NARAYANA
IIT-JEE / NEET / FOUNDATIONS
(A Unit of NSPIRA Management Services Pvt. Ltd.)

NSAT
NARAYANA SCHOLASTIC APTITUDE TEST
ASPIRE • ASSESS • ACHIEVE

NSAT-2025

CLASS – VII (Mental Ability, Mathematics, Physics, Chemistry & Biology)

(Class VII Moving to VIII)

NARAYANA SCHOLASTIC APTITUDE TEST (NSAT)

SAMPLE PAPER

Time: 2:00 Hr.   *Maximum marks: 300*

IMPORTANT INSTRUCTIONS:

1. The test Booklet consists of 75 questions. The maximum marks are 300.
2. There are five parts in the question paper of MAT (Q. No. 1 to 15) Mathematics (Q. No. 16 to 39), Physics (Q. No. 40 to 51), Chemistry (Q. No. 52 to 63) & Biology (Q. No. 64 to 75) having 75 questions. Each question is allotted +4 (four) marks for each correct response & 0 for each incorrect answer
3. Mark only one correct answer out of four alternatives.
4. Use Blue/Black Ball Point Pen only for writing particulars/marking.
5. Use of Calculator is not allowed.
6. Dark the circle in the space provided only.
7. Use of white fluid or any other material which damage the answer sheet, is not permissible on the Answer Sheet.

EDUCATION IS INTEGRAL FOR GROWTH AND DEVELOPMENT

Education is integral for the growth and development of an individual. The expectation from an educational institute is always about making the society better for all and to bring out one's true Potential in the service of mankind.

At Narayana, we believe that a student's education is complete only when we are able to contribute towards his/her overall development besides imparting knowledge based and career oriented training.

With an aim to provide top of the league training to students to excel in every sphere of their lives, Narayana Group has been focusing on result oriented inputs.
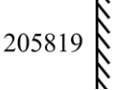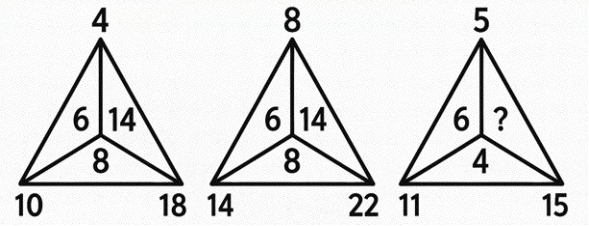
Narayana's courses have been designed to cater to all the needs of the aspirants to help them excel in various competitive as well as Board examinations. Innovative strategies and techniques adopted in our centres keep our students abreast of the ever-changing pattern of top level Engineering/Medical Entrance Exams. As a result, Narayana's time-tested learning formulae are percolating to far-flung corners of India to benefit students from all backgrounds.

"Footprints on the sands of time are not made by sitting down". Today we rededicate the last 4 decades of our success to your dreams. I wish all our students a very successful academic year ahead.

Dr. P. NARAYANA
Founder, Narayana Group

MENTAL ABILITY

1. A person walks 10 m towards south, turns left and walks 15 m. Now in which direction is he facing?

   (1) North   (2) South   (3) East   (4) West

2. CBA ABC ABCD DCBA ABCDE?

   (1) EDCBA   (2) DBACE   (3) CABDE   (4) BACDE

3. 3, 6, 12, 21, ? 48

   (1) 31   (2) 33   (3) 34   (4) 38

4. Choose the alternative which closely resembles the mirror image of the given fig.

   (1) 205819   (2) 618502   (3) 205819   (4) 918502

5. Which of the given answer choices would be the water image of the given question figure

   (1)   (2)   (3)   (4)

6. In the following questions, select the missing character form the given alternatives

   (1) 6   (2) 8   (3) 10   (4) 14

7. 0, 2, 6, 12, 20, ?, 42

   (1) 34   (2) 30   (3) 32   (4) 28

Space for rough work

8. CE, GI, KM, OQ, ?

    (1) TW   (2) TV   (3) SU   (4) RT

9. In a certain code language, '+' represents '×', '-' represents '+', '×' represents '÷' and '÷' represents '–'. What is the answer to the following equations?

    $56 \div 8 + 12 - 72 = ?$

    (1) 32   (2) 88   (3) 44   (4) 82

10. Harihar walks 30 m straight towards south then turns right and walks 25m. Further the turns left and walks 10m. At last he turns his left. What is the direction now he is facing?

    (1) West   (2) East   (3) North-East   (4) South-West

11. R, O, L, I, F, ?

    (1) C   (2) A   (3) E   (4) I

12. 1, 49, 121, ?, 289

    (1) 529   (2) 169   (3) 329   (4) 225

13. In a certain code '+' means '×', '–' means '+', '×' means '÷' and '÷' means '–'. Then find the value of the following: $72 \times 9 - 14 + 2 = ?$

    (1) 20   (2) 86   (3) 30   (4) 36

14. TMJ, QNL, NON, KPP, ?

    (1) JQR   (2) HQR   (3) HQQ   (4) IQS

15. 2, 6, 14, 26, ?, 62

    (1) 52   (2) 54   (3) 44   (4) 42

MATHEMATICS

16. The set of negative of natural numbers and whole numbers is called as

    (1) natural numbers   (2) integers   (3) positive numbers   (4) 0

17. Expanded form of 78.059 is

    (1) $78 + \dfrac{5}{10} + \dfrac{9}{100}$

    (2) $70 + 8 + 0 + \dfrac{5}{100} + \dfrac{9}{1000}$

    (3) $70 + 8 + \dfrac{5}{10} + \dfrac{9}{100}$

    (4) None

Space for rough work

18.   3 tenths 5 thousandths is written as

(1) 35.00   (2) 0.35   (3) 3.5   (4) 0.305

19.   The value of $3\dfrac{1}{2} - \left[1\dfrac{3}{4} + \left\{2\dfrac{1}{2} - \left(1\dfrac{1}{2} - \dfrac{1}{3}\right)\right\}\right]$ is

(1) $\dfrac{1}{2}$ (2) 2   (3) 1   (4) $\dfrac{5}{12}$

20.   The solution $\dfrac{3x-1}{5} - \dfrac{1+x}{2} = 3 - \dfrac{x-1}{2}$ is

(1) 5   (2) –7   (3) 7   (4) –5

21.   A number of 720 is divided into two parts in the ratio 3 : 2. Find the product of the numbers.

(1) 1, 21, 446   (2) 1, 24, 416   (3) 124, 616   (4) 1, 24, 146

22.   Line has _____ end points

(1) no   (2) 3   (3) 2   (4) 4

23.   Two sides of an isosceles angle are 5 cm and 6 cm. Then the length of the third side is

(1) 5 cm   (2) 6 cm   (3) 5 cm or 6 cm   (4) none

24.   In an office the working hours are 10.30 AM to 5.0 PM and in between 30 minutes are spent on lunch. Find the ratio of office hours to the time spend for lunch.

(1) 7 : 30   (2) 1 : 14   (3) 13 : 1   (4) 30 : 7

25.   The greatest negative integer

(1) –100   (2) does not exist   (3) –1   (4) –9

26.   Difference of sums of 998 and -486 from 290 and 732

(1) –510   (2) +510   (3) –1022   (4) +512

27.   Product of 78. 12 and 1.5 is

(1) 117.81   (2) 117.18   (3) 117.32   (4) 117.80

28.   Ravi had $\dfrac{5}{6}$ of a cake. He ate $\dfrac{2}{3}$ of it. What part of the cake did he eat?

(1) $\dfrac{5}{9}$ (2) $\dfrac{10}{12}$ (3) $\dfrac{10}{6}$ (4) $\dfrac{10}{3}$

Space for rough work

29. The mean of 6, y, 7, x and 14 is 8. Then

    (1) x + y = 13   (2) x – y = 13   (3) 2x + 3y = 13   (4) $x^2 + y^2 = 15$

30. The solution of 0.2(2x – 1) – 0.5 (3x – 1) = 0.4 is

    (1) $\dfrac{1}{11}$ (2) $-\dfrac{1}{11}$ (3) $\dfrac{3}{11}$ (4) $-\dfrac{3}{11}$

31. If two third, one half and one seventh of a number is added to itself, the result is 37. Find the number.

    (1) $14\dfrac{2}{97}$ (2) $16\dfrac{2}{97}$ (3) $18\dfrac{2}{97}$ (4) None

32. The measure of a straight angle is:

    (1) 0°   (2) 90°   (3) 180°   (4) 360°

33. If the two legs of a right angled triangle are equal and the square of the hypotenuse is 100 then the length of each leg is

    (1) 10   (2) $5\sqrt{2}$ (3) $10\sqrt{2}$ (4) None

34. In a school the total number of students are 3200 out of which 1800 are boys. Remaining are girls. Ratio of girls to boys is

    (1) 1400 : 1800   (2) 9 : 7   (3) 7 : 9   (4) 1 : 3

35. The cost price of 25 articles is equal to the SP of 20 articles. Find gain %.

    (1) 20%   (2) 25%   (3) 30%   (4) 40%

36. In ΔABC, m∠BAC = 70°. Point D line on $\overleftrightarrow{BC}$ such that ∠ACD become exterior of Δ ABC. If m∠ACD = 120° then the value of ∠ABC is _____

    (1) 50°   (2) 60°   (3) 20°   (4) None of these

37. In figure, AB = AC, ∠B = ∠C, AB = 8 cm, BE = 6 cm and AE = 3 cm. then find perimeter of ΔADC.
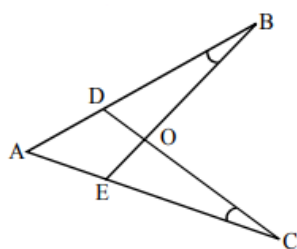
    (1) 14 cm   (2) 15 cm   (3) 17 cm   (4) 19 cm

Space for rough work

38.   In ∆ABC. if 2∠A = 3∠B = 6∠C. then ∠B =_____

(1) 30°   (2) 90°   (3) 60°   (4) 45°

39.   In the word MATHS which of the following pairs of letters shows rotational symmetry

(1) H and S   (2) M and T   (3) T and S   (4) A and S

PHYSICS

40.   A particle starts with a velocity of 5m/s and moves with a uniform acceleration of 2.5 m/s^2, its velocity after 4 sec is

(1) 10 m/s   (2) 15 m/s   (3) 20 m/s   (4) 25 m/s

41.   Heat is a form of

(1) force   (2) energy   (3) Matter   (4) Motion

42.   Current flows through the circuit when the circuit is in the _____ condition.

(1) Closed   (2) Open   (3) Broken   (4) Incomplete

43.   When an object is heated, it generally:

(1) expands   (2) contracts   (3) remains same   (4) may expand or contract

44.   Which of the following is an electrical insulator?

(1) Aluminium   (2) Gold   (3) Rubber   (4) None of these

45.   Given that V = 5 + 8t (in SI units) the final velocity after 5 sec is

(1) 35 m/s   (2) 40 m/s   (3) 45 m/s   (4) 50 m/s

46.   Materials which offer maximum resistance and do not allow current to flow through them are called

(1) Conductor   (2) Insulator   (3) Bad conductor   (4) Fuse

47.   The capacity to do work is called:

(1) Force   (2) movement   (3) energy   (4) momentum

48.   Why is electrical wiring usually covered with a layer of plastic?

(1) To make it strong   (2) To help electricity flow in it

(3) To make it safe   (4) To make it beautiful

49.   If the distance covered by a particle is zero, what can you say about its displacement?

(1) It may (or) may not be zero   (2) It cannot be zero

(3) It is negative   (4) It must be zero

Space for rough work

50. The area of the shaded portion in the graph shown below represents:
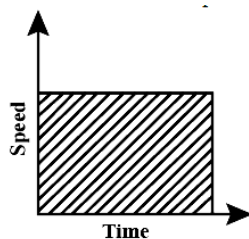
    (1) Distance   (2) speed   (3) time   (4) none of these

51. A freely suspended bar magnet rests in

    (1) North-south direction   (2) East-West direction

    (3) Upside - down side   (4) Random Direction

CHEMISTRY

52. Which colour is imparted by phenolphthalein in an acidic medium?

    (1) Pink   (2) Colourless   (3) Green   (4) Red

53. Which base is present in window cleaner?

    (1) Sodium hydroxide   (2) Ammonium hydroxide

    (3) Magnesium hydroxide   (4) Calcium hydroxide

54. When iron pieces are added to a blue colour copper sulphate solution, the colour of copper sulphate changes to

    (1) pale green   (2) Brown   (3) Blue black   (4) None of these

55. What is the chemical formula for acetic acid?

    (1) H_2SO_4 (2) HNO_3 (3) HCl (4) CH_3COOH

56. Which type of rusource is coal classified as ?

    (1) Renewable   (2) non- Renewable   (3) Infinite   (4) Sustainalily

57. Where does litmus come from?

    (1) Turmeric   (2) Beetroot   (3) Lichens   (4) China rose

58. The liquids that dissolve in our another are called____

    (1) Immiscible   (2) Miscible   (3) Insoluble   (4) None of these

59. Which of the following materials is translucent

    (1) Stained glass   (2) Water   (3) Mirrer   (4) Air

Space for rough work

60. What does the neutralisation process produce?

    (1) Acid only   (2) Base only   (3) Salt and water   (4) Water only

61. Rusting occurs when iron is exposed to:

    (1) oxygen and water   (2) soil and rain   (3) breeze and sunlight (4) salt water and clouds

62. Which of the following presses can in sued to separate a liquid from an insoluble solid?

    (1) Evaporation   (2) Sedimentation   (3) Sedimentation   (4) Filtration

63. Which method can be used to separate ion and copper ?

    (1) crystallisation   (2) Evaporation   (3) Sublimation   (4) Magnetic separation

BIOLOGY

64. What is the primary mode of nutrition in plants?

    (1) Heterotrophic   (2) Autotrophic   (3) Saprotrophic   (4) Parasitic

65. The set of teeth that exists in the mouth during the period from six to eight years of a human being are called

    (1) Permanent teeth   (2) Premolar teeth   (3) Molar teeth   (4) Milk teeth

66. Which of the following given as instant energy?

    (1) Proteins   (2) Fats   (3) Carbohydrate   (4) Vitamin

67. Germination of seeds requires

    (1) Nitrogen   (2) Oxygen   (3) Vapors of water   (4) hydrogen

68. During exhalation the size of the chest cavity

    (1) Decreases   (2) Increases   (3) Remains the same   (4) Get out of the lungs

69. The largest gland in the human body is

    (1) Oesophagus   (2) Salivary gland   (3) Liver   (4) Villi

70. Length of small intestine is

    (1) 10.5m long   (2) 40m long   (3) 23.4m long   (4) 7.5m long

71. Name the organism that breathes through its lungs as well as its skin

    (1) Human being   (2) Frog   (3) Dog   (4) Earthworm

72. Diarrhoea is caused due to

    (1) Infection   (2) Indigestion   (3) Food Poisoning   (4) All of the above

Space for rough work

73. Plenty of boiled water mixed with a pinch of salt and sugar dissolved in it is called

    (1) An Acid   (2) A base

    (3) An indicator   (4) Oral Rehydration solution

74. Which of the following is a complete parasite ?

    (1) Cuscuta   (2) Pitcher   (3) Croton   (4) Both (1) & (2)

75. What is the process called where plants make their food using sunlight?

    (1) Respiration   (2) Transpiration   (3) Photosynthesis   (4) Digestion

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Space for rough work