

FIITJEE Admission Test

for students presently in **Class 6 (Paper 1)**

Time: 3 Hours (9:00 am – 12:00 pm)

CODE: 67-1

Maximum Marks: 240

Instructions:

Caution: Class, Paper, Code as given above MUST be correctly marked on the answer OMR sheet before attempting the paper. Wrong Class, Paper or Code will give wrong results.

1. You are advised to devote 35 Minutes on Section-I, 35 Minutes on Section-II, 50 Minutes on Section-III, 30 Minutes on Section-IV and 30 Minutes on Section-V.
2. This Question paper consists of 5 sections. Marking scheme is given in table below:

Section	Subject	Question no.	Marking Scheme for each question	
			Correct answer	Wrong answer
SECTION – I	APTITUDE TEST	1 to 12	+3	0
		13 to 18	+4	0
SECTION – II	PHYSICS (PART-A)	19 to 22	+2	0
	CHEMISTRY (PART-B)	23 to 26	+2	0
	MATHEMATICS (PART-C)	27 to 31	+2	0
	BIOLOGY (PART-D)	32 to 36	+2	0
SECTION – III	PHYSICS (PART-A)	37 to 48	+1.5	0
	CHEMISTRY (PART-B)	49 to 60	+1.5	0
	MATHEMATICS (PART-C)	61 to 72	+1.5	0
	BIOLOGY (PART-D)	73 to 84	+1.5	0
SECTION – IV	PHYSICS (PART-A)	85 to 88	+3	0
	CHEMISTRY (PART-B)	89 to 92	+3	0
	BIOLOGY (PART-C)	93 to 96	+3	0
SECTION – V	MATHEMATICS (PART-A)	97 to 102	+3	0
	MATHEMATICS (PART-B)	103 to 108	+3	0

3. Answers have to be marked on the OMR sheet. The Question Paper contains blank spaces for your rough work. No additional sheets will be provided for rough work.
4. Blank papers, clip boards, log tables, slide rule, calculator, cellular phones, pagers and electronic devices, in any form, are not allowed.
5. **Before attempting paper write your OMR Answer Sheet No., Registration Number, Name and Test Centre** in the space provided below.
6. **See method of marking of bubbles at the back of cover page for question no. 103 to 108.**

Note: Please check this Question Paper contains all **108** questions in serial order. If not so, exchange for the correct Question Paper.

OMR Answer Sheet No. : _____

Registration Number : _____

Name of the Candidate : _____

Test Centre : _____

For questions **103 to 108**

Numerical based questions single digit answer 0 to 9

Example 1:

If answer is 6.

Correct method:

① ② ③ ④ ⑤ ● ⑦ ⑧ ⑨

Example 2:

If answer is 2.

Correct method:

① ② ● ④ ⑤ ⑥ ⑦ ⑧ ⑨

Recommended Time: 35 Minutes for Section – I

Section – I

APTITUDE TEST

This section contains 18 Multiple Choice Questions number 1 to 18. Each question has 4 choices (A), (B), (C) and (D), out of which ONLY ONE is correct.

- Some of the letters are missing which are given in that order as one of the alternatives below it. Choose the correct alternative.
 __ aba __ ba __ ab
 (A) abbba (B) abbab (C) baabb (D) bbaba
- One term in the number series is wrong. Find out the wrong terms.
 196, 169, 144, 121, 101
 (A) 101 (B) 121 (C) 169 (D) 196
- One term in the number series is wrong. Find out the wrong terms.
 3, 10, 27, 4, 16, 64, 5, 25, 125
 (A) 3 (B) 4 (C) 10 (D) 27
- Arrange the following in a meaningful order:-
 1) Curd, 2) Grass 3) Butter 4) Milk 5) Cow
 (A) 2, 5, 4, 3, 1 (B) 4, 2, 5, 3, 1 (C) 5, 2, 4, 1, 3 (D) 5, 2, 3, 4, 1
- Which value will come in the place of question mark (?)
 12, 22, 69, 272, 1365, ?
 (A) 6830 (B) 8184 (C) 8195 (D) 8196
- If $234 = 4916$, $562 = 25364$, then what will be the value for 526
 (A) 25436 (B) 250436 (C) 42536 (D) 362504
- If 'REQUEST' is written as 'S2R52TU', how will 'ACID' be written ?
 (A) BDJE (B) 1394 (C) B3J4 (D) None of these
- If $7 + 3 = 421$, $11 + 7 = 477$ and $9 + 5 = 445$, then $6 + 2 = ?$
 (A) 444 (B) 412 (C) 475 (D) 487

Space for Rough Work

9. Which of the following word cannot be formed from the given words ?
CONSTRUCTION
(A) CAUTION (B) COINS (C) NOTION (D) SUCTION
10. Two brothers Manish and Nitin walk in opposite directions for 3 km Manish is walking towards east. After 3 km, each both turn right and again walk 3 km each. Both turn to face each other. In which direction is Nitin looking ?
(A) East (B) South (C) South-East (D) North-West

Direction : (Q11) Read the following information and answer the questions given below : -

Seven boys P, Q, R, S, T, U and V are standing in a line.

- (I) V is between P and T.
(II) U and P have one boy between them.
(III) T and R have two boys between them.
(IV) S is to the immediate right of u.
(V) R and Q have three boys between them.

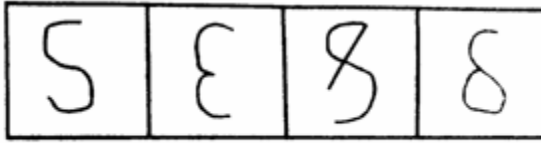
11. R is standing between :
(A) P and U (B) S and V (C) P and S (D) None of these
12. If B is coded as 8, F is coded as 6, Q is coded as 4, D is coded as 7, T is coded as 2, M is coded as 3 and K is coded as 5, then which of the following is the coded form of QKTBFM ?
(A) 4 5 2 6 8 3 (B) 4 7 2 6 8 3 (C) 4 5 2 7 8 3 (D) None of these
13. Five persons A, B, C, D, E scored different marks in an examination. If B scored more marks than D and E only while C does not score the highest marks then which of the following has the second highest marks ?
(A) A (B) B (C) C (D) D
14. In the following question, select the odd letter group from the given alternatives.
(A) C P B O (B) B O D Q (C) E S G T (D) A N H U
15. Choose the figure which is different from the rest.



- (1) (2) (3) (4)
(A) 1 (B) 2 (C) 3 (D) 4

Space for Rough Work

16. Find odd one out figure

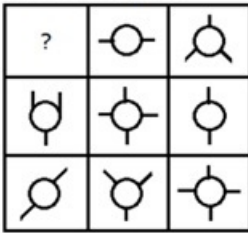


(A) (B) (C) (D)

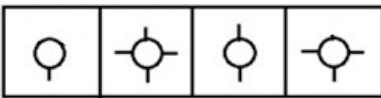
- (A) A (B) B (C) C (D) D

17. Select a suitable figure from the four alternatives given below that would complete the figure matrix

Question figure-



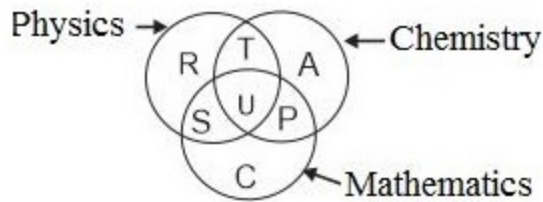
Answer figure-



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

- (A) 1 (B) 2 (C) 3 (D) 4

18. Study the diagram and identify the region which represents students who study both physics and chemistry but not mathematics.



Options

- (A) T+S+U+P (B) C (C) R+T+A+U+P+S (D) T

Space for Rough Work

Recommended Time: 35 Minutes for Section – II

Section – II

PHYSICS – (PART – A)

*This part contains 4 Multiple Choice Questions number 19 to 22. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

19. A person walks 150 meters directly north, stops, and then travels 32 meters directly south. What is their displacement?
(A) 82 meters (B) 118 meters
(C) 28 meters (D) None of these
20. To get a shadow, we need
(A) only a source of light
(B) only an opaque object
(C) both a source of light and an opaque object
(D) neither a source of light nor an opaque object
21. If an object is placed at a distance of 2.5 m in front of a plane mirror, the distance between the object and the image formed by the mirror will be:
(A) 2 m (B) 1 m
(C) 5 m (D) 0.25 m
22. Calculate the value of 5 m s^{-1} in km h^{-1}
(A) 10 (B) 1.38
(C) 18 (D) 3.6

Space for Rough Work

CHEMISTRY – (PART – B)

*This part contains 4 Multiple Choice Questions number 23 to 26. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

23. Yarn is woven to get fabric using
(A) Charkha (B) Spinning machines
(C) Looms (D) Knitting needles
24. Identify the sublimable salt
(A) NaCl (B) KCl
(C) NH_4Cl (D) MgCl_2
25. Making a dough from flour is a ____ change
(A) Physical reversible (B) Chemical irreversible
(C) Chemical reversible (D) Physical irreversible
26. Which of the following is not a natural fibre?
(A) Cotton (B) Jute
(C) Nylon (D) Flax

Space for Rough Work

MATHEMATICS – (PART – C)

*This part contains 5 Multiple Choice Questions number 27 to 31. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

27. The length of longest tape which can be used to measure exactly the length 7m, 3m 85 cm and 12m 95 cm.
 (A) 35 cm (B) 30 cm (C) 40 cm (D) 45 cm
28. Find the value of $\frac{2}{1+\frac{1}{1-\frac{1}{2}}} \times \frac{3}{\frac{5}{6} \text{ of } \frac{3}{2} \div 1\frac{1}{4}}$
 (A) 6 (B) 8 (C) 4 (D) 2
29. Two angles of a triangle are complementary. The third angle is
 (A) 60° (B) 45° (C) 36° (D) 90°
30. An isosceles trapezium has
 (A) equal parallel sides (B) equal non parallel sides
 (C) equal opposite sides (D) None of these
31. An amount of money is to be distributed among P, Q and R in the ratio of 2 : 7 : 9. The total of P's and Q's share is equal to R's share. What is the difference between the shares of P and Q ?
 (A) Rs 5000 (B) Rs 7500
 (C) Rs 9000 (D) Information is inadequate

Space for Rough Work

BIOLOGY – (PART – D)

*This part contains 5 Multiple Choice Questions number 32 to 36. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

32. Fixed joints are found in
(A) lower jaw (B) skull
(C) hands (D) hip bone
33. Total number of bones in the body of man is:
(A) 28 (B) 206
(C) 108 (D) 218
34. Muscle that bends one part over another is called:
(A) Extensor (B) Flexor
(C) Abductor (D) Adductor
35. Beriberi is a nutritional disorder caused by the deficiency of which of the following vitamins
(A) Vitamin B₁ (B) Vitamin B₁₂
(C) Vitamin D (D) Vitamin K
36. Starch can be tested by using
(A) Iodine solution (B) Caustic soda
(C) Copper sulphate (D) Fehling solution

Space for Rough Work

Recommended Time: 50 Minutes for Section – III

Section – III

PHYSICS – (PART – A)

This part contains 12 Multiple Choice Questions number 37 to 48. Each question has 4 choices (A), (B), (C) and (D), out of which ONLY ONE is correct.

37. Which of the following are not natural sources of light?
(A) Bulb (B) Stars
(C) Fire files (D) All of these
38. Velocity of light is maximum in :
(A) diamond (B) water
(C) glass (D) vacuum
39. Speed of light in vacuum is :
(A) 3×10^6 m/sec (B) 3×10^8 m/sec
(C) 3×10^8 km/hr (D) 3×10^8 cm/sec
40. Choose wrong statement :
(A) light is invisible energy (B) light causes in us sensation of sight
(C) light may be obtained from heat energy (D) we can see light.
41. Choose the correct option:
I. Ampere second and coulomb both are the units of electric charge.
II. Volt is the SI unit of electric current
III. Voltmeter is used to measure potential difference between two given point in a circuit
(A) only (I) and (II) are correct (B) only (II) and (III) are correct
(C) (I), (II) and (III) are correct (D) only (I) and (III) are correct
42. Which of the following mirror is commonly used as a rear view mirror?
(A) Concave (B) Convex
(C) Plane (D) None of these

Space for Rough Work

43. Height of the image formed by a plane mirror, of an object of 4 m high kept at distance of 10 m from the mirror is
(A) 5 m (B) 4 m
(C) 2 m (D) 0.2 m
44. A turtle walks 250 meters directly north, stops, and then travels 132 meters directly south. What is his displacement?
(A) 82 meters (B) 118 meters
(C) 28 meters (D) None of these
45. The motion of a satellite around a planet is
(A) Rectilinear (B) curvilinear
(C) Oscillatory (D) circular
46. Which of the following letters will be seen without any change in a plane mirror?
(A) w (B) T
(C) L (D) Both (A) and (B)
47. If a body is moving with an decreasing velocity, then its acceleration is _____.
(A) negative (B) positive
(C) zero (D) None of these
48. An iron bolt & a feather is dropped from same height which will fall earlier. (ignore air drag)
(A) iron bolt (B) feather
(C) both at same time (D) none of these

Space for Rough Work

CHEMISTRY – (PART – B)

*This part contains 12 Multiple Choice Questions number 49 to 60. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

49. Soda water contains excess _____ in dissolved state.
 (A) H_2 (B) CO_2
 (C) O_2 (D) N_2
50. Sublimation of iodine is a _____ change
 (A) Physical change (B) Chemical change
 (C) Reversible Change (D) Both (A) and (C)
51. The reverse process of boiling
 (A) Vapourization (B) Distillation
 (C) Condensation (D) None of these
52. Which of the following fibres are obtained from bolls of fruits?
 (A) Silk (B) Jute
 (C) Flax (D) Cotton
53. The first step for separating the constituent of a muddy water is
 (A) Decantation (B) Evaporation
 (C) Sedimentation (D) Filtration
54. Which of the following substance will float on water?
 (A) Plastic (B) Stone
 (C) Iron nail (D) Hard metal
55. Burning of paper is
 (A) Fast change (B) Irreversible change
 (C) Chemical change (D) All of these

Space for Rough Work

56. The materials which do not burn on direct flame in the presence of air are called as:
 (A) In soluble (B) Non-magnetic
 (C) Non-combustible (D) Inflammable.
57. The left over substance in the filter paper during filtration is
 (A) Filtrate (B) Solvent
 (C) Residue (D) Solute.
58. Coconut fibres cannot be used for making
 (A) Mattresses (B) Ropes
 (C) Clothes (D) None of these
59. A mixture of small stones and sand can be separated by
 (A) Winnowing (B) Sieving
 (C) Hand picking (D) Threshing
60. In India, jute is mainly grown in
 (A) West Bengal (B) Bihar
 (C) Assam (D) All of these

Space for Rough Work

MATHEMATICS – (PART – C)

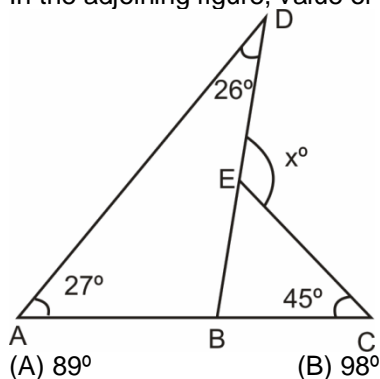
This part contains 12 Multiple Choice Questions number 61 to 72. Each question has 4 choices (A), (B), (C) and (D), out of which ONLY ONE is correct.

61. If $x7y5$ is exactly divisible by 3, then the least value of $(x + y)$ is
(A) 6 (B) 0 (C) 4 (D) 3
62. Find ratio of slant height to that of radius of cone, if height of cone is double the radius
(A) $1 : \sqrt{5}$ (B) $\sqrt{5} : 1$ (C) $1 : 2$ (D) $2 : 1$
63. Two angles are called adjacent angles if they have
(A) same vertex
(B) common arm
(C) uncommon arms on either sides of common arm
(D) All of these
64. $3.\bar{4} + 5.\bar{8} - 7.\bar{9} = \underline{\hspace{1cm}}$
(A) $\frac{4}{3}$ (B) $\frac{8}{5}$ (C) $\frac{7}{9}$ (D) $\frac{5}{4}$
65. If $\frac{a}{3} = \frac{b}{4} = \frac{c}{7}$, then $\frac{a+b+c}{c}$ is equal to
(A) 7 (B) $\frac{1}{2}$ (C) $\frac{1}{7}$ (D) 2
66. The ratio of the speed of two bikes is $4 : 3$. If the first bike covers a distance of 180 km in 3 hours, then how much distance will second bike cover in 4 hours ?
(A) 160 km (B) 150 km (C) 180 km (D) 100 km
67. Mean of first six prime numbers is
(A) 4.83 (B) 6.83 (C) 5.83 (D) 7.83

Space for Rough Work

68. The smallest fraction which should be added to the sum of $2\frac{1}{2}$, $3\frac{1}{3}$, $4\frac{1}{3}$ and $5\frac{1}{5}$ to make the result a whole number is
 (A) $\frac{13}{60}$ (B) $\frac{43}{60}$ (C) $\frac{17}{60}$ (D) $\frac{1}{4}$
69. In a regular polygon, the exterior and interior angles are in the ratio 1 : 4. The number of sides of the polygon is _____
 (A) 5 (B) 10 (C) 3 (D) 8

70. In the adjoining figure, value of $\angle x$ is equal to



71. If Rs 782 is to be divided into three parts, proportional to $\frac{1}{2} : \frac{2}{3} : \frac{3}{4}$, then the first part is
 (A) Rs 182 (B) Rs 190 (C) Rs 196 (D) Rs 204
72. The value of $\frac{3.25 \times 3.20 - 3.20 \times 3.05}{0.064}$ is equal to
 (A) 10 (B) $\frac{1}{2}$ (C) $\frac{1}{10}$ (D) 1

Space for Rough Work

BIOLOGY – (PART – D)

This part contains 12 Multiple Choice Questions number 73 to 84. Each question has 4 choices (A), (B), (C) and (D), out of which ONLY ONE is correct.

73. Which of the following component of food helps prevent constipation?
(A) Proteins (B) Carbohydrates
(C) Roughage (D) Fats
74. Number of floating ribs in human body is:
(A) 6 pairs (B) 2 pairs
(C) 5 pairs (D) 3 pairs
75. In sharks the skeleton is made of
(A) Bones (B) Tendon
(C) Ligament (D) Cartilage
76. The edible part in mustard plant is
(A) Root (B) Seed
(C) Leaves (D) Both (B) and (C)
77. Longest and heaviest bone in body is
(A) Ulna (B) Radius
(C) Tibia (D) Femur
78. The first vertebra is known as:
(A) Atlas (B) Axis
(C) Thoracic (D) Lumbar
79. Pneumatic (hollow) bone is found in:
(A) Pigeon (B) Whale
(C) Shark (D) Rana

Space for Rough Work

80. Which of the following is not a plant having edible root?
 (A) Potato (B) Turnip
 (C) Radish (D) Carrot
81. Which of the following is composed of cartilage?
 (A) Arms (B) Skull
 (C) Legs (D) External ear
82. Human vertebral column consists of
 (A) 4 pairs of bones (B) 8 bones
 (C) 33 bones (D) 10 bones
83. Choose the correct option that fits in the blank space.
 Carbohydrates $\xrightarrow{\text{Rich Source}}$? $\xrightarrow{\text{Deficiency leads to}}$ Loss of stamina
 Rice and Wheat
 (A) Pulses (B) Fats
 (C) Ghee (D) Cereals
84. Chilli which is an important spice, is obtained from which plant part?
 (A) Fruit (B) Stem
 (C) Seed (D) Root

Space for Rough Work

Recommended Time: 30 Minutes for Section – IV

Section – IV

PHYSICS – (PART – A)

*This part contains 4 Multiple Choice Questions number 85 to 88. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

85. The CGS unit of time is _____.
(A) second (B) cm s^{-1}
(C) Both (A) and (B) (D) hour
86. What is the value of charge on three electrons?
(A) $25 \times 10^2 \text{ C}$ (B) $5.5 \times 10^5 \text{ C}$
(C) $1.6 \times 10^{-19} \text{ C}$ (D) $4.8 \times 10^{-19} \text{ C}$
87. A real image is formed when two or more :
(A) reflected rays meet (B) refracted rays meet
(C) reflected rays appear to meet (D) both (A) and (B) are correct
88. A circuit in which current is not flowing is called _____.
(A) a closed circuit (B) an open circuit
(C) an on circuit (D) none of these

Space for Rough Work

CHEMISTRY – (PART – B)

*This part contains 4 Multiple Choice Questions number 89 to 92. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

89. Winnowing separates the _____ from the grains.
(A) Stones (B) Mud
(C) Stalks (D) Husk
90. A liquid that dissolves that other substance is called a:
(A) Solvent (B) Solute
(C) Solution (D) None of these
91. An oily thin paper sheet will be
(A) transparent (B) translucent
(C) opaque (D) cannot be predicted
92. Which one of the following is insoluble in water?
(A) Alcohol (B) Sodium chloride
(C) Coconut oil (D) Sugar

Space for Rough Work

BIOLOGY – (PART – C)

*This part contains 4 Multiple Choice Questions number 93 to 96. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

93. The vitamin containing cobalt is
(A) B₁ (B) B₂
(C) B₆ (D) B₁₂
94. A paste of food item was taken in a test-tube and to it was added a few drops of copper-sulphate solution followed by caustic soda-solution. A violet colour was observed in the test-tube after a few minutes. It shown the presence of which one of the following components in the food sample?
(A) Proteins (B) Carbohydrates
(C) Fats (D) None of these
95. If any of your known person suffers from Anaemia and Goitre, which of the following pair of minerals would you suggest for getting it controlled?
(A) Iron and Calcium (B) Calcium and Potassium
(C) Iron and Iodine (D) Potassium and Iodine
96. Which of the following is a water-soluble vitamin?
(A) vitamin E (B) vitamin C
(C) vitamin K (D) vitamin A

Space for Rough Work

Recommended Time: 30 Minutes for Section – V**Section – V****MATHEMATICS – (PART – A)**

*This part contains 6 Multiple Choice Questions number 97 to 102. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

97. Two numbers A and B are such that the sum of 5% of A and 4% of B is two-third of the sum of 6% of A and 8% of B. Find the ratio A : B.
 (A) 2 : 3 (B) 1 : 1 (C) 3 : 4 (D) 4 : 3
98. If a ray stands on a line, then the sum of the adjacent angles so formed is
 (A) 90° (B) 180° (C) 270° (D) 360°
99. Three cubes of sides 3 cm, 4 cm and 5 cm are melted and a new cube is formed. The side of the new cube is
 (A) 8 cm (B) 6 cm (C) 10 cm (D) 12 cm
100. A square of side 1 cm is cut from all four corners of a rectangle of dimensions 6 cm \times 5 cm. Find the perimeter of remaining part of the rectangle.
 (A) 22 cm (B) 44 cm (C) 45 cm (D) 30 cm
101. The polygon with infinite number of sides is called
 (A) nonagon (B) octagon (C) circle (D) None of these
102. If $p : q : r = 1 : 2 : 4$. Then $\sqrt{5p^2 + q^2 + r^2}$ is equal to
 (A) 5 (B) 2q (C) 5p (D) 4r

Space for Rough Work

MATHEMATICS – (PART – B)

This part contains 6 Numerical Based Questions number 103 to 108. Each question has Single Digit Answer 0 to 9.


103. The sum of the interior angles of a polygon is three times the sum of its exterior angles. Find the number of sides of this polygon
104. A number is doubled and 9 is added. If the resultant is tripled it becomes 75. What is that number?
105. The radius of a wheel of a bike is 39.9 cm. If the wheel makes 6000 rotation in one, minute If bike takes $8k$ minutes to cover a distance of 601.92 km, find the value of k .
106. A cuboid has total surface area 40 m^2 and its lateral surface area is 26 m^2 . Find the area of its base in m^2
107. If a rectangle of side lengths 5 cm and 15 cm is to be divided into three squares of equal areas, then find the side length of square in cm
108. The curved surface area of a right circular cylinder of height 7 cm is 176 cm^2 . Find the diameter of the base of the cylinder in cm.

Space for Rough Work

FIITJEE Admission Test

for students presently in **Class 6 (Paper 1)**

SAMPLE PAPER ANSWER KEY



1. B	2. A	3. C	4. C
5. B	6. A	7. D	8. B
9. A	10. C	11. A	12. D
13. C	14. D	15. A	16. C
17. B	18. D	19. B	20. C
21. C	22. C	23. C	24. C
25. D	26. C	27. A	28. D
29. D	30. B	31. D	32. B
33. B	34. B	35. A	36. A
37. A	38. D	39. B	40. A
41. D	42. B	43. B	44. B
45. D	46. D	47. A	48. C
49. B	50. D	51. C	52. D
53. C	54. A	55. D	56. C
57. C	58. C	59. B	60. D
61. D	62. B	63. D	64. A
65. D	66. C	67. B	68. B
69. B	70. B	71. D	72. A
73. C	74. B	75. D	76. D
77. D	78. A	79. A	80. A
81. D	82. C	83. D	84. A
85. A	86. D	87. D	88. B
89. D	90. A	91. B	92. C
93. D	94. A	95. C	96. B
97. D	98. B	99. B	100. A
101. C	102. C	103. 8	104. 8
105. 5	106. 7	107. 5	108. 8