

PHYSICS

1. Which of the following best describes the pressure exerted by liquids ?
 - a) Increases with depth
 - b) Decreases with depth
 - c) Uniform at all levels
 - d) Independent of depth

2. A rough surface is more likely to cause:
 - a) Less friction
 - b) More friction
 - c) No friction
 - d) Uniform friction

3. Sound cannot travel through:
 - a) Solid
 - b) Liquid
 - c) Vacuum
 - d) Gas

4. The phenomenon of splitting white light into seven colors is called:
 - a) Reflection
 - b) Refraction
 - c) Dispersion
 - d) Absorption

5. Lightning occurs due to the flow of:

- a) Protons
- b) Neutrons
- c) Electrons
- d) Atoms

CHEMISTRY

6. Which material is the best conductor of electricity?
 - a) Plastic
 - b) Rubber
 - c) Copper
 - d) Wood

7. Which of the following is not a fossil fuel?
 - a) Coal
 - b) Petroleum
 - c) Natural gas
 - d) Hydrogen

8. Combustion of fuels produces:
 - a) Carbon dioxide and water
 - b) Hydrogen and water
 - c) Oxygen and nitrogen
 - d) Helium and argon

9. Which flame is the hottest?

- a) Blue flame
- b) Yellow flame
- c) Red flame
- d) Orange flame

10. A bulb glows when an electric current passes through a solution. This shows the solution is:

- a) Conductive
- b) Insulative
- c) Corrosive
- d) Reactive

BIOLOGY

11. Which microorganism is used in the production of alcohol?

- a) Bacteria
- b) Virus
- c) Yeast
- d) Protozoa

12. Which is an asexual method of reproduction?

- a) Budding
- b) Fertilization
- c) Pollination
- d) Fragmentation

13. The hormone responsible for secondary sexual characteristics in males is:

- a) Estrogen
- b) Testosterone
- c) Insulin
- d) Adrenaline

14. Malaria is caused by:

- a) Bacteria
- b) Virus
- c) Protozoa
- d) Fungi

15. Adolescents are advised to eat a diet rich in:

- a) Fats
- b) Vitamins and proteins
- c) Carbohydrates
- d) Sugars

ENGLISH

16. Change the narration:

He said, "I will go to school tomorrow."

- a) He said that he would go to school the next day.
- b) He said that he will go to school tomorrow.
- c) He said that I will go to school tomorrow.
- d) He says he will go to school the next day.

- 17. Identify the part of speech for the underlined word:**
She quickly finished her homework.
 a) Verb
 b) Adjective
 c) Adverb
 d) Noun
- 18. Change the voice:**
The teacher checked the assignments.
 a) The assignments were checked by the teacher.
 b) The assignments were being checked by the teacher.
 c) The assignments are checked by the teacher.
 d) The assignments had been checked by the teacher.
- 19. Fill in the blank with the correct determiner:**
She bought ____ apples from the market.
 a) a few
 b) much
 c) a little
 d) many
- 20. Choose the correct form of tense:**
I ____ (study) for two hours before she called.
 a) studied
 b) had studied
 c) have studied
 d) am studying
- 21. Fill in the blank with the correct preposition:**
He is good ____ mathematics.
 a) at
 b) in
 c) for
 d) of
- 22. Choose the correct modal:**
You ____ take rest as you look tired.
 a) should
 b) will
 c) can
 d) might
- 23. Identify the error in subject-verb agreement:**
Each of the boys ____ playing cricket.
 a) is
 b) are
 c) have
 d) has
- 24. Combine the sentences using the correct conjunction: He is rich. He is unhappy.**
 a) Although he is rich, he is unhappy.
 b) Because he is rich, he is unhappy.
 c) If he is rich, he is unhappy.
 d) So he is rich, he is unhappy.

25. Identify the type of clause: "I know that she is honest."

- a) Noun clause
- b) Adjective clause
- c) Adverb clause
- d) Main clause

26. Change the narration:

She said, "I am writing a letter."

- a) She said that she was writing a letter.
- b) She said that she is writing a letter.
- c) She says that she was writing a letter.
- d) She said she had written a letter.

27. Identify the preposition: The cat is under the table.

- a) cat
- b) under
- c) table
- d) is

28. Fill in the blank with the correct tense:

By next month, they ____ (finish) the project.

- a) will finish
- b) will have finished
- c) are finishing
- d) have finished

29. Choose the correct modal :

She ____ speak three languages fluently.

- a) can
- b) will
- c) must
- d) shall

30. Complete the sentence with a suitable conjunction:

You can have tea ____ coffee, but not both.

- a) or
- b) and
- c) because
- d) if

MATHEMATICS

31. Solve : $5x - 3 = 17$. Find x

- a) 4
- b) 5
- c) 6
- d) 3

32. A quadrilateral has angles 90° , 80° , 70° .

What is the fourth angle?

- a) 120°
- b) 130°
- c) 110°
- d) 100°

33. A trader marks his goods 20% above cost price and allows a discount of 10%. What is the profit percentage?

- a) 8%
- b) 10%
- c) 12%
- d) 15%

34. If x varies directly with y , and $x = 10$ when $y = 5$, find x when $y = 15$.

- a) 30
- b) 25
- c) 20
- d) 35

35. A cube with a side length of 4 cm has a surface area of :

- a) 48 cm^2
- b) 64 cm^2
- c) 96 cm^2
- d) 128 cm^2

36. Expand $(a + b)^2$

- a) $a^2 + b^2 + 2ab$
- b) $a^2 + b^2 - 2ab$
- c) $a^2 - b^2 + 2ab$
- d) $a^2 + b^2$

37. Simplify : $(2^3)^2 \div 2^4$.

- a) 2^2
- b) 2^3
- c) 2^4
- d) 2^5

38. The square root of 144 is :

- a) 10
- b) 11
- c) 12
- d) 13

39. Factorize: $x^2 - 9$.

- a) $(x+3)(x+3)$
- b) $(x+3)(x-3)$
- c) $x(x-9)$
- d) $x^2 - 3$

40. Which of the following is a rational number?

- a) $\sqrt{2}$
- b) $\sqrt{5}$
- c) $\frac{4}{5}$
- d) π

41. Solve : $\frac{x-2}{3} = 4$. Find x .

- a) 12
- b) 10
- c) 14
- d) 15

APTITUDE

42. The diagonal of a square with side length 5

cm is:

- a) 5 cm
- b) $5\sqrt{2}$ cm
- c) 10 cm
- d) $10\sqrt{2}$ cm.

43. If $8x = 64$, find x .

- a) 6
- b) 7
- c) 8
- d) 9

44. What is $3x^2 - 27$ when $x = 3$?

- a) 0
- b) 9
- c) 27
- d) 18

45. A person reduces his monthly spending from Rs. 5000 to Rs. 4500. What is the percentage decrease ?

- a) 5%
- b) 10%
- c) 12%
- d) 15%

46. What comes next in the series: 2, 4, 8, 16, ?

- a) 24
- b) 32
- c) 18
- d) 20

47. Find the odd one out : Apple, Banana, Mango, Carrot.

- a) Apple
- b) Banana
- c) Mango
- d) Carrot

48. Choose the correct analogy:

Book : Read :: Pen : ?

- a) Write
- b) Hold
- c) See
- d) Erase

49. Decode the word:

If CAT = 3120, what does DOG = ?

- a) 4157
- b) 4100
- c) 4070
- d) 5080

- 50. If A is the brother of B and B is the sister of C, how is A related to C ?**
 a) Brother
 b) Sister
 c) Father
 d) Uncle
- 51. A person walks 5 km towards the north, then turns right and walks 3 km. Then he turns right again and walks 5 km. Finally, he turns left and walks 2 km. Where is he now from his starting point ?**
 a) 3 km east
 b) 3 km west
 c) 5 km north
 d) 2 km south
- 52. If 15th August 2022 was a Monday, what day will 15th August 2023 be ?**
 a) Monday
 b) Tuesday
 c) Wednesday
 d) Thursday
- 53. How many corners does a cube have?**
 a) 6
 b) 8
 c) 12
 d) 16
- 54. The angle between the hour hand and the minute hand of a clock at 3:15 is:**
 a) 7.5°
 b) 22.5°
 c) 15°
 d) 30°
- 55. Which diagram best represents the relationship between Birds, Eagles, and Animals ?**
 a) Three intersecting circles
 b) Nested circles (Birds inside Animals, Eagles inside Birds)
 c) Separate circles for all three
 d) Birds and Animals intersecting, Eagles separate
- 56. If $6 \times 4 + 3 = 27$, what is the value of $8 \times 5 + 2$?**
 a) 30
 b) 42
 c) 40
 d) 50

57. Find the missing number in the series :

3, 6, 11, 18 ?

a) 27

b) 25

c) 29

d) 23

58. Which of the following Venn diagrams correctly represents the relationship between Engineers, Women, and Teachers?

a) Intersecting circles with some overlap

b) Nested circles (Women inside Engineers, Teachers inside Women)

c) Completely separate circles

d) Engineers and Teachers intersecting with Women overlapping both

59. A cube has six faces, each of which is painted with a different color. How many distinct ways can you arrange the colors of the cube by rotation?

a) 24

b) 30

c) 12

d) 720

60. If A is the brother of B, B is the sister of C, and C is the father of D, how is A related to D ?

a) Uncle

b) Brother

c) Father

d) Cousin