

SNGS ACADEMY
SAMPLE PAPER FOR TALENT REWARD TEST
GRADE 8

MATHEMATICS

1. Find the next number in the series: 2, 9, 28, 65, 126, ?
A) 195 B) 204 C) 210 D) 217
2. Find the next number in the series: 3, 7, 16, 35, 74, ?
A) 145 B) 149 C) 153 D) 157
3. 15th August 2023 was a Tuesday. Given that 2024 is a leap year, what day of the week was 15th August 2024?
A) Thursday B) Wednesday C) Friday D) Saturday
4. Republic Day (26th January) was celebrated on a Thursday in 2023. On which day of the week will it fall in 2026? (Note: 2024 is a leap year.)
A) Saturday B) Sunday C) Friday D) Monday
5. Find the square root of 7744 using prime factorisation.
A) 86 B) 87 C) 88 D) 89
6. Which of the following numbers is a perfect square?
A) 1,152 B) 1,156 C) 1,158 D) 1,162
7. Find the cube root of 15625.
A) 23 B) 24 C) 25 D) 26
8. What is the smallest number by which 72 must be multiplied so that the product is a perfect cube?
A) 2 B) 3 C) 4 D) 6
9. Simplify: $(2^{-3} \times 2^7) \div 2^2$
A) 2 B) 4 C) 8 D) 16
10. What is the Roman numeral representation of 1994?
A) MCMXCIV B) MCMLIV C) MCMXCVI D) MDCCCXCIV

GENERAL SCIENCE

11. An electric current can produce
A) heating effect only. B) chemical effect only.
C) magnetic effect only. D) chemical, heating, and magnetic effects.

12. When electric current is passed through a conducting solution, there is a change of colour of the solution. This indicates

- A) the chemical effect of current.
- B) the heating effect of current.
- C) the magnetic effect of current.
- D) the lightning effect of current.

13. Distilled water is

- A) Poor conductor
- B) Good conductor
- C) Both A and B
- D) None

14. The force between two charged bodies is called

- A) muscular force
- B) gravitational force
- C) magnetic force
- D) electrostatic force

15. Force acts on an object may change

- A) direction
- B) shape
- C) speed
- D) all of above

16. A scientist observes that a particular microorganism is harmless in one environment but causes disease when it enters another part of the human body. What does this demonstrate?

- A) Every microorganism is always harmful.
- B) The effect of a microorganism can depend on the host, location and conditions.
- C) Microorganisms cannot adapt to different conditions.
- D) Disease is caused only by environmental temperature.

17. A doctor notices that a bacterial disease that was previously controlled by a particular antibiotic is no longer responding well to it. Which process provides the best explanation?

- A) The bacteria have become larger because of the medicine.
- B) Resistant bacteria survived and reproduced, increasing the resistant population.
- C) Antibiotics automatically turn bacteria into viruses.
- D) The patient's blood has changed into bacteria.

18. Which conclusion can be drawn most safely from the data?

- A) Moisture is the only factor affecting microbial growth.
- B) Temperature and moisture can both influence microbial growth.
- C) All microorganisms die at temperatures above room temperature.
- D) Microorganisms always prefer dry environments.

19. A person eats improperly stored food and develops vomiting and diarrhoea several hours later. Which statement is the best scientific interpretation?

- A) The symptoms prove that the food contained a virus.
- B) The symptoms may result from infection by microorganisms or from harmful substances produced by microorganisms.
- C) All food poisoning is caused by fungi.
- D) Antibiotics must always be taken immediately.

20. Student A: “If we completely eliminate all microorganisms from Earth, human health will improve.” Student B: “Some microorganisms are harmful, but eliminating all microorganisms could also remove organisms important for ecosystems, food production and other useful processes.” Who demonstrates better scientific reasoning?

- A) Student A B) Student B C) Both equally D) Neither

21. Which of the following are chemical elements?

- A) Air B) Water C) Oxygen D) All of the above

22. Which of the following is not a matter?

- A) Sand B) Wood C) Computer data D) All of the above

23. Which of the following is soluble in water?

- A) Rock B) Sugar C) Salt D) Both B and C

24. Air is a _____.

- A) Compound B) Element C) Mixture D) None of the above

25. Elements are made up of _____

- A) Compounds B) Atoms C) Air D) Iron

ANSWER KEY

Mathematics Answer Key

1. D
2. C
3. A
4. D
5. C
6. B
7. C
8. B
9. B
10. A

General Science Answer Key

11. D
12. A
13. A
14. D
15. D
16. B
17. B
18. B
19. B
20. B
21. C
22. C
23. D
24. C
25. B