

SSC GD Constable Exam: General Science Practice Set (General Knowledge & General Awareness)

Instructions:

- This practice set contains 100 multiple-choice questions (MCQs) on General Science.
- Questions cover key topics from the SSC GD syllabus, including Physics, Chemistry, Biology, and Environmental Science.
- Answers are provided with explanations for clarity.

Section 1: Physics (Questions 1–25)

1. What is the SI unit of force?

- A) Newton
- B) Joule
- C) Watt
- D) Pascal

Answer: A

Explanation: The SI unit of force is the Newton (N), named after Sir Isaac Newton, defined as $\text{kg}\cdot\text{m}/\text{s}^2$.

2. The law of inertia is described by:

- A) Newton's First Law
- B) Newton's Second Law
- C) Newton's Third Law
- D) Law of Gravitation

Answer: A

Explanation: Newton's First Law states that an object remains at rest or in uniform motion unless acted upon by an external force.

3. Which device converts mechanical energy into electrical energy?

- A) Motor
- B) Generator
- C) Transformer
- D) Battery

Answer: B

Explanation: A generator uses electromagnetic induction to convert mechanical energy into electrical energy.

4. The speed of light in a vacuum is approximately:

- A) $3 \times 10^6 \text{ m/s}$

- B) 3×10^7 m/s
- C) 3×10^8 m/s
- D) 3×10^9 m/s

Answer: C

Explanation: The speed of light in a vacuum is approximately 3×10^8 meters per second (299,792,458 m/s).

5. Which instrument measures atmospheric pressure?

- A) Thermometer
- B) Barometer
- C) Hygrometer
- D) Anemometer

Answer: B

Explanation: A barometer measures atmospheric pressure, used in weather forecasting.

6. The SI unit of power is:

- A) Joule
- B) Newton
- C) Watt
- D) Volt

Answer: C

Explanation: The Watt (W) is the SI unit of power, equivalent to one joule per second.

7. Energy stored in a stretched rubber band is:

- A) Kinetic energy
- B) Potential energy
- C) Thermal energy
- D) Chemical energy

Answer: B

Explanation: A stretched rubber band stores elastic potential energy due to its deformation.

8. The bending of light around obstacles is called:

- A) Reflection
- B) Refraction
- C) Diffraction
- D) Dispersion

Answer: C

Explanation: Diffraction is the bending of light waves around the edges of an object or through a narrow opening.

9. The focal length of a plane mirror is:

- A) Zero
- B) Infinity
- C) Positive
- D) Negative

Answer: B

Explanation: A plane mirror has an infinite focal length as it does not converge or diverge light.

10. Which is a vector quantity?

- A) Speed
- B) Distance
- C) Velocity
- D) Mass

Answer: C

Explanation: Velocity is a vector quantity, having both magnitude and direction, unlike speed.

11. The SI unit of electric current is:

- A) Volt
- B) Ampere
- C) Ohm
- D) Watt

Answer: B

Explanation: The Ampere (A) is the SI unit of electric current, measuring the flow of electric charge.

12. The law of conservation of energy states:

- A) Energy can be created
- B) Energy can be destroyed
- C) Energy is neither created nor destroyed
- D) Energy is always lost

Answer: C

Explanation: Energy can only be transformed from one form to another, not created or destroyed.

13. Resistance of a conductor depends on:

- A) Its length and material
- B) Its color
- C) Its weight
- D) Its height

Answer: A

Explanation: Resistance depends on a conductor's length, cross-sectional area, and material resistivity.

14. Which lens corrects nearsightedness (myopia)?

- A) Convex lens
- B) Concave lens
- C) Cylindrical lens
- D) Bifocal lens

Answer: B

Explanation: A concave lens diverges light to correct nearsightedness, enabling focus on distant objects.

15. The SI unit of work is:

- A) Newton
- B) Joule
- C) Watt
- D) Pascal

Answer: B

Explanation: The Joule (J) is the SI unit of work, equivalent to one Newton-meter.

16. Sound waves are:

- A) Transverse waves
- B) Longitudinal waves
- C) Electromagnetic waves
- D) Stationary waves

Answer: B

Explanation: Sound waves are longitudinal, involving compression and rarefaction of particles in a medium.

17. The formula for gravitational force is:

- A) $F = ma$
- B) $F = Gm_1m_2/r^2$
- C) $F = mv^2/r$
- D) $F = kq_1q_2/r^2$

Answer: B

Explanation: Newton's law of gravitation is $F = Gm_1m_2/r^2$, where G is the gravitational constant.

18. The splitting of white light into colors is called:

- A) Reflection
- B) Refraction
- C) Dispersion
- D) Diffraction

Answer: C

Explanation: Dispersion occurs when white light splits into its constituent colors, as seen in a prism.

19. The unit of frequency is:

- A) Hertz
- B) Joule
- C) Watt
- D) Newton

Answer: A

Explanation: The Hertz (Hz) measures frequency, defined as cycles per second.

20. Which mirror is used in vehicle headlights?

- A) Plane mirror
- B) Concave mirror
- C) Convex mirror
- D) Spherical mirror

Answer: B

Explanation: Concave mirrors produce a focused beam of light, suitable for headlights.

21. The acceleration due to gravity on Earth is:

- A) 9.8 m/s^2
- B) 8.9 m/s^2
- C) 10.8 m/s^2
- D) 7.8 m/s^2

Answer: A

Explanation: The standard value of gravitational acceleration on Earth's surface is approximately 9.8 m/s^2 .

22. Electric power is measured in:

- A) Volt

- B) Ampere
- C) Watt
- D) Ohm

Answer: C

Explanation: The Watt measures electric power, the rate of energy transfer in a circuit.

23. Which wave does not require a medium to propagate?

- A) Sound wave
- B) Water wave
- C) Electromagnetic wave
- D) Seismic wave

Answer: C

Explanation: Electromagnetic waves, like light, can travel through a vacuum.

24. The formula for kinetic energy is:

- A) $KE = mv$
- B) $KE = \frac{1}{2} mv^2$
- C) $KE = mgh$
- D) $KE = Fd$

Answer: B

Explanation: Kinetic energy is calculated as $KE = \frac{1}{2} mv^2$, where m is mass and v is velocity.

25. The device used to measure electric potential difference is:

- A) Ammeter
- B) Voltmeter
- C) Galvanometer
- D) Ohmmeter

Answer: B

Explanation: A voltmeter measures the potential difference (voltage) across a circuit component.

Section 2: Chemistry (Questions 26–50)

26. The chemical formula for water is:

- A) H_2O
- B) CO_2
- C) O_2
- D) H_2SO_4

Answer: A

Explanation: Water is a compound with two hydrogen atoms and one oxygen atom, represented as H_2O .

27. The pH of a neutral solution is:

- A) 0
- B) 7
- C) 14
- D) 10

Answer: B

Explanation: A neutral solution, such as pure water, has a pH of 7 at 25°C .

28. Which gas is known as “laughing gas”?

- A) Nitrogen
- B) Nitrous oxide
- C) Carbon dioxide
- D) Oxygen

Answer: B

Explanation: Nitrous oxide (N_2O) is called laughing gas due to its euphoric effects when inhaled.

29. The process of a solid turning directly into a gas is:

- A) Evaporation
- B) Sublimation
- C) Condensation
- D) Melting

Answer: B

Explanation: Sublimation is the direct transition from solid to gas, e.g., dry ice (solid CO_2).

30. The chemical symbol “Fe” represents:

- A) Fluorine
- B) Iron
- C) Francium
- D) Fermium

Answer: B

Explanation: Fe is the symbol for Iron in the periodic table.

31. Which element is essential for combustion?

- A) Nitrogen

- B) Oxygen
- C) Carbon
- D) Hydrogen

Answer: B

Explanation: Oxygen supports combustion by acting as an oxidizer in chemical reactions.

32. The atomic number of an element is the number of:

- A) Neutrons
- B) Protons
- C) Electrons
- D) Nucleons

Answer: B

Explanation: The atomic number is the number of protons in an atom's nucleus.

33. A substance that speeds up a chemical reaction without being consumed is:

- A) Inhibitor
- B) Catalyst
- C) Reactant
- D) Product

Answer: B

Explanation: A catalyst increases the rate of a chemical reaction without undergoing permanent change.

34. The chemical formula for common salt is:

- A) NaCl
- B) KCl
- C) CaCl₂
- D) MgCl₂

Answer: A

Explanation: Common salt is sodium chloride, with the formula NaCl.

35. The most abundant gas in Earth's atmosphere is:

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

Answer: B

Explanation: Nitrogen constitutes about 78% of Earth's atmosphere by volume.

36. Rusting of iron involves:

- A) Iron and oxygen
- B) Iron and nitrogen
- C) Iron and carbon
- D) Iron and sulfur

Answer: A

Explanation: Rusting is the oxidation of iron in the presence of oxygen and moisture, forming iron oxide.

37. The chemical name of baking soda is:

- A) Sodium chloride
- B) Sodium bicarbonate
- C) Calcium carbonate
- D) Sodium hydroxide

Answer: B

Explanation: Baking soda is sodium bicarbonate (NaHCO_3), used in cooking and as an antacid.

38. The acid found in vinegar is:

- A) Citric acid
- B) Acetic acid
- C) Sulfuric acid
- D) Hydrochloric acid

Answer: B

Explanation: Vinegar contains acetic acid (CH_3COOH), giving it its sour taste.

39. The valency of an element depends on:

- A) Protons
- B) Neutrons
- C) Electrons in the outermost shell
- D) Total electrons

Answer: C

Explanation: Valency is determined by the number of electrons in an atom's outermost shell.

40. The chemical formula for carbon dioxide is:

- A) CO
- B) CO_2
- C) C_2O
- D) C_2O_2

Answer: B

Explanation: Carbon dioxide consists of one carbon atom and two oxygen atoms (CO₂).

41. Which metal is liquid at room temperature?

- A) Iron
- B) Mercury
- C) Copper
- D) Aluminum

Answer: B

Explanation: Mercury is the only metal that is liquid at room temperature (25°C).

42. The process of coating iron with zinc is called:

- A) Galvanization
- B) Electroplating
- C) Alloying
- D) Annealing

Answer: A

Explanation: Galvanization coats iron with zinc to prevent corrosion.

43. The primary energy source for Earth's climate system is:

- A) Moon
- B) Sun
- C) Volcanoes
- D) Earth's core

Answer: B

Explanation: The Sun drives Earth's climate through solar radiation.

44. Atoms of the same element with different neutron counts are:

- A) Isotopes
- B) Isobars
- C) Isotones
- D) Alloys

Answer: A

Explanation: Isotopes have the same number of protons but different numbers of neutrons.

45. The chemical name of washing soda is:

- A) Sodium bicarbonate
- B) Sodium carbonate

C) Sodium hydroxide

D) Sodium chloride

Answer: B

Explanation: Washing soda is sodium carbonate (Na_2CO_3), used in cleaning.

46. The gas used to fill balloons is:

A) Hydrogen

B) Helium

C) Nitrogen

D) Oxygen

Answer: B

Explanation: Helium, being lighter than air, is used to make balloons float.

47. The pH of an acidic solution is:

A) Less than 7

B) Equal to 7

C) More than 7

D) Equal to 14

Answer: A

Explanation: Acidic solutions have a pH less than 7, indicating higher hydrogen ion concentration.

48. The chemical formula for ammonia is:

A) NH_3

B) NO_2

C) N_2O

D) NH_4

Answer: A

Explanation: Ammonia is a compound with the formula NH_3 , used in fertilizers.

49. The most reactive metal in the alkali group is:

A) Sodium

B) Potassium

C) Lithium

D) Calcium

Answer: B

Explanation: Potassium is highly reactive due to its single valence electron.

50. The process of separating liquids based on boiling points is:

A) Filtration

- B) Distillation
- C) Evaporation
- D) Sublimation

Answer: B

Explanation: Distillation separates liquids by exploiting differences in their boiling points.

Section 3: Biology and Environmental Science (Questions 51–100)

51. The powerhouse of the cell is:

- A) Nucleus
- B) Mitochondria
- C) Ribosome
- D) Golgi apparatus

Answer: B

Explanation: Mitochondria produce ATP, the cell's energy currency, through cellular respiration.

52. The process by which plants produce food is:

- A) Respiration
- B) Photosynthesis
- C) Transpiration
- D) Fermentation

Answer: B

Explanation: Photosynthesis uses sunlight, water, and CO₂ to produce glucose and oxygen in plants.

53. The human heart has how many chambers?

- A) Two
- B) Three
- C) Four
- D) Five

Answer: C

Explanation: The heart has four chambers: two atria and two ventricles for blood circulation.

54. The vitamin produced by the skin in sunlight is:

- A) Vitamin A
- B) Vitamin B
- C) Vitamin C

D) Vitamin D

Answer: D

Explanation: Vitamin D is synthesized by the skin upon exposure to UVB rays from sunlight.

55. The largest organ of the human body is:

A) Liver

B) Skin

C) Heart

D) Brain

Answer: B

Explanation: The skin is the largest organ, protecting the body and regulating temperature.

56. The gas released during photosynthesis is:

A) Carbon dioxide

B) Oxygen

C) Nitrogen

D) Hydrogen

Answer: B

Explanation: Oxygen is a byproduct of photosynthesis, released by plants.

57. The disease caused by Vitamin C deficiency is:

A) Scurvy

B) Rickets

C) Beriberi

D) Anemia

Answer: A

Explanation: Scurvy, characterized by bleeding gums, results from Vitamin C deficiency.

58. The smallest unit of life is:

A) Tissue

B) Cell

C) Organ

D) Organism

Answer: B

Explanation: The cell is the basic structural and functional unit of all living organisms.

59. The universal donor blood group is:

- A) A+
- B) B+
- C) AB+
- D) O-

Answer: D

Explanation: O- blood lacks antigens, making it compatible with all blood groups.

60. The muscle responsible for breathing is:

- A) Heart
- B) Lungs
- C) Diaphragm
- D) Brain

Answer: C

Explanation: The diaphragm contracts and relaxes to facilitate breathing.

61. The green pigment in plants is:

- A) Chlorophyll
- B) Hemoglobin
- C) Melanin
- D) Carotene

Answer: A

Explanation: Chlorophyll absorbs sunlight for photosynthesis in plant leaves.

62. The disease caused by insulin deficiency is:

- A) Hypertension
- B) Diabetes
- C) Goiter
- D) Scurvy

Answer: B

Explanation: Diabetes results from insufficient insulin production or ineffective use.

63. The brain and spinal cord form the:

- A) Digestive system
- B) Nervous system
- C) Circulatory system
- D) Respiratory system

Answer: B

Explanation: The brain and spinal cord constitute the central nervous system.

64. The primary source of energy for humans is:

- A) Proteins
- B) Carbohydrates
- C) Fats
- D) Vitamins

Answer: B

Explanation: Carbohydrates provide the body's primary energy source through glucose.

65. The process of removing waste from the body is:

- A) Digestion
- B) Excretion
- C) Respiration
- D) Circulation

Answer: B

Explanation: Excretion removes metabolic waste, primarily via the kidneys.

66. The organ that filters blood in the human body is:

- A) Liver
- B) Kidney
- C) Heart
- D) Lungs

Answer: B

Explanation: Kidneys filter blood to remove waste and produce urine.

67. Iodine deficiency causes:

- A) Scurvy
- B) Goiter
- C) Rickets
- D) Anemia

Answer: B

Explanation: Iodine deficiency leads to goiter, an enlargement of the thyroid gland.

68. The part of the plant that anchors it to the soil is:

- A) Stem
- B) Root
- C) Leaf
- D) Flower

Answer: B

Explanation: Roots anchor plants and absorb water and nutrients from the soil.

69. The smallest bone in the human body is:

- A) Femur
- B) Stapes
- C) Tibia
- D) Humerus

Answer: B

Explanation: The stapes, in the middle ear, is the smallest bone in the human body.

70. The release of water vapor from plants is called:

- A) Photosynthesis
- B) Transpiration
- C) Respiration
- D) Digestion

Answer: B

Explanation: Transpiration is the evaporation of water from plant leaves.

71. The lens in the human eye is:

- A) Concave
- B) Convex
- C) Plane
- D) Cylindrical

Answer: B

Explanation: The convex lens in the eye focuses light onto the retina.

72. The number of chromosomes in a human cell is:

- A) 23
- B) 46
- C) 48
- D) 50

Answer: B

Explanation: Human cells contain 46 chromosomes, arranged in 23 pairs.

73. The main greenhouse gas is:

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

Answer: C

Explanation: Carbon dioxide is the primary gas contributing to the greenhouse effect.

74. The study of living organisms is called:

- A) Physics
- B) Chemistry
- C) Biology
- D) Geology

Answer: C

Explanation: Biology is the science of studying living organisms and their interactions.

75. World Environment Day is celebrated on:

- A) 5 June
- B) 22 April
- C) 1 December
- D) 8 March

Answer: A

Explanation: World Environment Day, observed on 5 June, promotes environmental awareness.

76. The primary source of oxygen on Earth is:

- A) Animals
- B) Plants
- C) Oceans
- D) Atmosphere

Answer: B

Explanation: Plants produce oxygen through photosynthesis, a major source for the atmosphere.

77. Which disease is caused by a virus?

- A) Tuberculosis
- B) Influenza
- C) Malaria
- D) Cholera

Answer: B

Explanation: Influenza (flu) is caused by the influenza virus.

78. The largest gland in the human body is:

- A) Pancreas
- B) Liver
- C) Thyroid
- D) Pituitary

Answer: B

Explanation: The liver, the largest gland, aids in digestion and detoxification.

79. The process of cell division for growth is:

- A) Mitosis
- B) Meiosis
- C) Fission
- D) Fusion

Answer: A

Explanation: Mitosis is the process of cell division for growth and tissue repair.

80. The gas used in fire extinguishers is:

- A) Oxygen
- B) Carbon dioxide
- C) Nitrogen
- D) Hydrogen

Answer: B

Explanation: Carbon dioxide displaces oxygen to extinguish fires.

81. The vitamin essential for blood clotting is:

- A) Vitamin A
- B) Vitamin C
- C) Vitamin K
- D) Vitamin D

Answer: C

Explanation: Vitamin K is crucial for producing clotting factors in blood.

82. The ozone layer protects Earth from:

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

Answer: A

Explanation: The ozone layer absorbs harmful ultraviolet rays from the Sun.

83. The part of the brain responsible for balance is:

- A) Cerebrum
- B) Cerebellum
- C) Medulla
- D) Thalamus

Answer: B

Explanation: The cerebellum controls balance, coordination, and posture.

84. The main cause of water pollution is:

- A) Rainwater
- B) Industrial waste
- C) Natural springs
- D) Glacier melt

Answer: B

Explanation: Industrial waste, including chemicals, is a major water pollutant.

85. The "Red Data Book" lists:

- A) Endangered species
- B) Medicinal plants
- C) Fossil records
- D) Weather patterns

Answer: A

Explanation: The Red Data Book, published by IUCN, lists endangered and threatened species.

86. The blood cells that fight infections are:

- A) Red blood cells
- B) White blood cells
- C) Platelets
- D) Plasma

Answer: B

Explanation: White blood cells are part of the immune system, fighting infections.

87. The International Day for Biological Diversity is observed on:

- A) 5 June
- B) 22 May
- C) 22 April
- D) 1 December

Answer: B

Explanation: International Day for Biological Diversity is celebrated on 22 May.

88. The hormone that regulates blood sugar is:

- A) Adrenaline
- B) Insulin
- C) Thyroxine
- D) Estrogen

Answer: B

Explanation: Insulin, produced by the pancreas, regulates blood glucose levels.

89. The main cause of air pollution is:

- A) Volcanic eruptions
- B) Vehicle emissions
- C) Rainfall
- D) Wind

Answer: B

Explanation: Vehicle emissions release pollutants like carbon monoxide and particulate matter.

90. The plant tissue that conducts water is:

- A) Xylem
- B) Phloem
- C) Stomata
- D) Chloroplast

Answer: A

Explanation: Xylem transports water and minerals from roots to other parts of the plant.

91. Vitamin A deficiency causes:

- A) Night blindness
- B) Scurvy
- C) Rickets
- D) Beriberi

Answer: A

Explanation: Vitamin A deficiency leads to night blindness and vision issues.

92. The normal human body temperature is:

- A) 36°C
- B) 37°C
- C) 38°C
- D) 39°C

Answer: B

Explanation: Normal human body temperature is approximately 37°C (98.6°F).

93. The process of pollination in plants involves:

- A) Transfer of pollen to stigma
- B) Water transport

C) Food production

D) Waste removal

Answer: A

Explanation: Pollination is the transfer of pollen from anther to stigma, enabling fertilization.

94. The main component of biogas is:

A) Oxygen

B) Methane

C) Nitrogen

D) Carbon dioxide

Answer: B

Explanation: Methane is the primary component of biogas, a renewable energy source.

95. The deficiency of Vitamin D causes:

A) Scurvy

B) Rickets

C) Goiter

D) Anemia

Answer: B

Explanation: Vitamin D deficiency causes rickets, leading to weak bones in children.

96. The study of fossils is called:

A) Ecology

B) Paleontology

C) Botany

D) Zoology

Answer: B

Explanation: Paleontology is the study of fossils to understand past life forms.

97. The organ responsible for pumping blood is:

A) Liver

B) Kidney

C) Heart

D) Lungs

Answer: C

Explanation: The heart pumps blood throughout the body, supplying oxygen and nutrients.

98. The gas that causes acid rain is:

- A) Carbon monoxide
- B) Sulfur dioxide
- C) Oxygen
- D) Nitrogen

Answer: B

Explanation: Sulfur dioxide (SO₂) reacts with water vapor to form acid rain.

99. The primary source of soil pollution is:

- A) Rainfall
- B) Pesticides
- C) Wind
- D) Sunlight

Answer: B

Explanation: Pesticides and chemical fertilizers are major sources of soil pollution.

100. The part of the plant responsible for photosynthesis is:

- A) Root
- B) Stem
- C) Leaf
- D) Flower

Answer: C

Explanation: Leaves contain chlorophyll, which enables photosynthesis.

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