



NATIONAL ACADEMY OF
STEM, CYBERNETICS & AI

**NASCA STEAM Education
Programme
Question Bank for STEAM Quest
Junior Division, Grade 6-8**

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Multiple Choice Questions (MCQ) with Answer Key
200+ Questions across 4 Categories

Categories Covered:

1. Scientific Inquiry & Innovation (50 Questions)
2. Arts & Design in STEAM (50 Questions)
3. Technology & the Digital World (50 Questions)
4. Current Affairs & Contemporary STEAM (50 Questions)

Note: Correct answers are shown in bold.

Category 1: Scientific Inquiry & Innovation

Q1. Which of the following BEST describes a hypothesis?

- (A) A proven scientific fact
- (B) A testable prediction based on prior knowledge**
- (C) A conclusion drawn after an experiment
- (D) A random guess about an experiment

Q2. What is the purpose of a control group in a scientific experiment?

- (A) To provide the experimental variable
- (B) To serve as a standard for comparison**
- (C) To prove the hypothesis correct
- (D) To eliminate all variables

Q3. Which tool measures mass most accurately in a laboratory?

- (A) Spring scale
- (B) Graduated cylinder
- (C) Triple-beam balance**
- (D) Thermometer

Q4. Indian mathematician Aryabhata is known for which major contribution?

- (A) Inventing the printing press
- (B) Discovering zero and calculating pi**
- (C) Inventing the telescope
- (D) Developing the theory of gravity

Q5. The scientific method involves which of the following steps in correct order?

- (A) Hypothesis - Observation - Experiment - Conclusion
- (B) Observation - Hypothesis - Experiment - Conclusion**
- (C) Experiment - Hypothesis - Observation - Conclusion
- (D) Conclusion - Experiment - Hypothesis - Observation

Q6. Pakistani neuroscientist Dr. Aysha Akhtar is a pioneer in which field?

- (A) Nuclear physics
- (B) Neurological ethics and animal-free research**
- (C) Quantum computing
- (D) Space exploration

Q7. Which Asian scientist won the Nobel Prize in Physics in 2015 for discovering neutrino oscillations?

- (A) C. V. Raman
- (B) Takaaki Kajita**
- (C) Subrahmanyan Chandrasekhar
- (D) Srinivasa Ramanujan

Q8. Which of the following is an example of qualitative data?

- (A) The temperature is 37 degrees C
- (B) The liquid is bright blue in color**
- (C) The mass of the sample is 12 grams
- (D) The reaction takes 5 minutes

Q9. An experiment is repeated five times and gets different results each time. This indicates the experiment lacks:

- (A) Validity
- (B) Accuracy
- (C) Reliability**
- (D) Fairness

Q10. Which of the following is NOT a unit of measurement in the SI system?

- (A) Kilogram
- (B) Kelvin
- (C) Pound**
- (D) Ampere

Q11. Which instrument is used to observe microorganisms?

- (A) Telescope
- (B) Barometer
- (C) Microscope**
- (D) Seismograph

Q12. Indian-American astronaut Sunita Williams completed how many spacewalks during her career?

- (A) 3
- (B) 5
- (C) 7**
- (D) 9

Q13. A student observes that plants near windows grow taller. The best next step is to:

- (A) Write a conclusion
- (B) Form a hypothesis and design an experiment**
- (C) Read about plants online
- (D) Ask a teacher for the answer

Q14. The process of collecting data through the five senses is called:

- (A) Experimentation
- (B) Observation**
- (C) Inference
- (D) Prediction

Q15. Japanese researcher Shinya Yamanaka won the Nobel Prize in 2012 for work on:

- (A) Black holes
- (B) Induced pluripotent stem cells**
- (C) Gravitational waves
- (D) CRISPR gene editing

Q16. Which of the following best represents an innovation?

- (A) Repeating an old experiment
- (B) Reading a science textbook
- (C) Creating a new type of solar panel**
- (D) Observing a chemical reaction

Q17. What does peer review in science mean?

- (A) Students reviewing each other's homework
- (B) Scientists evaluating each other's research before publication**
- (C) A government approving scientific budgets
- (D) A teacher grading lab reports

Q18. The contribution of women to STEAM is symbolized by events like 'Girls in STEM Day' observed on:

- (A) January 1
- (B) February 11**
- (C) March 8
- (D) April 22

Q19. Subrahmanyan Chandrasekhar, an Indian-American astrophysicist, is known for:

- (A) Inventing the transistor
- (B) Developing Chandrasekhar limit for white dwarfs**
- (C) Discovering electrons
- (D) Formulating string theory

Q20. Which of the following is true about a good scientific question?

- (A) It can be answered with yes or no
- (B) It can be tested through investigation**
- (C) It must be answered in a single day
- (D) It requires no materials

Q21. What is meant by 'reproducibility' in science?

- (A) An experiment must be expensive
- (B) Others can repeat the experiment and get similar results**
- (C) The experiment should use the same scientist
- (D) Results must always be positive

Q22. The branch of science that studies the interaction of living organisms with their environment is:

- (A) Genetics
- (B) Ecology**
- (C) Anatomy
- (D) Microbiology

Q23. Korean scientist Hwang Woo-suk's case in 2004 became an important lesson in:

- (A) Space exploration
- (B) Scientific fraud and ethics**
- (C) Robotics design
- (D) Climate modeling

Q24. Which of the following statements about a scientific theory is correct?

- (A) A theory is just a guess
- (B) A theory is a well-tested explanation supported by evidence**
- (C) A theory is the same as a hypothesis
- (D) A theory cannot be changed

Q25. What is the role of a 'variable' in an experiment?

- (A) It keeps the experiment the same
- (B) It is a factor that can be changed or measured**
- (C) It is always held constant
- (D) It determines the hypothesis

Q26. Which Asian country launched its first moon mission, Chandrayaan-1, in 2008?

- (A) China
- (B) Japan
- (C) South Korea
- (D) India**

Q27. A student forms a hypothesis: 'Plants grow taller with more sunlight.' This hypothesis is:

- (A) Not testable
- (B) Testable and scientific**
- (C) A proven law
- (D) An observation only

Q28. The unit used to measure temperature in the SI system is:

- (A) Celsius
- (B) Fahrenheit
- (C) Kelvin**
- (D) Rankine

Q29. Who was the first Asian woman in space?

- (A) Kalpana Chawla**
- (B) Peggy Whitson
- (C) Yi So-yeon
- (D) Sunita Williams

Q30. An experiment that produces the same results each time it is repeated is said to be:

- (A) Accurate
- (B) Reliable**
- (C) Valid
- (D) Precise

Q31. Which of these is an example of a STEM innovation from Japan?

- (A) Invention of the transistor

(B) Development of the Shinkansen bullet train

(C) Creation of the internet

(D) Discovery of DNA structure

Q32. What is the correct definition of 'inference' in science?

(A) A direct measurement

(B) A conclusion drawn from observations

(C) A random guess

(D) A controlled variable

Q33. Dr. Kiran Mazumdar-Shaw is known for her contributions to which STEAM field?

(A) Quantum physics

(B) Biotechnology and biopharmaceuticals

(C) Space engineering

(D) Artificial intelligence

Q34. Why is it important to record data during an experiment?

(A) To make the experiment longer

(B) To have accurate information for analysis and conclusions

(C) To impress the teacher

(D) To use more equipment

Q35. Which of the following is an example of quantitative data?

(A) The flower is red

(B) The liquid smells sweet

(C) The temperature increased by 5 degrees C

(D) The rock is rough

Q36. Vikram Sarabhai is considered the father of the Indian space programme. Which organisation did he help establish?

(A) DRDO

(B) ISRO

(C) BARC

(D) CSIR

Q37. Which of the following best describes the 'scientific community'?

(A) A group of science students

(B) Scientists who share and review each other's work globally

(C) A government body

(D) Only Nobel Prize winners

Q38. In the scientific method, what comes immediately after forming a hypothesis?

(A) Observation

(B) Conclusion

(C) Experiment design

(D) Reporting results

Q39. The term 'STEAM' adds which subject to the original 'STEM' acronym?

(A) Sports

(B) Arts

(C) Agriculture

(D) Astronomy

Q40. Which Asian Nobel laureate developed the concept of 'Grameen Bank' applying science to social innovation?

(A) A. P. J. Abdul Kalam

(B) Muhammad Yunus

(C) Amartya Sen

(D) C. V. Raman

Q41. What does a bar graph best represent?

(A) Change over time

(B) Comparison of different categories

(C) Parts of a whole

(D) Relationship between two variables

Q42. Which of the following is an example of a controlled variable?

(A) Amount of sunlight given to plants

(B) Height of plants after two weeks

(C) Type of fertiliser used

(D) Temperature kept constant at 25 degrees C

Q43. Chinese American physicist Steven Chu is known for:

(A) Discovering the electron

(B) Developing laser cooling of atoms

(C) Inventing MRI machines

(D) Building the first computer

Q44. The variable that CHANGES in response to the independent variable is the:

(A) Controlled variable

(B) Dependent variable

(C) Fixed variable

(D) Random variable

Q45. What is a 'prototype' in the context of innovation?

(A) A final product ready for sale

(B) A preliminary model of a new invention

(C) A scientific law

(D) A type of hypothesis

Q46. Which Indian mathematician is famous for his work on infinite series and number theory?

(A) Aryabhata

(B) Brahmagupta

(C) Srinivasa Ramanujan

(D) C. V. Raman

Q47. A student tests if salt affects the boiling point of water. The amount of salt added is the:

(A) Dependent variable

(B) Controlled variable

(C) Independent variable

(D) Random variable

Q48. What is the importance of having a large sample size in an experiment?

(A) It saves time

(B) It makes results more reliable and reduces error

(C) It makes experiments more complicated

(D) It requires less equipment

Q49. Which female Asian scientist made significant contributions to crystallography and the study of biomolecules in China?

(A) Tu Youyou

(B) Dorothy Hodgkin

(C) Dorothy Crowfoot

(D) Liang Sicheng

Category 2: Arts & Design in STEAM

Q50. The Fibonacci sequence is found in which of the following natural patterns?

(A) The structure of salt crystals

(B) The spiral arrangement of sunflower seeds

(C) The shape of a rectangle

(D) The pattern of rain

Q51. Which principle in art describes the mathematical ratio approximately equal to 1.618?

(A) Pythagoras ratio

(B) Golden ratio

(C) Silver ratio

(D) Pi ratio

- Q52. The famous Taj Mahal in India demonstrates which mathematical concept in its design?
- (A) Fractal geometry
 - (B) Bilateral symmetry**
 - (C) The Fibonacci spiral
 - (D) Tessellation
- Q53. What is a tessellation?
- (A) A type of painting style
 - (B) A pattern of shapes that fit together without gaps or overlaps**
 - (C) A musical scale
 - (D) A type of sculpture
- Q54. Which of the following best describes the use of science in photography?
- (A) Only artistic choices are involved
 - (B) Light, lenses, and sensors use principles of physics and chemistry**
 - (C) Photography is purely a social science
 - (D) No science is used in photography
- Q55. The ancient Indian art form of Rangoli demonstrates which mathematical concept?
- (A) Calculus
 - (B) Symmetry and geometric patterns**
 - (C) Probability
 - (D) Linear equations
- Q56. In music, the relationship between notes can be described using:
- (A) Chemical formulae
 - (B) Mathematical ratios and frequencies**
 - (C) Biological processes
 - (D) Geological timescales
- Q57. Which famous architect used mathematical principles extensively to design the Lotus Temple in New Delhi?
- (A) Fariborz Sahba**
 - (B) Zaha Hadid
 - (C) Le Corbusier
 - (D) Frank Lloyd Wright
- Q58. The use of perspective in drawing relates to which branch of mathematics?
- (A) Algebra
 - (B) Statistics
 - (C) Geometry**
 - (D) Number theory

Q59. What is the connection between dance and science?

- (A) There is no connection
- (B) Dance uses physics (balance, force, motion) and anatomy**
- (C) Dance uses only chemistry
- (D) Dance is purely an emotional art

Q60. Which ancient Asian civilisation is credited with the earliest known use of geometric designs in art?

- (A) Mesopotamia
- (B) Indus Valley Civilisation**
- (C) Roman Empire
- (D) Maya civilisation

Q61. Fractals are patterns that repeat at different scales. Which natural object shows a fractal pattern?

- (A) A smooth glass ball
- (B) A snowflake**
- (C) A solid metal cube
- (D) A drop of water

Q62. The Japanese art of paper folding, Origami, is related to which area of mathematics?

- (A) Statistics
- (B) Number theory
- (C) Geometry and topology**
- (D) Calculus

Q63. Which of the following is an example of mathematical patterns in architecture?

- (A) Choosing paint color
- (B) The repeating arches in Islamic architecture**
- (C) The size of a door
- (D) The number of windows in a house

Q64. What does CGI (Computer Generated Imagery) in films rely on?

- (A) Only artistic creativity
- (B) Mathematics, physics simulations, and computing**
- (C) Only chemical processes
- (D) Only biological models

Q65. The paintings of M. F. Husain from India are known for incorporating:

- (A) Chemical formulas into artwork
- (B) Cultural heritage and expressive geometry in form**
- (C) Biological diagrams
- (D) Astronomical charts

Q66. Sound engineering in music relies heavily on which branch of physics?

- (A) Nuclear physics
- (B) Acoustics and wave physics**
- (C) Astrophysics
- (D) Thermodynamics

Q67. The concept of symmetry in art is mathematically defined as:

- (A) Two shapes having the same area
- (B) A shape that looks the same after a transformation**
- (C) A pattern that increases in size
- (D) A random arrangement of shapes

Q68. Which Indian classical dance form is often described as a moving sculpture due to its precise geometric postures?

- (A) Kathak
- (B) Bhangra
- (C) Bharatanatyam**
- (D) Garba

Q69. The Great Wall of China is an example of which combination of disciplines?

- (A) Biology and chemistry
- (B) Engineering, geography, and cultural heritage**
- (C) Physics and art only
- (D) Mathematics only

Q70. What is 'biomimicry' in design?

- (A) Designing buildings that destroy nature
- (B) Designing solutions inspired by patterns and strategies found in nature**
- (C) Using only biological materials
- (D) Making art from living organisms

Q71. The lattice patterns in Islamic art demonstrate which mathematical concept?

- (A) Prime numbers
- (B) Tessellations and geometric symmetry**
- (C) The Fibonacci sequence
- (D) Calculus

Q72. Which of the following is a famous example of science inspiring artistic representation?

- (A) Painting a landscape
- (B) Leonardo da Vinci's anatomical sketches**
- (C) Writing a poem about rain
- (D) Taking a photograph of a mountain

- Q73. The Angkor Wat temple complex in Cambodia aligns with which astronomical phenomenon?
- (A) The orbit of Jupiter
 - (B) The solar solstice and equinox**
 - (C) The phases of the moon
 - (D) The Milky Way centre
- Q74. What is the role of mathematics in music composition?
- (A) Mathematics is never used in music
 - (B) Rhythm, time signatures, and scales are based on mathematical relationships**
 - (C) Music is purely emotional
 - (D) Only fractions are used in music
- Q75. Which ancient Asian architectural style uses repeated fractal-like towers called 'gopurams'?
- (A) Chinese pagoda
 - (B) Dravidian temple architecture**
 - (C) Mughal architecture
 - (D) Korean hanok
- Q76. The science of colour in art is connected to which area of physics?
- (A) Nuclear physics
 - (B) The electromagnetic spectrum and light optics**
 - (C) Thermodynamics
 - (D) Mechanics
- Q77. Which of the following best explains how data visualisation combines STEAM disciplines?
- (A) It is only about mathematics
 - (B) It combines data (Science/Math), visual design (Art), and technology (Computing)**
 - (C) It only uses technology
 - (D) It is purely artistic
- Q78. The traditional Indian craft of Warli painting uses which geometric shape as its primary element?
- (A) Circle
 - (B) Triangle**
 - (C) Square
 - (D) Hexagon
- Q79. 3D printing technology is used in which creative and scientific field?
- (A) Only manufacturing
 - (B) Sculpture, architecture, medicine, and engineering**
 - (C) Only food production

(D) Only fashion

Q80. Which of the following cultural heritages from Asia is listed as a UNESCO World Heritage Site?

- (A) The Arc de Triomphe
- (B) The Borobudur Temple in Indonesia**
- (C) The Eiffel Tower
- (D) The Statue of Liberty

Q81. The Japanese concept of 'Ma' in design refers to:

- (A) Maximum use of space
- (B) The strategic use of empty space and negative space**
- (C) Using bright colors only
- (D) Building the tallest structures

Q82. What mathematical concept is represented by a spiral staircase?

- (A) Linear function
- (B) Parabola
- (C) Helix (three-dimensional spiral)**
- (D) Hyperbola

Q83. Which technology allows artists to create immersive virtual reality art experiences?

- (A) Solar panels
- (B) VR headsets and 3D computing**
- (C) Microscopes
- (D) Seismographs

Q84. The art installation at the Kochi Biennale, India, often combines art with which STEAM disciplines?

- (A) Agriculture and biology only
- (B) Technology, social science, and environmental science**
- (C) Purely traditional painting
- (D) Only mathematics

Q85. Penrose tiling, a pattern that never repeats, is named after which scientist-mathematician?

- (A) Alan Turing
- (B) Roger Penrose**
- (C) Isaac Newton
- (D) Stephen Hawking

Q86. Which of the following describes the role of mathematics in pottery?

- (A) No mathematics is involved
- (B) Circular symmetry, volume calculations, and geometric forms are used**

- (C) Only chemical knowledge is needed
- (D) Only physics is required

Q87. The term 'generative art' refers to art that is:

- (A) Drawn by hand only
- (B) Created using algorithms and computer code**
- (C) Made from recycled materials
- (D) Inspired by nature only

Q88. Which principle from physics explains why a dome shape is structurally strong in architecture?

- (A) Newton's third law only
- (B) Distribution of compressive forces along curved surfaces**
- (C) Electromagnetic induction
- (D) Gravity is weaker at the top

Q89. The 'Rule of Thirds' used in photography is a concept from which discipline?

- (A) Organic chemistry
- (B) Visual geometry and spatial mathematics**
- (C) Nuclear physics
- (D) Molecular biology

Q90. Which of the following crafts from Asia demonstrates advanced knowledge of natural dyes (chemistry)?

- (A) Kalamkari and Batik textile arts**
- (B) Architectural blueprints
- (C) Computer programming
- (D) Robotics design

Q91. The use of fractals in computer graphics to model realistic landscapes is an example of:

- (A) Art replacing science
- (B) Mathematics and computing enhancing artistic representation**
- (C) Purely scientific research
- (D) Only engineering work

Q92. Which of the following best describes 'sustainable design'?

- (A) Design that focuses only on aesthetics
- (B) Design that considers environmental impact and uses resources responsibly**
- (C) Design that is very expensive
- (D) Design that uses only modern materials

Q93. The repetition of patterns in traditional Asian weaving such as silk brocade is related to:

- (A) Random chance
- (B) Mathematical sequences and symmetry**
- (C) Trial and error
- (D) The wishes of the weaver only

Q94. Which artistic technique used in Indian miniature painting involves extremely precise, small-scale detail that relates to scientific observation?

- (A) Abstract expressionism
- (B) Pointillism
- (C) Detailed naturalistic miniature painting**
- (D) Graffiti art

Q95. What is an 'algorithm' in the context of digital art?

- (A) A type of paintbrush
- (B) A step-by-step set of instructions used to create patterns or images**
- (C) A musical instrument
- (D) A sculpture technique

Q96. The concept of the 'golden spiral' appears in which natural structure?

- (A) A flat leaf
- (B) The shell of a nautilus**
- (C) A straight crystal
- (D) A river delta

Q97. Korean traditional architecture (Hanok) uses which scientific principle in its curved roof design?

- (A) Nuclear energy
- (B) Natural ventilation and thermal regulation**
- (C) Solar power
- (D) Magnetic force

Q98. Which famous Asian architectural wonder uses a precise ratio of height to base?

- (A) The Great Wall of China
- (B) The Great Pyramid-inspired stupas of Asia**
- (C) The Burj Khalifa
- (D) Modern skyscrapers

Q99. The connection between computer science and visual art is best demonstrated by:

- (A) Writing essays about art
- (B) Graphic design software, digital painting, and animation**
- (C) Only printing artworks
- (D) Only taking photographs

Q100. What does 'wabi-sabi' in Japanese aesthetics teach about design and science?

- (A) Perfection is the highest goal
- (B) Finding beauty in imperfection and the natural aging process**
- (C) Using only synthetic materials
- (D) Creating only symmetrical designs

Category 3: Technology & the Digital World

Q101. What does CPU stand for in computing?

- (A) Central Processing Unit**
- (B) Computer Power Unit
- (C) Central Power Utility
- (D) Core Processing Utility

Q102. Which programming language is most commonly recommended for beginners?

- (A) Assembly
- (B) C++
- (C) Python**
- (D) Fortran

Q103. What is the binary number system based on?

- (A) Base 8
- (B) Base 10
- (C) Base 2**
- (D) Base 16

Q104. Which Asian country is the world's largest manufacturer of semiconductors?

- (A) China
- (B) Japan
- (C) South Korea
- (D) Taiwan**

Q105. What is Artificial Intelligence (AI)?

- (A) A type of robot that looks human
- (B) The simulation of human intelligence by machines**
- (C) A computer that can only add numbers
- (D) A type of coding language

Q106. Which of the following is an example of a robot used for 'good' (beneficial purpose)?

- (A) A robot designed to spy on people
- (B) A surgical robot that helps doctors perform precise operations**
- (C) A robot that replaces voters
- (D) A robot that hacks computers

Q107. What is cybersecurity?

- (A) Creating websites
- (B) Protecting computer systems and networks from attacks**
- (C) Designing hardware
- (D) Writing software code

Q108. Which Japanese company pioneered the development of the first commercially available humanoid robot, ASIMO?

- (A) Sony
- (B) Honda**
- (C) Toyota
- (D) Panasonic

Q109. What is 'phishing' in the context of cybersecurity?

- (A) A type of programming language
- (B) A method of catching fish using computers
- (C) A fraudulent attempt to obtain sensitive information by posing as a trusted entity**
- (D) A way to speed up a computer

Q110. What does RAM stand for in computing?

- (A) Read and Manage
- (B) Random Access Memory**
- (C) Rapid Application Module
- (D) Remotely Activated Machine

Q111. Which of the following is an example of an OUTPUT device?

- (A) Keyboard
- (B) Mouse
- (C) Monitor**
- (D) Scanner

Q112. The Internet of Things (IoT) refers to:

- (A) A website about internet history
- (B) Physical devices connected to the internet that can collect and share data**
- (C) A type of virus
- (D) A social media platform

Q113. Which Asian country launched its own 5G network among the first in the world?

- (A) Vietnam
- (B) India
- (C) South Korea**
- (D) Bangladesh

Q114. What is 'open source' software?

- (A) Software that is very expensive
- (B) Software whose source code is freely available to the public**
- (C) Software that can only be used offline
- (D) Software developed only by governments

Q115. In robotics, what does the term 'actuator' refer to?

- (A) A type of sensor
- (B) A power source
- (C) A component that moves or controls a mechanism**
- (D) A type of programming language

Q116. What is machine learning?

- (A) Teaching robots to read books
- (B) A type of AI where computers learn from data without being explicitly programmed**
- (C) A human learning to use machines
- (D) Programming robots manually

Q117. Which of the following is considered good 'digital etiquette'?

- (A) Sharing personal information online without permission
- (B) Cyberbullying others
- (C) Respecting others' privacy and being kind online**
- (D) Sending spam messages

Q118. What is the function of a 'firewall' in cybersecurity?

- (A) To cool down computers
- (B) To block unauthorised access to a network**
- (C) To increase internet speed
- (D) To create backups of data

Q119. India's UPI (Unified Payments Interface) is an example of innovation in which field?

- (A) Space technology
- (B) Agricultural technology
- (C) Financial technology (FinTech)**
- (D) Healthcare technology

Q120. Which of the following best describes 'coding'?

- (A) Breaking secret messages
- (B) Writing instructions in a programming language for a computer to follow**
- (C) Designing hardware components
- (D) Building robots physically

Q121. What does 'www' stand for in a web address?

- (A) World Wide Web**
- (B) World Web Works

- (C) Wide Web World
- (D) Web Work Worldwide

Q122. Which country developed the messaging app WeChat, used by over a billion people?

- (A) Japan
- (B) South Korea
- (C) China**
- (D) India

Q123. What is 'cloud computing'?

- (A) Computing using weather satellites
- (B) Storing and accessing data and programs over the internet**
- (C) A type of gaming
- (D) Coding for weather forecasting

Q124. Which of the following is a good practice for creating a secure password?

- (A) Using your birthday
- (B) Using a combination of letters, numbers, and symbols**
- (C) Using the word 'password'
- (D) Using only lowercase letters

Q125. In computing, what is an algorithm?

- (A) A type of computer virus
- (B) A step-by-step set of instructions to solve a problem**
- (C) A hardware component
- (D) A type of data storage

Q126. Which Asian tech company is the world's largest manufacturer of smartphones as of recent years?

- (A) Xiaomi
- (B) Huawei
- (C) Samsung**
- (D) Oppo

Q127. What is the purpose of an operating system (OS)?

- (A) To connect the computer to the internet only
- (B) To manage computer hardware and software resources**
- (C) To write code
- (D) To design websites

Q128. Which of the following best describes Artificial Intelligence being used 'for good'?

- (A) AI used to create fake news
- (B) AI used to detect diseases early from medical scans**
- (C) AI used to hack bank accounts

(D) AI used to replace all human workers

Q129. What does 'HTML' stand for?

- (A) **Hyper Text Markup Language**
- (B) High Technical Machine Language
- (C) Hard Text Making Language
- (D) Hyper Transfer Markup Language

Q130. South Korean company Samsung is a global leader in producing which electronic component critical to all computers?

- (A) Solar panels
- (B) **Memory chips (DRAM and NAND flash)**
- (C) Aircraft engines
- (D) Medical devices only

Q131. What is 'virtual reality' (VR)?

- (A) A type of computer virus
- (B) **An immersive, simulated environment experienced through a headset**
- (C) A type of coding language
- (D) A hardware upgrade

Q132. Which of the following is an example of digital etiquette when sharing content online?

- (A) Share anything without checking facts
- (B) **Always give credit to the original creator**
- (C) Copy others' work without permission
- (D) Ignore copyright laws

Q133. Which Asian country is known for its 'Silicon Valley equivalent' called the Zhongguancun Science Park?

- (A) Japan
- (B) India
- (C) South Korea
- (D) **China**

Q134. A 'bot' in computing is best described as:

- (A) A small robot toy
- (B) **An automated software application that performs tasks on the internet**
- (C) A type of storage device
- (D) A cybersecurity tool only

Q135. What is augmented reality (AR)?

- (A) A fully simulated virtual world
- (B) **An enhanced version of reality with digital overlays on the real world**
- (C) A type of cybersecurity

(D) A programming language

Q136. Japan's bullet train (Shinkansen) uses which cutting-edge technology?

(A) Only steam power

(B) Magnetic levitation (Maglev) technology in its latest version

(C) Solar energy exclusively

(D) Nuclear fuel directly

Q137. What is 'data privacy'?

(A) Making all data public

(B) The right of individuals to control how their personal information is collected and used

(C) Storing data in the cloud

(D) Encrypting all files permanently

Q138. Which of the following is a SENSOR commonly used in robots?

(A) Actuator

(B) Motor

(C) Ultrasonic distance sensor

(D) Power supply

Q139. Aadhaar, a biometric identification system, was developed in which Asian country?

(A) China

(B) Bangladesh

(C) India

(D) Singapore

Q140. What is 'encryption' in cybersecurity?

(A) Deleting all files

(B) Converting data into a coded form to prevent unauthorised access

(C) Creating backups

(D) Scanning for viruses

Q141. Which of the following is NOT an input device?

(A) Keyboard

(B) Microphone

(C) Printer

(D) Webcam

Q142. What does 'debugging' mean in programming?

(A) Adding new features to software

(B) Finding and fixing errors in computer code

(C) Deleting unused programs

(D) Updating the operating system

Q143. Singapore's Smart Nation initiative is an example of using technology for:

- (A) Military purposes only
- (B) Improving quality of life through digital transformation of public services**
- (C) Increasing tourism
- (D) Creating entertainment content

Q144. Which company, founded in China, created the world's most downloaded app TikTok?

- (A) Alibaba
- (B) Tencent
- (C) ByteDance**
- (D) Baidu

Q145. What is a 'network' in computing?

- (A) A single computer
- (B) A group of interconnected computers that can share data**
- (C) A type of programming language
- (D) A type of storage device

Q146. Which of the following describes 'green technology'?

- (A) Technology that is painted green
- (B) Technology designed to minimise environmental impact**
- (C) Technology used only in forests
- (D) Old technology recycled for new uses

Q147. What is a 'software application' (app)?

- (A) A physical computer component
- (B) A set of programs designed to perform a specific task for users**
- (C) A type of hardware
- (D) A computer network

Q148. Which Asian country is leading in the development of autonomous (self-driving) vehicles?

- (A) Bangladesh
- (B) Nepal
- (C) China and Japan**
- (D) Sri Lanka

Q149. The term 'digital footprint' refers to:

- (A) The size of a computer file
- (B) The trail of data that a person leaves on the internet**
- (C) A type of hacking
- (D) Computer memory usage

Q150. What is 'drone technology' primarily used for in agriculture in Asia?

- (A) Entertainment only
- (B) Crop monitoring and precision spraying of fertilisers**
- (C) Building construction
- (D) Mining operations

Q151. Which of the following best describes 'blockchain' technology?

- (A) A type of game
- (B) A decentralised digital ledger that records transactions securely**
- (C) A type of social media
- (D) A programming language for robots

Category 4: Current Affairs & Contemporary STEAM

Q152. The United Nations Sustainable Development Goals (SDGs) include how many goals in total?

- (A) 10
- (B) 15
- (C) 17**
- (D) 20

Q153. Which SDG focuses specifically on quality education for all?

- (A) SDG 1
- (B) SDG 4**
- (C) SDG 7
- (D) SDG 13

Q154. CRISPR-Cas9 is a revolutionary technology used for:

- (A) Space exploration
- (B) Gene editing in living organisms**
- (C) Quantum computing
- (D) Artificial intelligence development

Q155. The Nobel Prize in Physics 2023 was awarded for work on:

- (A) Quantum entanglement
- (B) Attosecond pulses of light for studying electrons**
- (C) Gravitational waves
- (D) Neutrino oscillations

Q156. Which Asian space mission successfully landed a rover near the south pole of the Moon in 2023?

- (A) China's Chang'e-5
- (B) Japan's SLIM

(C) India's Chandrayaan-3

(D) South Korea's Danuri

Q157. What does 'climate change' primarily refer to in current scientific discussion?

(A) Daily changes in weather

(B) Long-term shifts in global temperatures and weather patterns due to human activity

(C) Changes in ocean colour

(D) Seasonal variations in rainfall

Q158. Which of the following technologies is central to renewable energy efforts worldwide?

(A) Coal-fired power plants

(B) Solar panels and wind turbines

(C) Diesel generators

(D) Nuclear fission only

Q159. SDG 13 focuses on which critical global issue?

(A) Zero hunger

(B) Good health and well-being

(C) Climate action

(D) Life below water

Q160. The 'James Webb Space Telescope' is primarily designed to study:

(A) Ocean floors

(B) The earliest galaxies and atmospheres of exoplanets

(C) The interior of the Earth

(D) Weather patterns on Earth

Q161. Which youth-led climate activist from Asia became widely recognised for environmental activism?

(A) Greta Thunberg

(B) Licypriya Kangujam

(C) Malala Yousafzai

(D) Sunita Williams

Q162. What is the purpose of the Paris Agreement (2015) in the context of STEAM and SDGs?

(A) To promote tourism in Paris

(B) To limit global warming by reducing greenhouse gas emissions

(C) To build more factories

(D) To develop new weapons

Q163. The term 'biodiversity' in current environmental science refers to:

(A) The variety of technology types

(B) The variety of life forms in a given ecosystem

- (C) The diversity of human cultures
- (D) The range of climatic zones

Q164. Which Asian country has made significant progress toward 100% renewable energy with its massive solar farms?

- (A) Nepal
- (B) India**
- (C) Bhutan
- (D) Myanmar

Q165. What is a 'pandemic' in medical science?

- (A) A local outbreak of disease
- (B) A disease that spreads across multiple countries or worldwide**
- (C) A disease that only affects animals
- (D) A seasonal illness

Q166. mRNA vaccines, used widely during COVID-19, were developed using breakthroughs by:

- (A) Only Asian scientists
- (B) Katalin Karikó and Drew Weissman (Nobel Prize 2023)**
- (C) A single pharmaceutical company
- (D) Government agencies alone

Q167. Which youth-led STEAM initiative in India aims to empower rural girls with coding skills?

- (A) Make in India
- (B) Nanhi Kali**
- (C) Girls Who Code India
- (D) Digital India only

Q168. What is 'green hydrogen' in the context of clean energy?

- (A) Hydrogen that is dyed green
- (B) Hydrogen produced using renewable energy through electrolysis of water**
- (C) A type of fossil fuel
- (D) A chemical used in batteries

Q169. The concept of 'circular economy' in STEAM relates to:

- (A) Economies that only use circular roads
- (B) A system where waste from one process becomes the input for another, reducing waste**
- (C) A type of mathematics
- (D) Stock market cycles

Q170. Which SDG focuses on affordable and clean energy?

- (A) SDG 2
- (B) SDG 5
- (C) SDG 7**
- (D) SDG 11

Q171. China's FAST (Five-hundred-metre Aperture Spherical Telescope) is the world's:

- (A) Largest optical telescope
- (B) Largest radio telescope**
- (C) Most powerful space telescope
- (D) Fastest satellite

Q172. What breakthrough in artificial intelligence was demonstrated by AlphaFold 2 (DeepMind)?

- (A) Creating digital art
- (B) Predicting the 3D structure of proteins with high accuracy**
- (C) Winning at chess
- (D) Translating all languages

Q173. Which of the following is a youth-led STEAM project addressing the UN SDGs?

- (A) Playing video games
- (B) Creating a water purification system for rural communities**
- (C) Buying new textbooks
- (D) Building a museum

Q174. What is the main environmental concern associated with e-waste?

- (A) It is too heavy to carry
- (B) It contains toxic substances that can harm ecosystems**
- (C) It takes up too much space
- (D) It produces too much noise

Q175. The Nobel Peace Prize 2014 was jointly awarded to which Asian activist for children's right to education?

- (A) Aung San Suu Kyi
- (B) Malala Yousafzai**
- (C) Licypriya Kangujam
- (D) Vandana Shiva

Q176. What is 'space debris' and why is it a concern?

- (A) Rocks found on the moon
- (B) Defunct satellites and fragments in Earth's orbit posing collision risks**
- (C) Dust on Mars
- (D) Material from meteor showers

Q177. Which Asian country is one of the largest investors in artificial intelligence research globally?

- (A) Nepal
- (B) Sri Lanka
- (C) China**
- (D) Bhutan

Q178. The SDG that focuses on 'Reduced Inequalities' is:

- (A) SDG 8
- (B) SDG 10**
- (C) SDG 12
- (D) SDG 15

Q179. What technology do scientists use to monitor deforestation in real time using satellites?

- (A) Ground-based radar only
- (B) Remote sensing and GIS (Geographic Information Systems)**
- (C) Underwater sonar
- (D) Nuclear scanning

Q180. Which Indian-origin scientist won the Nobel Prize in Economics 2019 for work on alleviating global poverty?

- (A) Amartya Sen
- (B) Abhijit Banerjee**
- (C) Manmohan Singh
- (D) C. K. Prahalad

Q181. What is 'food security' in the context of SDG 2?

- (A) Locking food in secure containers
- (B) Ensuring all people have access to sufficient, safe, and nutritious food**
- (C) Protecting food factories from theft
- (D) Preserving traditional food recipes

Q182. Which of the following is an example of a 'wearable technology' with health applications?

- (A) Desktop computer
- (B) Smart watch that monitors heart rate and blood oxygen levels**
- (C) Television
- (D) Gaming console

Q183. The concept of 'smart cities' in Asia involves:

- (A) Cities with only smart people
- (B) Using technology and data to improve urban services and quality of life**
- (C) Cities that are very tall

(D) Cities with only electric vehicles

Q184. Which of the following is a major current concern about the widespread use of AI?

- (A) AI makes computers too fast
- (B) Bias in AI systems leading to unfair outcomes**
- (C) AI creates too many jobs
- (D) AI makes screens brighter

Q185. What does 'carbon footprint' mean?

- (A) The size of a person's shoe in carbon fiber
- (B) The total amount of greenhouse gases produced by an individual, organisation, or product**
- (C) The shadow left by burning coal
- (D) The carbon content of fossil fuels

Q186. The Nipah virus outbreaks in Asia highlighted the importance of which field of STEAM?

- (A) Astrophysics
- (B) Epidemiology and public health science**
- (C) Robotics
- (D) Quantum computing

Q187. Which Indian student team created a prize-winning satellite called 'Kalamsat' (the world's lightest satellite)?

- (A) Students from IIT Delhi
- (B) Students led by Rifath Sharook from Tamil Nadu**
- (C) ISRO adult scientists
- (D) NASA interns

Q188. SDG 3 focuses on:

- (A) Zero hunger
- (B) Quality education
- (C) Good health and well-being**
- (D) Clean water

Q189. Which Asian country has launched multiple reusable rockets as part of its space programme?

- (A) Nepal
- (B) China**
- (C) Bangladesh
- (D) Myanmar

Q190. What is 'precision agriculture'?

- (A) Using very precise measuring tools in a laboratory

- (B) Using technology like GPS, drones, and sensors to optimise farming**
- (C) Growing crops in precise rows only
- (D) Farming in small urban plots

Q191. The Nobel Prize in Chemistry 2020 was awarded for the development of which genome-editing tool?

- (A) PCR technique
- (B) CRISPR-Cas9**
- (C) DNA sequencing
- (D) Gel electrophoresis

Q192. Which of the following is an SDG goal directly related to STEAM education?

- (A) SDG 16 - Peace, Justice
- (B) SDG 4 - Quality Education**
- (C) SDG 1 - No Poverty
- (D) SDG 14 - Life Below Water

Q193. What is the significance of the International Space Station (ISS) for current science?

- (A) It is used as a hotel
- (B) It is a laboratory for microgravity research and international scientific cooperation**
- (C) It is a military base
- (D) It is used to mine asteroids

Q194. Which current global health challenge involves antimicrobial resistance (AMR)?

- (A) Bacteria and viruses becoming ineffective against environmental pollution
- (B) Bacteria evolving resistance to antibiotics, making infections harder to treat**
- (C) Antimatter colliding with medicine
- (D) Animals becoming resistant to vaccines

Q195. The concept of 'One Health' in current scientific thinking refers to:

- (A) One type of healthcare system
- (B) The interconnectedness of human, animal, and environmental health**
- (C) A single hospital treating all diseases
- (D) One vaccine for all diseases

Q196. Which youth-led environmental project in Asia plants millions of trees to restore degraded forests?

- (A) Build in Asia
- (B) Green Belt Movement
- (C) Million Tree Project initiatives across India, China, and Korea**
- (D) Amazon Watch

Q197. What role do women play in advancing STEAM as highlighted by the UN?

- (A) Women should only be in arts subjects

(B) Increasing women's participation in STEAM is essential for innovation and achieving SDGs

(C) Women are less capable in science

(D) Women should focus on traditional roles

Q198. What is 'nanotechnology'?

(A) Technology used to make very large structures

(B) Manipulation of matter at an extremely small scale (nanometres) with applications in medicine and materials

(C) Technology used for nano-sized robots visible to the eye

(D) Study of very small insects

Q199. Which recent Asian Nobel Prize winner in Physics (2019) contributed to our understanding of the universe's evolution?

(A) Takaaki Kajita

(B) James Peebles (Canadian) alongside discovery work

(C) Syukuro Manabe (Japanese-American) for climate modeling in 2021

(D) Shuji Nakamura

Q200. What is the connection between STEAM and SDG 6 (Clean Water and Sanitation)?

(A) No connection exists

(B) Scientists and engineers use STEAM to develop water purification and sanitation technologies

(C) Only governments can solve water issues

(D) SDG 6 is only about rain

Q201. What does 'open data' in current science and technology mean?

(A) Data that is unlocked with a key

(B) Data freely available to the public to use, share, and build upon

(C) Data shared only among paid subscribers

(D) Only data from open-source projects

Q202. The launch of ChatGPT and similar large language models represents a major development in which field?

(A) Space exploration

(B) Artificial intelligence and natural language processing

(C) Biotechnology

(D) Nuclear physics

(E)

