. Methane
C. Nitrous oxide
D. Carbon dioxide
Correct Answer: D

42. Which of the following pollutants is a major component of smog?

A. Carbon dioxide
B. Nitrogen dioxide
C. Sulfur dioxide
D. Ozone
Correct Answer: B

43. What is the main source of indoor air pollution in homes with incomplete combustion of fossil fuels?

A. Radon
B. Carbon monoxide
C. Volatile organic compounds (VOCs)
D. Lead

Correct Answer: B

44. Which of the following is a primary contributor to acid rain?

A. Nitrogen oxides
B. Ozone
C. Methane
D. Hydrogen peroxide
Correct Answer: A

45. What is the ozone layer primarily composed of?

A. Oxygen (O2)
B. Ozone (O3)
C. Nitrogen (N2)
D. Carbon dioxide (CO2)
Correct Answer: B

46. Which metal is commonly associated with environmental contamination through industrial activities and can cause neurological damage in humans?

A. Mercury
B. Lead
C. Cadmium
D. Chromium
Correct Answer: A

47. What is the major greenhouse gas released during deforestation and the burning of fossil fuels?

A. Methane
B. Carbon dioxide
C. Nitrous oxide
D. Water vapor
Correct Answer: B

48. Which of the following pollutants can lead to the formation of acid rain when released into the atmosphere?

A. Carbon monoxide
B. Sulfur dioxide
C. Nitrogen dioxide
D. Methane
Correct Answer: B

49. What is the main component of natural gas, a fossil fuel often used for heating and cooking?

A. Methane
B. Ethane
C. Propane

D. Butane
Correct Answer: A

50. Which environmental issue is associated with the depletion of the ozone layer?
A. Global warming
B. Acid rain
C. Ozone depletion
D. Eutrophication
Correct Answer: C

51. What is the primary cause of eutrophication in water bodies?
A. Oil spills
B. Excessive nutrients
C. Heavy metals
D. Pathogenic bacteria
Correct Answer: B

52. Which air pollutant is a major component of secondhand smoke and can lead to respiratory issues?
A. Carbon monoxide
B. Nitrogen dioxide
C. Benzene
D. Particulate matter
Correct Answer: D

53. What is the main greenhouse gas emitted from agricultural activities, including rice paddies and livestock digestion?
A. Methane
B. Carbon dioxide
C. Nitrous oxide
D. Ozone
Correct Answer: A

54. Which element is often used in batteries and can contaminate soil and water when improperly disposed of?
A. Lithium
B. Lead
C. Nickel
D. Cadmium
Correct Answer: B

55. Which gas is responsible for the "new car smell" and is a component of ground-level ozone?
A. Nitrogen dioxide
B. Benzene

C. Formaldehyde
D. Methane
Correct Answer: C

56. What is the primary greenhouse gas released during the combustion of fossil fuels for transportation?

A. Carbon monoxide
B. Nitrous oxide
C. Methane
D. Carbon dioxide
Correct Answer: D

57. Which of the following is a primary component of sewage and can contribute to water pollution if not treated properly?

A. Phosphorus
B. Potassium
C. Sodium
D. Magnesium
Correct Answer: A

58. Which gas, released from landfills and livestock, is a potent greenhouse gas with a higher warming potential than carbon dioxide?

A. Methane
B. Nitrous oxide
C. Ozone
D. Sulfur hexafluoride
Correct Answer: A

59. What is the primary source of sulfur dioxide emissions into the atmosphere?

A. Volcanic eruptions
B. Combustion of coal
C. Automobile exhaust
D. Agricultural activities
Correct Answer: B

60. Which of the following is a major contributor to indoor air pollution from household products?

A. Carbon monoxide
B. Nitrogen dioxide
C. Formaldehyde
D. Ozone
Correct Answer: C

O-Levels Chemistry Past Papers

61. What is the main environmental concern associated with the use of chlorofluorocarbons (CFCs)?

A. Acid rain
B. Ozone depletion
C. Eutrophication
D. Greenhouse gas emissions
Correct Answer: B

62. Which gas is a common air pollutant released from the burning of fossil fuels and can contribute to respiratory problems?

A. Carbon monoxide
B. Sulfur dioxide
C. Nitrogen dioxide
D. Ozone
Correct Answer: C

63. What is the primary greenhouse gas released from the decomposition of organic waste in landfills?

A. Methane
B. Carbon dioxide
C. Nitrous oxide
D. Water vapor
Correct Answer: A

64. Which of the following pollutants is a component of fine particulate matter and can penetrate deep into the lungs?

A. Nitrogen dioxide
B. Sulfur dioxide
C. Carbon monoxide
D. PM2.5
Correct Answer: D

65. What is the primary contributor to ocean acidification, impacting marine life and ecosystems?

A. Carbon monoxide
B. Sulfur dioxide
C. Carbon dioxide
D. Nitrogen dioxide
Correct Answer: C

66. Which functional group is present in an alcohol?

A. Carbonyl
B. Hydroxyl
C. Amine

D. Ester
Correct Answer: B

67. What is the name of the process where a double bond in an alkene is converted into a single bond with the addition of hydrogen?

A. Halogenation
B. Hydrolysis
C. Hydrogenation
D. Dehydration
Correct Answer: C

68. What is the general formula for alkanes?

A. CnH2n+2
B. CnH2n
C. CnH2n-2
D. CnHn
Correct Answer: A

69. Which functional group is present in a carboxylic acid?

A. Carbonyl
B. Hydroxyl
C. Carboxyl
D. Alkene
Correct Answer: C

70. What is the process of breaking down large molecules into smaller ones by the addition of water molecules?

A. Hydrolysis
B. Dehydration
C. Esterification
D. Oxidation
Correct Answer: A

A-Levels Chemistry Past Papers

1. Who is credited with the development of the periodic table?
a. Dmitri Mendeleev
b. Marie Curie
c. Antoine Lavoisier
d. Robert Boyle

Correct Answer: A

2. Which element is named after the Greek word for "hidden"?
    a. Xenon
    b. Krypton
    c. Helium
    d. Neodymium

Correct Answer: A

3. Which group of elements is known as the "noble gases"?
    a. Group 1
    b. Group 2
    c. Group 17
    d. Group 18

Correct Answer: D

4. What is the symbol for the element with the highest atomic number currently recognized?
    a. Uub
    b. Uuo
    c. Uus
    d. Uuh

Correct Answer: B

5. In which period is the element fluorine located?
    a. 1st period
    b. 2nd period
    c. 3rd period
    d. 4th period

Correct Answer: B

6. Which element has the highest electronegativity?
    a. Fluorine
    b. Oxygen
    c. Chlorine
    d. Nitrogen

Correct Answer: A

7. What is the common oxidation state of hydrogen in compounds?
    a. -1
    b. 0

c. +1
d. +2

Correct Answer: C

8. Which element has the highest ionization energy?
    a. Lithium
    b. Beryllium
    c. Helium
    d. Neon

Correct Answer: C

9. What is the only letter not used as a symbol for an element in the periodic table?
    a. J
    b. Q
    c. X
    d. W

Correct Answer: A

10. In which block of the periodic table are the transition metals located?
    a. s-block
    b. p-block
    c. d-block
    d. f-block

Correct Answer: C

11. Which element is essential for all known forms of life?
    a. Carbon
    b. Oxygen
    c. Hydrogen
    d. Nitrogen

Correct Answer: A

12. Which element has the highest melting point?
    a. Tungsten
    b. Rhenium
    c. Osmium
    d. Platinum

Correct Answer: A

13. What is the most abundant element in the Earth's crust?
    a. Silicon
    b. Oxygen
    c. Aluminum
    d. Iron

Correct Answer: B

A-Levels Chemistry Past Papers

14. Which element is named after the Norse god of thunder?
    a. Thorium
    b. Uranium
    c. Thorium
    d. Cobalt

Correct Answer: C

15. What is the chemical symbol for the element named after the planet Uranus?
    a. Un
    b. Ur
    c. Uuq
    d. Uub

Correct Answer: D

16. Which element has the highest atomic radius?
    a. Francium
    b. Cesium
    c. Radium
    d. Barium

Correct Answer: A

17. What is the only nonmetal in Group 17 (halogens)?
    a. Chlorine
    b. Fluorine
    c. Bromine
    d. Iodine

Correct Answer: B

18. In which group is the element with the highest electronegativity found?
    a. Group 1
    b. Group 14
    c. Group 17
    d. Group 18

Correct Answer: C

19. Which element has the highest density at room temperature?
    a. Osmium
    b. Iridium

    Platinum
    c. Gold

Correct Answer: A

20. What is the chemical symbol for the element named after the physicist Marie Curie?
    a. Mc

b. Cu
c. Md
d. Mt

Correct Answer: C

21. What type of bond is formed when electrons are shared between two nonmetals?

a. Ionic bond
b. Metallic bond
c. Covalent bond
d. Polar bond
Answer: c.

22. Which of the following elements is least likely to form an ionic bond?

a. Sodium
b. Chlorine
c. Oxygen
d. Carbon
Answer: d.

23. In an ionic bond, what happens to electrons?

a. They are shared
b. They are transferred
c. They are lost
d. They are gained
Answer: b.

24. What is the charge on a chloride ion (Cl^-)?

a. +1
b. -1
c. +2
d. -2
Answer: b.

25. Which of the following molecules has a polar covalent bond?

a. H_2
b. O_2
c. Cl_2
d. HCl
Answer: d.

26. What is the shape of a molecule with a tetrahedral molecular geometry?

a. Linear
b. Trigonal planar
c. Tetrahedral
d. Octahedral

Answer: c.

27. What is the bond angle in a water molecule (H_2O)?

a. 90 degrees
b. 109.5 degrees
c. 120 degrees
d. 180 degrees
Answer: b.

28. Which type of bond is present in a water molecule?

a. Covalent bond
b. Ionic bond
c. Metallic bond
d. Hydrogen bond
Answer: a.

29. What is the hybridization of carbon in methane (CH_4)?

a. sp
b. sp^2
c. sp^3
d. sp^3d
Answer: c.

30. Which of the following molecules is nonpolar?

a. HCl
b. CO_2
c. NH_3
d. H_2O
Answer: b.

31. What is the bond order in a triple bond?

a. 1
b. 2
c. 3
d. 4
Answer: c.

32. Which of the following is an example of an intermolecular force?

a. Covalent bond
b. Ionic bond
c. Dipole-dipole interaction
d. Metallic bond
Answer: c.

33. What is the strongest type of intermolecular force?

a. London dispersion forces
b. Dipole-dipole interactions
c. Hydrogen bonding
d. Ionic bonding
Answer: c.

34. Which element is commonly involved in hydrogen bonding?
a. Carbon
b. Oxygen
c. Nitrogen
d. Fluorine
Answer: b.

35. What is the name of the process where water molecules surround and solvate ions?
a. Ionization
b. Dissociation
c. Hydration
d. Combustion
Answer: c.

36. Which of the following compounds exhibits resonance?
a. CO_2
b. SO_2
c. NO_2^-
d. H_2O
Answer: c.

37. In which type of bond do electrons have the most mobility?
a. Ionic bond
b. Covalent bond
c. Metallic bond
d. Polar covalent bond
Answer: c.

38. What is the shape of a molecule with a linear molecular geometry?
a. Linear
b. Trigonal planar
c. Tetrahedral
d. Bent
Answer: a.

39. Which of the following compounds contains both ionic and covalent bonds?
a. NaCl
b. H_2O
c. CO_2

d. NH_4Cl
Answer: d.

40. What is the name of the bond formed between a metal and a nonmetal?
a. Covalent bond
b. Ionic bond
c. Polar covalent bond
d. Metallic bond
Answer: b.

41. Which of the following molecules has a trigonal pyramidal shape?
a. CH_4
b. NH_3
c. H_2O
d. CO_2
Answer: b.

42. What is the bond angle in a molecule with a bent molecular geometry?
a. 90 degrees
b. 109.5 degrees
c. 120 degrees
d. 180 degrees
Answer: b.

43. Which type of bond is formed between atoms with similar electronegativities?
a. Ionic bond
b. Covalent bond
c. Polar covalent bond
d. Metallic bond
Answer: b.

44. What is the primary factor that determines whether a bond is polar or nonpolar?
a. Electronegativity
b. Atomic size
c. Ionization energy
d. Electron affinity
Answer: a.

45. Which molecule has a double bond?
a. H_2
b. O_2
c. N_2
d. CO_2
Answer: d.

A-Levels Chemistry Past Papers

46. What is the bond angle in a molecule with a trigonal planar molecular geometry?

a. 90 degrees
b. 109.5 degrees
c. 120 degrees
d. 180 degrees
Answer: c.

47. Which of the following compounds exhibits hydrogen bonding?

a. CH_4
b. HF
c. CO_2
d. N_2
Answer: b.

48. What is the shape of a molecule with a square planar molecular geometry?

a. Linear
b. Trigonal planar
c. Square planar
d. Tetrahedral
Answer: c.

49. Which of the following molecules is a polar molecule with a nonpolar covalent bond?

a. H_2
b. Cl_2
c. CO_2
d. HCl
Answer: c.

50. In a metallic bond, what is shared between atoms?

a. Electrons
b. Protons
c. Neutrons
d. Ions
Answer: a.

51. Which of the following is a diatomic molecule?

a. O_3
b. N_2
c. CO_2
d. H_2O
Answer: b.

52. What is the bond order in a double bond?

a. 1
b. 2

c. 3
d. 4
Answer: b.

53. Which of the following compounds is an example of a polar molecule with a polar covalent bond?

a. CH_4
b. CO_2
c. NH_3
d. H_2O
Answer: d.

54. What is the geometry of a molecule with two bonding pairs and two lone pairs on the central atom?

a. Linear
b. Trigonal planar
c. Tetrahedral
d. Bent
Answer: d.

55. Which of the following elements is most likely to form an ionic bond with chlorine?

a. Sodium
b. Carbon
c. Oxygen
d. Nitrogen
Answer: a.

56. What is the term for the force that holds atoms together in a molecule?

a. Electrostatic force
b. Van der Waals force
c. Chemical bond
d. Physical attraction
Answer: c.

57. Which type of bond is formed by the attraction between a metal cation and a delocalized electron?

a. Covalent bond
b. Ionic bond
c. Polar covalent bond
d. Metallic bond
Answer: d.

58. Which of the following molecules is linear?

a. CO_2
b. H_2O

c. NH_3
d. CH_4
Answer: a.

59. What is the hybridization of carbon in ethene (C_2H_4)?
a. sp
b. sp^2
c. sp^3
d. sp^3d
Answer: b.

60. What is the bond angle in a molecule with a trigonal bipyramidal molecular geometry?
a. 90 degrees
b. 109.5 degrees
c. 120 degrees
d. 180 degrees
Answer: b.

61. Which of the following molecules exhibits dipole-dipole interactions?
a. H_2
b. Cl_2
c. NH_3
d. HCl
Answer: d.

62. What is the name of the bond formed by the sharing of electrons between two identical atoms?
a. Ionic bond
b. Covalent bond
c. Polar covalent bond
d. Metallic bond
Answer: b.

63. Which element is commonly involved in forming multiple bonds in molecules?
a. Hydrogen
b. Oxygen
c. Carbon
d. Nitrogen
Answer: c.

64. What is the shape of a molecule with a seesaw molecular geometry?
a. Linear
b. Trigonal planar
c. Tetrahedral
d. Seesaw

Answer: d.

65. Which of the following is a resonance structure of ozone (O_3)?

a. O=O
b. O-O
c. O≡O
d. O-O=O
Answer: d.

66. What is the name of the bond formed between hydrogen and fluorine in HF?

a. Covalent bond
b. Ionic bond
c. Polar covalent bond
d. Hydrogen bond
Answer: c.

67. Which of the following molecules has a linear molecular geometry?

a. H_2O
b. NH_3
c. CO_2
d. $BeCl_2$
Answer: d.

68. What is the molecular geometry of a molecule with six electron pairs around the central atom?

a. Linear
b. Trigonal planar
c. Tetrahedral
d. Octahedral
Answer: d.

69. In a polar covalent bond, where is the electron density concentrated?

a. Equally between the atoms
b. Closer to the more electronegative atom
c. Closer to the less electronegative atom
d. In the nucleus of the atoms
Answer: c. Closer to the less electronegative atom

70. Which of the following molecules has the highest boiling point?

a. CH_4
b. CCl_4
c. CH_3Cl
d. CH_2Cl_2
Answer: d.

IGCSE Chemistry Past Papers

1. Which element has the highest density at room temperature?

A. Osmium
B. Iridium
C. Platinum
D. Gold
Correct Answer: A

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A. Mc
B. Cu
C. Md
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Correct Answer: A

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B. 6th period
C. 7th period
D. 8th period
Correct Answer: B

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A. Temperature
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C. Volume
D. Density
Correct Answer: A

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D. Plasma
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10. What happens to the volume of a gas when the pressure is increased while the temperature is kept constant?

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C. It is composed of charged particles.
D. It only exists at extremely low temperatures.
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D. 273 K
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B. The lowest temperature at which it can exist as a gas
C. The combination of temperature and pressure beyond which it cannot exist as a liquid
D. The point at which it becomes plasma
Correct Answer: C

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A. Carbon monoxide
B. Methane
C. Nitrous oxide
D. Carbon dioxide
Correct Answer: D

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A. Carbon dioxide
B. Nitrogen dioxide
C. Sulfur dioxide
D. Ozone
Correct Answer: B

IGCSE Chemistry Past Papers

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A. Radon
B. Carbon monoxide
C. Volatile organic compounds (VOCs)
D. Lead
Correct Answer: B

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A. Nitrogen oxides
B. Ozone
C. Methane
D. Hydrogen peroxide
Correct Answer: A

27. What is the ozone layer primarily composed of?

A. Oxygen (O_2)
B. Ozone (O_3)
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D. Water vapor
Correct Answer: B

30. Which of the following pollutants can lead to the formation of acid rain when released into the atmosphere?

A. Carbon monoxide
B. Sulfur dioxide
C. Nitrogen dioxide
D. Methane

Correct Answer: B

31. What is the main component of natural gas, a fossil fuel often used for heating and cooking?

A. Methane
B. Ethane
C. Propane
D. Butane
Correct Answer: A

32. Which environmental issue is associated with the depletion of the ozone layer?

A. Global warming
B. Acid rain
C. Ozone depletion
D. Eutrophication
Correct Answer: C

33. What is the primary cause of eutrophication in water bodies?

A. Oil spills
B. Excessive nutrients
C. Heavy metals
D. Pathogenic bacteria
Correct Answer: B

34. Which air pollutant is a major component of secondhand smoke and can lead to respiratory issues?

A. Carbon monoxide
B. Nitrogen dioxide
C. Benzene
D. Particulate matter
Correct Answer: D

35. What is the main greenhouse gas emitted from agricultural activities, including rice paddies and livestock digestion?

A. Methane
B. Carbon dioxide
C. Nitrous oxide
D. Ozone
Correct Answer: A

36. Which element is often used in batteries and can contaminate soil and water when improperly disposed of?

A. Lithium
B. Lead
C. Nickel

D. Cadmium
Correct Answer: B

37. Which gas is responsible for the "new car smell" and is a component of ground-level ozone?
A. Nitrogen dioxide
B. Benzene
C. Formaldehyde
D. Methane
Correct Answer: C

38. What is the primary greenhouse gas released during the combustion of fossil fuels for transportation?
A. Carbon monoxide
B. Nitrous oxide
C. Methane
D. Carbon dioxide
Correct Answer: D

39. Which of the following is a primary component of sewage and can contribute to water pollution if not treated properly?
A. Phosphorus
B. Potassium
C. Sodium
D. Magnesium
Correct Answer: A

40. Which gas, released from landfills and livestock, is a potent greenhouse gas with a higher warming potential than carbon dioxide?
A. Methane
B. Nitrous oxide
C. Ozone
D. Sulfur hexafluoride
Correct Answer: A

41. What is the primary source of sulfur dioxide emissions into the atmosphere?
A. Volcanic eruptions
B. Combustion of coal
C. Automobile exhaust
D. Agricultural activities
Correct Answer: B

42. Which of the following is a major contributor to indoor air pollution from household products?
A. Carbon monoxide

B. Nitrogen dioxide
C. Formaldehyde
D. Ozone
Correct Answer: C

43. What is the main environmental concern associated with the use of chlorofluorocarbons (CFCs)?

A. Acid rain
B. Ozone depletion
C. Eutrophication
D. Greenhouse gas emissions
Correct Answer: B

44. Which gas is a common air pollutant released from the burning of fossil fuels and can contribute to respiratory problems?

A. Carbon monoxide
B. Sulfur dioxide
C. Nitrogen dioxide
D. Ozone
Correct Answer: C

45. What is the primary greenhouse gas released from the decomposition of organic waste in landfills?

A. Methane
B. Carbon dioxide
C. Nitrous oxide
D. Water vapor
Correct Answer: A

46. Which of the following pollutants is a component of fine particulate matter and can penetrate deep into the lungs?

A. Nitrogen dioxide
B. Sulfur dioxide
C. Carbon monoxide
D. PM2.5
Correct Answer: D

47. What is the primary contributor to ocean acidification, impacting marine life and ecosystems?

A. Carbon monoxide
B. Sulfur dioxide
C. Carbon dioxide
D. Nitrogen dioxide
Correct Answer: C

IGCSE Chemistry Past Papers

48. Which functional group is present in an alcohol?

A. Carbonyl
B. Hydroxyl
C. Amine
D. Ester
Correct Answer: B

49. What is the name of the process where a double bond in an alkene is converted into a single bond with the addition of hydrogen?

A. Halogenation
B. Hydrolysis
C. Hydrogenation
D. Dehydration
Correct Answer: C

50. What is the general formula for alkanes?

A. CnH2n+2
B. CnH2n
C. CnH2n-2
D. CnHn
Correct Answer: A

51. Which functional group is present in a carboxylic acid?

A. Carbonyl
B. Hydroxyl
C. Carboxyl
D. Alkene
Correct Answer: C

52. What is the process of breaking down large molecules into smaller ones by the addition of water molecules?

A. Hydrolysis
B. Dehydration
C. Esterification
D. Oxidation
Correct Answer: A

53. Who is credited with the development of the periodic table?

A. Dmitri Mendeleev
B. Marie Curie
C. Antoine Lavoisier
D. Robert Boyle
Correct Answer: A

IGCSE Chemistry Past Papers

54. Which element is named after the Greek word for "hidden"?
A. Xenon
B. Krypton
C. Helium
D. Neodymium
Correct Answer: A

55. Which group of elements is known as the "noble gases"?
A. Group 1
B. Group 2
C. Group 17
D. Group 18
Correct Answer: D

56. What is the symbol for the element with the highest atomic number currently recognized?
A. Uub
B. Uuo
C. Uus
D. Uuh
Correct Answer: B

57. In which period is the element fluorine located?
A. 1st period
B. 2nd period
C. 3rd period
D. 4th period
Correct Answer: B

58. Which element has the highest electronegativity?
A. Fluorine
B. Oxygen
C. Chlorine
D. Nitrogen
Correct Answer: A

59. What is the common oxidation state of hydrogen in compounds?
A. -1
B. 0
C. +1
D. +2
Correct Answer: C

60. Which element has the highest ionization energy?

A. Lithium
B. Beryllium
C. Helium
D. Neon
Correct Answer: C

61. What is the only letter not used as a symbol for an element in the periodic table?
A. J
B. Q
C. X
D. W
Correct Answer: A

62. In which block of the periodic table are the transition metals located?
A. s-block
B. p-block
C. d-block
D. f-block
Correct Answer: C

63. Which element is essential for all known forms of life?
A. Carbon
B. Oxygen
C. Hydrogen
D. Nitrogen
Correct Answer: A

64. Which element has the highest melting point?
A. Tungsten
B. Rhenium
C. Osmium
D. Platinum
Correct Answer: A

65. What is the most abundant element in the Earth's crust?
A. Silicon
B. Oxygen
C. Aluminum
D. Iron
Correct Answer: B

66. Which element is named after the Norse god of thunder?
A. Thorium
B. Uranium

C. Thorium
D. Cobalt
Correct Answer: C

67. What is the chemical symbol for the element named after the planet Uranus?
A. Un
B. Ur
C. Uuq
D. Uub
Correct Answer: D

68. Which element has the highest atomic radius?
A. Francium
B. Cesium
C. Radium
D. Barium
Correct Answer: A

69. What is the only nonmetal in Group 17 (halogens)?
A. Chlorine
B. Fluorine
C. Bromine
D. Iodine
Correct Answer: B

70. In which group is the element with the highest electronegativity found?
A. Group 1
B. Group 14
C. Group 17
D. Group 18
Correct Answer: C

DAE Chemistry Past Papers

1. Who is credited with the development of the periodic table?

a. Dmitri Mendeleev
b. Marie Curie
c. Antoine Lavoisier
d. Robert Boyle

Correct Answer: A

2. Which element is named after the Greek word for "hidden"?
    a. Xenon
    b. Krypton
    c. Helium
    d. Neodymium

Correct Answer: A

3. Which group of elements is known as the "noble gases"?
    a. Group 1
    b. Group 2
    c. Group 17
    d. Group 18

Correct Answer: D

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    a. Uub
    b. Uuo
    c. Uus
    d. Uuh

Correct Answer: B

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    a. 1st period
    b. 2nd period
    c. 3rd period
    d. 4th period

Correct Answer: B

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Correct Answer: A

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    a. -1

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c. +1
d. +2

Correct Answer: C

8. Which element has the highest ionization energy?
    a. Lithium
    b. Beryllium
    c. Helium
    d. Neon

Correct Answer: C

9. What is the only letter not used as a symbol for an element in the periodic table?
    a. J
    b. Q
    c. X
    d. W

Correct Answer: A

10. In which block of the periodic table are the transition metals located?
    a. s-block
    b. p-block
    c. d-block
    d. f-block

Correct Answer: C

11. Which element is essential for all known forms of life?
    a. Carbon
    b. Oxygen
    c. Hydrogen
    d. Nitrogen

Correct Answer: A

12. Which element has the highest melting point?
    a. Tungsten
    b. Rhenium
    c. Osmium
    d. Platinum

Correct Answer: A

13. What is the most abundant element in the Earth's crust?
    a. Silicon
    b. Oxygen
    c. Aluminum

d. Iron

Correct Answer: B

14. Which element is named after the Norse god of thunder?
    a. Thorium
    b. Uranium
    c. Thorium
    d. Cobalt

Correct Answer: C

15. What is the chemical symbol for the element named after the planet Uranus?
    a. Un
    b. Ur
    c. Uuq
    d. Uub

Correct Answer: D

16. Which element has the highest atomic radius?
    a. Francium
    b. Cesium
    c. Radium
    d. Barium

Correct Answer: A

17. What is the only nonmetal in Group 17 (halogens)?
    a. Chlorine
    b. Fluorine
    c. Bromine
    d. Iodine

Correct Answer: B

18. In which group is the element with the highest electronegativity found?
    a. Group 1
    b. Group 14
    c. Group 17
    d. Group 18

Correct Answer: C

19. Which element has the highest density at room temperature?
    a. Osmium
    b. Iridium

    Platinum

    c. Gold

Correct Answer: A

DAE Chemistry Past Papers

20. What is the chemical symbol for the element named after the physicist Marie Curie?
    a. Mc
    b. Cu
    c. Md
    d. Mt

Correct Answer: C

21. What type of bond is formed when electrons are shared between two nonmetals?

a. Ionic bond
b. Metallic bond
c. Covalent bond
d. Polar bond
Answer: c.

22. Which of the following elements is least likely to form an ionic bond?

a. Sodium
b. Chlorine
c. Oxygen
d. Carbon
Answer: d.

23. In an ionic bond, what happens to electrons?

a. They are shared
b. They are transferred
c. They are lost
d. They are gained
Answer: b.

24. What is the charge on a chloride ion (Cl^-)?

a. +1
b. -1
c. +2
d. -2
Answer: b.

25. Which of the following molecules has a polar covalent bond?

a. H_2
b. O_2
c. Cl_2
d. HCl
Answer: d.

26. What is the shape of a molecule with a tetrahedral molecular geometry?

a. Linear
b. Trigonal planar
c. Tetrahedral
d. Octahedral
Answer: c.

27. What is the bond angle in a water molecule (H_2O)?
a. 90 degrees
b. 109.5 degrees
c. 120 degrees
d. 180 degrees
Answer: b.

28. Which type of bond is present in a water molecule?
a. Covalent bond
b. Ionic bond
c. Metallic bond
d. Hydrogen bond
Answer: a.

29. What is the hybridization of carbon in methane (CH_4)?
a. sp
b. sp^2
c. sp^3
d. sp^3d
Answer: c.

30. Which of the following molecules is nonpolar?
a. HCl
b. CO_2
c. NH_3
d. H_2O
Answer: b.

31. What is the bond order in a triple bond?
a. 1
b. 2
c. 3
d. 4
Answer: c.

32. Which of the following is an example of an intermolecular force?
a. Covalent bond
b. Ionic bond

c. Dipole-dipole interaction
d. Metallic bond
Answer: c.

33. What is the strongest type of intermolecular force?
a. London dispersion forces
b. Dipole-dipole interactions
c. Hydrogen bonding
d. Ionic bonding
Answer: c.

34. Which element is commonly involved in hydrogen bonding?
a. Carbon
b. Oxygen
c. Nitrogen
d. Fluorine
Answer: b.

35. What is the name of the process where water molecules surround and solvate ions?
a. Ionization
b. Dissociation
c. Hydration
d. Combustion
Answer: c.

36. Which of the following compounds exhibits resonance?
a. CO_2
b. SO_2
c. NO_2^-
d. H_2O
Answer: c.

37. In which type of bond do electrons have the most mobility?
a. Ionic bond
b. Covalent bond
c. Metallic bond
d. Polar covalent bond
Answer: c.

38. What is the shape of a molecule with a linear molecular geometry?
a. Linear
b. Trigonal planar
c. Tetrahedral
d. Bent

Answer: a.

39. Which of the following compounds contains both ionic and covalent bonds?
a. NaCl
b. H_2O
c. CO_2
d. NH_4Cl
Answer: d.

40. What is the name of the bond formed between a metal and a nonmetal?
a. Covalent bond
b. Ionic bond
c. Polar covalent bond
d. Metallic bond
Answer: b.

41. Which of the following molecules has a trigonal pyramidal shape?
a. CH_4
b. NH_3
c. H_2O
d. CO_2
Answer: b.

42. What is the bond angle in a molecule with a bent molecular geometry?
a. 90 degrees
b. 109.5 degrees
c. 120 degrees
d. 180 degrees
Answer: b.

43. Which type of bond is formed between atoms with similar electronegativities?
a. Ionic bond
b. Covalent bond
c. Polar covalent bond
d. Metallic bond
Answer: b.

44. What is the primary factor that determines whether a bond is polar or nonpolar?
a. Electronegativity
b. Atomic size
c. Ionization energy
d. Electron affinity
Answer: a.

DAE Chemistry Past Papers

45. Which molecule has a double bond?

a. H_2

b. O_2

c. N_2

d. CO_2

Answer: d.

46. What is the bond angle in a molecule with a trigonal planar molecular geometry?

a. 90 degrees

b. 109.5 degrees

c. 120 degrees

d. 180 degrees

Answer: c.

47. Which of the following compounds exhibits hydrogen bonding?

a. CH_4

b. HF

c. CO_2

d. N_2

Answer: b.

48. What is the shape of a molecule with a square planar molecular geometry?

a. Linear

b. Trigonal planar

c. Square planar

d. Tetrahedral

Answer: c.

49. Which of the following molecules is a polar molecule with a nonpolar covalent bond?

a. H_2

b. Cl_2

c. CO_2

d. HCl

Answer: c.

50. In a metallic bond, what is shared between atoms?

a. Electrons

b. Protons

c. Neutrons

d. Ions

Answer: a.

51. Which of the following is a diatomic molecule?

a. O_3

b. N_2
c. CO_2
d. H_2O
Answer: b.

52. What is the bond order in a double bond?
a. 1
b. 2
c. 3
d. 4
Answer: b.

53. Which of the following compounds is an example of a polar molecule with a polar covalent bond?
a. CH_4
b. CO_2
c. NH_3
d. H_2O
Answer: d.

54. What is the geometry of a molecule with two bonding pairs and two lone pairs on the central atom?
a. Linear
b. Trigonal planar
c. Tetrahedral
d. Bent
Answer: d.

55. Which of the following elements is most likely to form an ionic bond with chlorine?
a. Sodium
b. Carbon
c. Oxygen
d. Nitrogen
Answer: a.

56. What is the term for the force that holds atoms together in a molecule?
a. Electrostatic force
b. Van der Waals force
c. Chemical bond
d. Physical attraction
Answer: c.

57. Which type of bond is formed by the attraction between a metal cation and a delocalized electron?

a. Covalent bond
b. Ionic bond
c. Polar covalent bond
d. Metallic bond
Answer: d.

58. Which of the following molecules is linear?
a. CO_2
b. H_2O
c. NH_3
d. CH_4
Answer: a.

59. What is the hybridization of carbon in ethene (C_2H_4)?
a. sp
b. sp^2
c. sp^3
d. sp^3d
Answer: b.

60. What is the bond angle in a molecule with a trigonal bipyramidal molecular geometry?
a. 90 degrees
b. 109.5 degrees
c. 120 degrees
d. 180 degrees
Answer: b.

61. Which of the following molecules exhibits dipole-dipole interactions?
a. H_2
b. Cl_2
c. NH_3
d. HCl
Answer: d.

62. What is the name of the bond formed by the sharing of electrons between two identical atoms?
a. Ionic bond
b. Covalent bond
c. Polar covalent bond
d. Metallic bond
Answer: b.

63. Which element is commonly involved in forming multiple bonds in molecules?
a. Hydrogen

b. Oxygen
c. Carbon
d. Nitrogen
Answer: c.

64. What is the shape of a molecule with a seesaw molecular geometry?
a. Linear
b. Trigonal planar
c. Tetrahedral
d. Seesaw
Answer: d.

65. Which of the following is a resonance structure of ozone (O_3)?
a. O=O
b. O-O
c. O≡O
d. O-O=O
Answer: d.

66. What is the name of the bond formed between hydrogen and fluorine in HF?
a. Covalent bond
b. Ionic bond
c. Polar covalent bond
d. Hydrogen bond
Answer: c.

67. Which of the following molecules has a linear molecular geometry?
a. H_2O
b. NH_3
c. CO_2
d. $BeCl_2$
Answer: d.

68. What is the molecular geometry of a molecule with six electron pairs around the central atom?
a. Linear
b. Trigonal planar
c. Tetrahedral
d. Octahedral
Answer: d.

69. In a polar covalent bond, where is the electron density concentrated?
a. Equally between the atoms
b. Closer to the more electronegative atom

c. Closer to the less electronegative atom
d. In the nucleus of the atoms
Answer: c. Closer to the less electronegative atom

70. Which of the following molecules has the highest boiling point?
a. CH_4
b. CCl_4
c. CH_3Cl
d. CH_2Cl_2
Answer: d.

Bachelors Chemistry Past Papers

1. In the context of spectroscopy, the Fano resonance profile is associated with:

a) Vibrational transitions
b) Electronic transitions
c) Raman scattering
d) Autoionization transitions
Answer: d)

2. The Nernst equation relates the standard cell potential to the:

a) Concentration of reactants and products
b) Temperature of the reaction
c) Pressure of the reaction
d) pH of the solution
Answer: a)

3. The Marcus theory is concerned with the kinetics of:

a) Chemical reactions
b) Electron transfer reactions
c) Phase transitions
d) Acid-base reactions
Answer: b)

4. The Virial equation is used to describe the behavior of real gases and is an expansion in terms of:

a) Pressure
b) Volume
c) Temperature
d) Compressibility factor
Answer: b)

5. The Prigogine-Defay ratio is related to the stability of:

a) Liquids
b) Gases
c) Solids
d) Solutions
Answer: a)

6. Which statistical ensemble considers both energy and volume as constant?

a) Canonical ensemble
b) Microcanonical ensemble
c) Grand canonical ensemble
d) Isothermal-isobaric ensemble
Answer: d)

7. The concept of "activity" in thermodynamics is most closely related to the:

a) Concentration of a substance in a solution

b) Pressure of a gas
c) Temperature of a system
d) Work done by a system
Answer: a)

8. Which quantum number is not associated with the energy of an electron in an atom?

a) Principal quantum number (n)
b) Azimuthal quantum number (l)
c) Magnetic quantum number (m_l)
d) Spin quantum number (m_s)
Answer: c)

9. The concept of the Born-Oppenheimer approximation is most closely related to the separation of:

a) Nuclear and electronic motion
b) Translational and rotational motion
c) Vibrational and rotational motion
d) Electronic and vibrational motion
Answer: a)

10. Which of the following statements is true for a spontaneous process at constant temperature and pressure?

a) $\Delta G = 0$
b) $\Delta H = 0$
c) $\Delta S < 0$
d) $\Delta S > 0$
Answer: d)

11. The Schrödinger equation describes the behavior of:

a) Electrons in a magnetic field
b) Electrons in an electric field
c) Electrons in a gravitational field
d) Electrons in an atom
Answer: d)

12. The uncertainty principle is a fundamental concept in quantum mechanics, formulated by:

a) Werner Heisenberg
b) Erwin Schrödinger
c) Max Planck
d) Louis de Broglie
Answer: a)

13. The partition function in statistical mechanics is used to calculate the:

a) Entropy
b) Enthalpy

c) Internal energy
d) Gibbs free energy
Answer: a)

14. The Maxwell-Boltzmann distribution describes the:
a) Distribution of speeds of gas molecules
b) Distribution of energy levels in a crystal lattice
c) Distribution of electron spins in an atom
d) Distribution of vibrational frequencies in a molecule
Answer: a)

15. Which of the following statements is true for a reversible adiabatic process?
a) $\Delta U = 0$
b) $\Delta H = 0$
c) $q = 0$
d) $w = 0$
Answer: c)

16. The Brønsted coefficient (β) in the context of chemical kinetics is related to:
a) Reaction order
b) Activation energy
c) Temperature dependence
d) Solvent effect
Answer: d)

17. The Kramers-Kronig relations connect the real and imaginary parts of a:
a) Wave function
b) Refractive index
c) Absorption spectrum
d) Electron density
Answer: c)

18. Which of the following is a postulate of quantum mechanics?
a) The principle of least action
b) The equipartition theorem
c) The de Broglie wavelength of matter
d) The ideal gas law
Answer: c)

19. The concept of "effective nuclear charge" is crucial in understanding the:
a) Ionization energy of an atom
b) Electron affinity of an atom
c) Electron distribution in a molecule
d) Bond dissociation energy

Answer: a)

20. What is the significance of the point where the tangent to the curve of a van't Hoff plot intersects the x-axis?

a) Reaction order
b) Equilibrium constant (K)
c) Activation energy
d) Reaction enthalpy
Answer: c)

21. The Ramsay-Young rule is related to the determination of:

a) Bond length
b) Bond angle
c) Ionization energy
d) Magnetic susceptibility
Answer: d)

22. In the context of statistical mechanics, the equipartition theorem states that each degree of freedom contributes:

a) kT/2 to the energy
b) kT to the energy
c) 2kT to the energy
d) Zero to the energy
Answer: a)

23. The concept of "molecular chirality" is most relevant in the study of:

a) Vibrational spectroscopy
b) NMR spectroscopy
c) Optical activity
d) Photochemistry
Answer: c)

24. What is chirality in the context of molecules?

a) Aromaticity
b) Planarity
c) Handedness
d) Linearity
Answer: c)

25. Enantiomers are molecules that:

a) Have the same molecular formula
b) Are mirror images of each other
c) Have the same physical properties
d) Have the same chemical properties

Answer: b)

26. Which of the following is not a chiral center?
a) Carbon with four different substituents
b) Carbon with three different substituents
c) Carbon with two identical substituents
d) Nitrogen with four different substituents
Answer: c)

27. The term "heterochirality" refers to:
a) The presence of different elements in a molecule
b) The presence of different chiral centers in a molecule
c) The presence of different chirality in a molecule
d) The presence of different functional groups in a molecule
Answer: c)

28. A molecule with one chiral center can have:
a) Two diastereomers
b) Two enantiomers
c) Multiple stereoisomers
d) All of the above
Answer: b)

29. What is the relationship between diastereomers?
a) They are mirror images.
b) They are non-superimposable stereoisomers.
c) They have the same molecular formula.
d) They have the same physical properties.
Answer: c)

30. What is the term for a molecule that is superimposable on its mirror image?
a) Achiral
b) Diastereomer
c) Enantiomer
d) Mesomer
Answer: a)

31. Which of the following statements about meso compounds is true?
a) They are always chiral.
b) They have an internal plane of symmetry.
c) They cannot have stereoisomers.
d) They are optically active.
Answer: b)

32. The notation R and S is used to describe:

a) The direction of light rotation by a chiral compound.
b) The configuration of a chiral center.
c) The cis-trans isomerism in a molecule.
d) The E-Z isomerism in a molecule.
Answer: b)

33. What is the term for a pair of enantiomers that are not superimposable and are not mirror images of each other?

a) Constitutional isomers
b) Conformers
c) Diastereomers
d) Identical enantiomers
Answer: c)

34. What is a common technique for separating enantiomers?

a) Distillation
b) Chromatography
c) Crystallization
d) Extraction
Answer: b)

35. What is the specific rotation of an optically active compound?

a) A measure of its molar mass
b) A measure of its optical purity
c) A measure of its optical activity
d) A measure of its concentration
Answer: c)

36. How does a racemic mixture differ from a pure enantiomer sample?

a) A racemic mixture has no optical activity.
b) A racemic mixture has a positive optical rotation.
c) A racemic mixture has a negative optical rotation.
d) A racemic mixture has higher molar mass.
Answer: a)

37. What is the purpose of a chiral auxiliary in asymmetric synthesis?

a) To increase the reactivity of a reaction
b) To facilitate purification of the product
c) To introduce chirality in a specific position
d) To reduce the overall yield of the reaction
Answer: c)

38. The term "optical purity" refers to:

a) The concentration of a chiral compound.
b) The percentage of enantiomers in a mixture.

c) The amount of light rotation by a chiral compound.
d) The ratio of R to S configurations in a molecule.
Answer: c)

39. What is the role of a chiral ligand in asymmetric catalysis?
a) To increase the reaction rate
b) To selectively form one enantiomer over the other
c) To stabilize the transition state
d) To reduce the overall yield of the reaction
Answer: b)

40. How does the specific rotation of an enantiomer relate to its mirror image?
a) They have the same specific rotation.
b) They have opposite specific rotations.
c) The specific rotation is always zero for both.
d) The specific rotation depends on the solvent.
Answer: b)

41. Which technique is commonly used to determine the absolute configuration of a chiral compound?
a) NMR spectroscopy
b) Mass spectrometry
c) X-ray crystallography
d) Infrared spectroscopy
Answer: c)

42. What is the relationship between a molecule and its enantiomer with opposite configuration (e.g., R and S)?
a) They are constitutional isomers.
b) They are enantiomers.
c) They are diastereomers.
d) They are identical.
Answer: c)

43. Which class of molecules is often used as chiral selectors in chiral chromatography?
a) Chiral alcohols
b) Chiral amines
c) Chiral acids
d) Chiral hydrocarbons
Answer: c)

44. What is the term for a molecule that has chiral centers but is superimposable on its mirror image?
a) Achiral
b) Enantiomer

c) Meso compound
d) Diastereomer
Answer: c)

45. Which technique is used to distinguish between enantiomers based on their interaction with plane-polarized light?

a) Mass spectrometry
b) NMR spectroscopy
c) Circular dichroism
d) Infrared spectroscopy
Answer: c)

46. What is the relationship between a molecule and its enantiomer if they have the same specific rotation but opposite signs?

a) They are enantiomers.
b) They are diastereomers.
c) They are identical.
d) They are constitutional isomers.
Answer: b)

47. Which of the following molecules is an example of a chiral auxiliary?

a) Tartaric acid
b) Acetic acid
c) Benzoic acid
d) Salicylic acid
Answer: a)

48. What is the primary factor that determines the sign of the specific rotation of a chiral compound?

a) The wavelength of light used for measurement
b) The concentration of the chiral compound
c) The temperature of the solution
d) The nature of the chiral compound itself
Answer: d)

49. The Fischer projection is commonly used to represent the configuration of chiral molecules. In a Fischer projection, horizontal lines represent bonds that are:

a) Above the plane of the paper
b) Below the plane of the paper
c) In the plane of the paper
d) Perpendicular to the plane of the paper
Answer: a)

50. Which statement is true regarding a racemic mixture?

a) It consists of equal amounts of enantiomers.

b) It has a net optical rotation.
c) It is optically active.
d) It consists of meso compounds.
Answer: a)

51. What is the term for a chiral molecule that does not rotate plane-polarized light?
a) Optically inactive
b) Racemic
c) Meso compound
d) Enantiomerically pure
Answer: a)

52. Which of the following statements about the chiral center is correct?
a) A chiral center must always have four different substituents.
b) A chiral center must have three different substituents.
c) A chiral center can have two identical substituents.
d) A chiral center cannot have more than two substituents.
Answer: a)

53. What is the effect of introducing a chiral center on the number of possible stereoisomers?
a) It doubles the number of possible stereoisomers.
b) It reduces the number of possible stereoisomers.
c) It does not affect the number of possible stereoisomers.
d) It increases the number of possible stereoisomers but not necessarily by a factor of two.
Answer: a)

54. Which of the following compounds is a meso compound?
a) 2,3-dibromobutane
b) 1,2-dichlorocyclohexane
c) 1,2-dibromocyclopentane
d) 1,2-dibromopropane
Answer: c)

55. The term "chirality center" is synonymous with:
a) Tetrahedral center
b) Stereocenter
c) Planar center
d) Linear center
Answer: b)

56. What is a stereocenter?
a) Any carbon atom in a molecule
b) A carbon atom with four different substituents
c) A carbon atom with two different substituents
d) A carbon atom with three different substituents

Answer: b)

57. How many stereocenters are present in the molecule CHBrClF?

a) 0
b) 1
c) 2
d) 3
Answer: b)

58. What is the maximum number of stereoisomers possible for a molecule with n stereocenters?

a) n
b) 2n
c) 2^n
d) n!
Answer: c)

59. Which type of stereoisomers are nonsuperimposable mirror images?

a) Enantiomers
b) Diastereomers
c) Epimers
d) Anomers
Answer: a)

60. What is the relationship between a molecule and its enantiomer?

a) Identical
b) Diastereomers
c) Constitutional isomers
d) Mirror images
Answer: d)

61. In a Fischer projection, horizontal lines represent bonds that are:

a) Above the plane of the paper
b) Below the plane of the paper
c) In the plane of the paper
d) Perpendicular to the plane of the paper
Answer: a)

62. How many stereocenters are present in the compound (CH3)2CHCH(OH)CH2Cl?

a) 0
b) 1
c) 2
d) 3
Answer: c)

Bachelors Chemistry Past Papers

63. A molecule with two stereocenters can have how many stereoisomers?

a) 2
b) 3
c) 4
d) 8
Answer: c)

64. What is the term for stereoisomers that are not mirror images of each other?

a) Enantiomers
b) Diastereomers
c) Epimers
d) Anomers
Answer: b)

65. How many stereocenters are present in the compound CH3CH(Cl)CH(Br)CH2I?

a) 0
b) 1
c) 2
d) 3
Answer: c)

66. Which of the following statements about meso compounds is true?

a) They have an internal plane of symmetry.
b) They are always optically active.
c) They cannot have stereoisomers.
d) They are chiral.
Answer: a)

67. What is the relationship between two molecules that are diastereomers?

a) They are mirror images.
b) They are stereoisomers.
c) They have the same molecular formula.
d) They have the same physical properties.
Answer: b)

68. What is the maximum number of stereoisomers possible for a molecule with three stereocenters?

a) 3
b) 8
c) 2^3
d) 6
Answer: b)

69. Which of the following compounds has no stereocenter?

a) CH3CH2CH2CH2CH3

b) CH3CH2CH(CH3)CH3
c) CH3CH2CH(OH)CH3
d) CH3CH2CH=CH2
Answer: a)

70. How many enantiomers are possible for a molecule with four stereocenters?

a) 1
b) 2
c) 4
d) 8
Answer: b)

Masters Chemistry Past Papers

1. What is the coordination number of a central metal atom in a square planar complex?

a) 4
b) 5
c) 6
d) 8
Answer: a)

2. Which of the following is a common ligand in organometallic chemistry?

a) EDTA
b) Phosphine
c) Cyanide
d) Nitrate
Answer: b)

3. The Jahn-Teller effect is commonly observed in:

a) Octahedral complexes
b) Tetrahedral complexes
c) Square planar complexes
d) Linear complexes
Answer: a)

4. What is the major product obtained when cyclohexene is treated with bromine in the presence of sunlight?

a) 1,2-dibromocyclohexane
b) 1,4-dibromocyclohexane
c) 1-bromocyclohexene
d) 1,2-dibromocyclohexene
Answer: b)

5. Which of the following reactions is an example of a nucleophilic substitution reaction?

a) E1 elimination
b) E2 elimination
c) SN1 substitution
d) SN2 substitution
Answer: d)

6. What is the major product formed in the reaction between benzene and bromine in the presence of FeBr3?

a) Bromobenzene
b) Benzene hexabromide
c) 1,2-dibromobenzene
d) 1,4-dibromobenzene
Answer: a)

Masters Chemistry Past Papers

7. In which system does the entropy of the system decrease during a spontaneous process?

a) Isobaric
b) Isothermal
c) Adiabatic
d) Isochoric
Answer: d)

8. The expression $\Delta G = \Delta H - T\Delta S$ is associated with which thermodynamic quantity?

a) Gibbs free energy
b) Enthalpy
c) Internal energy
d) Entropy
Answer: a)

9. Which of the following is a state function?

a) Heat
b) Work
c) Enthalpy
d) Gibbs free energy
Answer: c)

10. Green chemistry aims to:

a) Increase the use of hazardous chemicals
b) Minimize the environmental impact of chemical processes
c) Promote the use of non-renewable resources
d) Prioritize economic considerations over environmental concerns
Answer: b)

11. Which principle of green chemistry emphasizes the use of renewable feedstocks?

a) Atom economy
b) Design for degradation
c) Renewable resources
d) Non-toxic synthesis
Answer: c)

12. What is the primary structure of a polymer?

a) Side chains
b) Cross-links
c) Monomer sequence
d) Branching
Answer: c)

13. High-density polyethylene (HDPE) is an example of a polymer with:

a) Branched structure
b) Linear structure
c) Cross-linked structure
d) Network structure
Answer: b)

14. In which of the following complexes is the metal in a zero oxidation state?
a) [Co(NH3)6]3+
b) [Fe(CO)5]
c) [PtCl6]2-
d) [Cr(H2O)6]3+
Answer: b)

15. The Wilkinson's catalyst is commonly used in:
a) Hydrogenation reactions
b) Heck coupling reactions
c) Suzuki coupling reactions
d) Hydration reactions
Answer: a)

16. In the context of spectroscopy, the Fano resonance profile is associated with:
a) Vibrational transitions
b) Electronic transitions
c) Raman scattering
d) Autoionization transitions
Answer: d)

17. The Nernst equation relates the standard cell potential to the:
a) Concentration of reactants and products
b) Temperature of the reaction
c) Pressure of the reaction
d) pH of the solution
Answer: a)

18. The Marcus theory is concerned with the kinetics of:
a) Chemical reactions
b) Electron transfer reactions
c) Phase transitions
d) Acid-base reactions
Answer: b)

19. The Virial equation is used to describe the behavior of real gases and is an expansion in terms of:
a) Pressure

b) Volume
c) Temperature
d) Compressibility factor
Answer: b)

20. The Prigogine-Defay ratio is related to the stability of:
a) Liquids
b) Gases
c) Solids
d) Solutions
Answer: a)

21. Which statistical ensemble considers both energy and volume as constant?
a) Canonical ensemble
b) Microcanonical ensemble
c) Grand canonical ensemble
d) Isothermal-isobaric ensemble
Answer: d)

22. The concept of "activity" in thermodynamics is most closely related to the:
a) Concentration of a substance in a solution
b) Pressure of a gas
c) Temperature of a system
d) Work done by a system
Answer: a)

23. Which quantum number is not associated with the energy of an electron in an atom?
a) Principal quantum number (n)
b) Azimuthal quantum number (l)
c) Magnetic quantum number (m_l)
d) Spin quantum number (m_s)
Answer: c)

24. The concept of the Born-Oppenheimer approximation is most closely related to the separation of:
a) Nuclear and electronic motion
b) Translational and rotational motion
c) Vibrational and rotational motion
d) Electronic and vibrational motion
Answer: a)

25. Which of the following statements is true for a spontaneous process at constant temperature and pressure?
a) $\Delta G = 0$

b) $\Delta H = 0$
c) $\Delta S < 0$
d) $\Delta S > 0$
Answer: d)

26. The Schrödinger equation describes the behavior of:
a) Electrons in a magnetic field
b) Electrons in an electric field
c) Electrons in a gravitational field
d) Electrons in an atom
Answer: d)

27. The uncertainty principle is a fundamental concept in quantum mechanics, formulated by:
a) Werner Heisenberg
b) Erwin Schrödinger
c) Max Planck
d) Louis de Broglie
Answer: a)

28. The partition function in statistical mechanics is used to calculate the:
a) Entropy
b) Enthalpy
c) Internal energy
d) Gibbs free energy
Answer: a)

29. The Maxwell-Boltzmann distribution describes the:
a) Distribution of speeds of gas molecules
b) Distribution of energy levels in a crystal lattice
c) Distribution of electron spins in an atom
d) Distribution of vibrational frequencies in a molecule
Answer: a)

30. Which of the following statements is true for a reversible adiabatic process?
a) $\Delta U = 0$
b) $\Delta H = 0$
c) $q = 0$
d) $w = 0$
Answer: c)

31. The Brønsted coefficient (β) in the context of chemical kinetics is related to:
a) Reaction order
b) Activation energy

c) Temperature dependence
d) Solvent effect
Answer: d)

32. The Kramers-Kronig relations connect the real and imaginary parts of a:
a) Wave function
b) Refractive index
c) Absorption spectrum
d) Electron density
Answer: c)

33. Which of the following is a postulate of quantum mechanics?
a) The principle of least action
b) The equipartition theorem
c) The de Broglie wavelength of matter
d) The ideal gas law
Answer: c)

34. The concept of "effective nuclear charge" is crucial in understanding the:
a) Ionization energy of an atom
b) Electron affinity of an atom
c) Electron distribution in a molecule
d) Bond dissociation energy
Answer: a)

35. What is the significance of the point where the tangent to the curve of a van't Hoff plot intersects the x-axis?
a) Reaction order
b) Equilibrium constant (K)
c) Activation energy
d) Reaction enthalpy
Answer: c)

36. The Ramsay-Young rule is related to the determination of:
a) Bond length
b) Bond angle
c) Ionization energy
d) Magnetic susceptibility
Answer: d)

37. In the context of statistical mechanics, the equipartition theorem states that each degree of freedom contributes:
a) kT/2 to the energy

b) kT to the energy
c) 2kT to the energy
d) Zero to the energy
Answer: a)

38. The concept of "molecular chirality" is most relevant in the study of:
a) Vibrational spectroscopy
b) NMR spectroscopy
c) Optical activity
d) Photochemistry
Answer: c)

39. What is chirality in the context of molecules?
a) Aromaticity
b) Planarity
c) Handedness
d) Linearity
Answer: c)

40. Enantiomers are molecules that:
a) Have the same molecular formula
b) Are mirror images of each other
c) Have the same physical properties
d) Have the same chemical properties
Answer: b)

41. Which of the following is not a chiral center?
a) Carbon with four different substituents
b) Carbon with three different substituents
c) Carbon with two identical substituents
d) Nitrogen with four different substituents
Answer: c)

42. The term "heterochirality" refers to:
a) The presence of different elements in a molecule
b) The presence of different chiral centers in a molecule
c) The presence of different chirality in a molecule
d) The presence of different functional groups in a molecule
Answer: c)

43. A molecule with one chiral center can have:
a) Two diastereomers
b) Two enantiomers
c) Multiple stereoisomers

d) All of the above
Answer: b)

44. What is the relationship between diastereomers?
a) They are mirror images.
b) They are non-superimposable stereoisomers.
c) They have the same molecular formula.
d) They have the same physical properties.
Answer: c)

45. What is the term for a molecule that is superimposable on its mirror image?
a) Achiral
b) Diastereomer
c) Enantiomer
d) Mesomer
Answer: a)

46. Which of the following statements about meso compounds is true?
a) They are always chiral.
b) They have an internal plane of symmetry.
c) They cannot have stereoisomers.
d) They are optically active.
Answer: b)

47. The notation R and S is used to describe:
a) The direction of light rotation by a chiral compound.
b) The configuration of a chiral center.
c) The cis-trans isomerism in a molecule.
d) The E-Z isomerism in a molecule.
Answer: b)

48. What is the term for a pair of enantiomers that are not superimposable and are not mirror images of each other?
a) Constitutional isomers
b) Conformers
c) Diastereomers
d) Identical enantiomers
Answer: c)

49. What is a common technique for separating enantiomers?
a) Distillation
b) Chromatography
c) Crystallization
d) Extraction

Answer: b)

50. What is the specific rotation of an optically active compound?
a) A measure of its molar mass
b) A measure of its optical purity
c) A measure of its optical activity
d) A measure of its concentration
Answer: c)

51. How does a racemic mixture differ from a pure enantiomer sample?
a) A racemic mixture has no optical activity.
b) A racemic mixture has a positive optical rotation.
c) A racemic mixture has a negative optical rotation.
d) A racemic mixture has higher molar mass.
Answer: a)

52. What is the purpose of a chiral auxiliary in asymmetric synthesis?
a) To increase the reactivity of a reaction
b) To facilitate purification of the product
c) To introduce chirality in a specific position
d) To reduce the overall yield of the reaction
Answer: c)

53. The term "optical purity" refers to:
a) The concentration of a chiral compound.
b) The percentage of enantiomers in a mixture.
c) The amount of light rotation by a chiral compound.
d) The ratio of R to S configurations in a molecule.
Answer: c)

54. What is the role of a chiral ligand in asymmetric catalysis?
a) To increase the reaction rate
b) To selectively form one enantiomer over the other
c) To stabilize the transition state
d) To reduce the overall yield of the reaction
Answer: b)

55. How does the specific rotation of an enantiomer relate to its mirror image?
a) They have the same specific rotation.
b) They have opposite specific rotations.
c) The specific rotation is always zero for both.
d) The specific rotation depends on the solvent.
Answer: b)

Masters Chemistry Past Papers

56. Which technique is commonly used to determine the absolute configuration of a chiral compound?

a) NMR spectroscopy
b) Mass spectrometry
c) X-ray crystallography
d) Infrared spectroscopy
Answer: c)

57. What is the relationship between a molecule and its enantiomer with opposite configuration (e.g., R and S)?

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Answer: a)

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c) 1,2-dibromocyclopentane
d) 1,2-dibromopropane
Answer: c)

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a) Tetrahedral center
b) Stereocenter
c) Planar center
d) Linear center
Answer: b)

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?
   a. The peacock
   b. National bird
   c. Both of them
   d. None of these

Answer: A

2. What is your father name? The statement is
   a. interrogative
   b. assertive
   c. imperative
   d. None of these

Answer: A

3. Get me a piece of paper. This statement is
   a. exclamatory
   b. assertive
   c. interrogative
   d. imperative

Answer: D

4. The bird _____ I caught flew away
   a. what
   b. this
   c. which
   d. their

Answer: C

5. Get me a piece of paper. This statement is
   a. exclamatory
   b. assertive
   c. interrogative
   d. imperative

Answer: D

6. Which word is a preposition in the sentence: “The cat jumped _____ the fence.”
   a. The
   b. Cat
   c. Jumped
   d. 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:

(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.

(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:

(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?
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b) Synonym
c) Antonym
d) Homophone
Answer: a

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Answer: a

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b) I enjoy hiking, it's relaxing.
c) I enjoy hiking: it's relaxing.
d) I enjoy hiking - it's relaxing.
Answer: a

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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

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a) Pun
b) Irony

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

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c) Allusion
d) Allegory
Answer: c

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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?
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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

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

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
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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
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d) Yamuna
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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

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

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) H2O
b) CO2

c) O2
d) N2
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

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
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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

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
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a) Thar Desert
b) Cholistan Desert
c) Kharan Desert

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

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

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)

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

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