

# **MENIIT**

**NEET | IIT-JEE | FOUNDATION**

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## **ADMISSION TEST (FOUNDATION)**

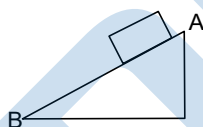
### **SAMPLE PAPER 1**

**COURSE**  
**FOUNDATION-IX**  
**(VIII going to IX)**

**ADMISSION TEST PATTERN****SCIENCE : 60 MCQs****MATHEMATICS : 30 MCQs****MENTAL ABILITY : 10 MCQs****Total Questions: 100****Test Duration: 120 minutes (2 Hours)****SECTION A : SCIENCE**

1. If a rock is brought from the surface of the moon:  
(A) its mass will change  
(B) its weight will change, but not mass  
(C) both mass and weight will change  
(D) its mass and weight will remain the same
2. How many dynes are equal to 1N?  
(A)  $10^6$   
(B)  $10^4$   
(C)  $10^5$   
(D)  $10^3$
3. When an object undergoes acceleration:  
(A) its speed always increases  
(B) its velocity always increases  
(C) it always falls towards the earth  
(D) a force always acts on it
4. The net force acting on a body of mass 1 kg moving with a uniform velocity of  $5 \text{ ms}^{-1}$  is:  
(A) 5 N  
(B) 0.2 N  
(C) 0 N  
(D) None of these
5. A force when applied brings change in –  
(A) Direction of motion of the body  
(B) Speed of moving body  
(C) Shape of the body  
(D) all of the above
6. While racing, suppose that a cyclist of mass 45 kg is travelling with an acceleration of  $30 \text{ m/s}^2$ . Calculate the force acting on cyclist  
(A) 1250N.  
(B) 1350N.  
(C) 1500N.  
(D) 1870N.
7. The S.I. unit of pressure is:  
(A) Newton  
(B) Dyne/cm<sup>2</sup>  
(C) Pascal  
(D) Joule
8. At high altitudes the air pressure (as compared to pressure of the surface of the Earth) is  
(A) less  
(B) more  
(C) same  
(D) none of these
9. The pressure in a liquid at greater depth is  
(A) smaller  
(B) greater  
(C) same  
(D) none of these

10. For a fixed area of contact, the pressure exerted:  
 (A) increases with increase in force (B) increases with decrease in force  
 (C) is independent of force (D) none of these
11. A force of 50 N is applied normally on a table top of area  $2 \text{ m}^2$ . Then the pressure exerted on the table top is:  
 (A)  $25 \text{ Nm}^{-2}$  (B)  $50 \text{ Nm}^{-2}$   
 (C)  $10 \text{ Nm}^{-2}$  (D)  $100 \text{ Nm}^{-2}$
12. Atmospheric pressure is measured by:  
 (A) Barometer (B) manometer  
 (C) screw gauge (D) none of these
13. Friction can be increased by:  
 (A) making the surface rough (B) increasing the mass of object  
 (C) both (A) and (B) (D) none of these
14. A body is sliding down an inclined plane as shown in the figure. Direction of frictional force acting on the block is:



- (A) along AB (B) along BA  
 (C) vertically upwards (D) vertically downwards
15. Which is not true?  
 (A) air exerts friction  
 (B) rise in temperature due to friction in atmosphere burns meteors  
 (C) corrugations on soles of shoes reduce friction  
 (D) none of above
16. Frictional force increases with the increase in  
 (A) roughness of the surface (B) smoothness of the surface  
 (C) distance between two bodies (D) none of these
17. The flying machine offering the least frictional force should be  
 (A) irregular (B) tree-like  
 (C) symmetrical with many arms (D) streamlined
18. What is the name of short duration wave?  
 (A) Pulse (B) Frequency  
 (C) Time period (D) Velocity
19. Sound is produced by :  
 (A) A body at rest (B) A body moving with a uniform velocity  
 (C) A body moving with constant acceleration (D) A vibrating body

20. Sound travels fastest in following :  
(A) Air (B) Water  
(C) Iron (D) Vacuum
21. With the rise of temperature, the velocity of sound  
(A) Decreases (B) Increases  
(C) Remains the same (D) Is independent of temperature
22. Voice of a person is recognised by its :  
(A) Pitch (B) Quality  
(C) Intensity (D) Velocity
23. Hertz is unit of :  
(A) time period (B) wavelength  
(C) frequency (D) wave velocity
24. Sound of frequencies below 20 Hz are called:  
(A) Infrasonic (B) Ultrasonic  
(C) Supersonic (D) None of these
25. When a glass rod is rubbed with silk, it acquires a positive charge because :  
(A) Electrons are added to it  
(B) Protons are added to it  
(C) Protons are removed from it  
(D) Electrons are removed from it
26. Good conductors have many loosely bound :  
(A) Molecules (B) Atoms  
(C) Protons (D) Electrons
27. Which of the following is a conductor?  
(A) Vacuum (B) Copper  
(C) Mica (D) Pure water
28. Conventionally the direction of the current is taken as :  
(A) the direction of flow of negative charge  
(B) the direction of flow of atoms  
(C) the direction of flow of molecules  
(D) the direction of flow of positive charge
29. When circuit is open then ;  
(A) No electric current flow through it (B) electric current flow through it  
(C) Key is closed (D) Both A and B
30. A negative charged ion is called :  
(A) atom (B) cation  
(C) anion (D) electron

31. Carbonisation is -  
 (A) formation of carbon dioxide. (B) formation of carbon-monoxide.  
 (C) burning of coal in presence of oxygen. (D) conversion of dead vegetation into coal
32. Coal tar is replaced by -  
 (A) tar (B) coal gas  
 (C) coal (D) bitumen
33. Coal is believed to have been formed about  
 (A) 300 million years ago (B) 200 million years ago  
 (C) 100 million years ago (D) 400 million years ago
34. Exhaustible natural resource of energy is :  
 (A) Water (B) Solar energy  
 (C) Air (D) Petroleum
35. Which of the following is the best quality coal?  
 (A) peat (B) anthracite  
 (C) bituminous (D) lignite
36. The fuel considered as clean fuel is  
 (A) Biogas (B) CNG  
 (C) LPG (D) All of the above
37. The heat and light that comes from burning materials is known as  
 (A) fire (B) fuel  
 (C) flame (D) All of these
38. The substances which have very low ignition temperature and can easily catch fire with a flame are called  
 (A) luminous substances  
 (B) combustible substances  
 (C) inflammable substances  
 (D) All of these
39. Which one of the following is a non-combustible substance?  
 (A) Coal (B) Iron  
 (C) Straw (D) Wood
40. Water cannot be used in  
 (A) Oil fire (B) Forest fire  
 (C) Building fire (D) All of these
41. A luminous flame appears  
 (A) red (B) green  
 (C) yellow (D) blue
42. Which of the following fuels has the highest calorific value?  
 (A) Petrol (B) Hydrogen  
 (C) LPG (D) Natural gas

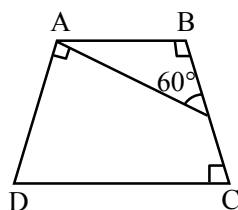
43. Transfer of seedlings from the nurseries to the main field is termed as –  
(A) weeding (B) sowing  
(C) transplantation (D) ploughing
44. Rahat and Dhekli are the –  
(A) Names of two persons  
(B) Names of two villages  
(C) Traditional methods of irrigation  
(D) None of these
45. Ditches made between the two rows of a crop are called as -  
(A) Furrow (B) Canal  
(C) Line (D) None
46. Fertilizers are harmful for soil because  
(A) they increase soil fertility (B) they cause the soil pollution  
(C) provides the nutrients (D) they are inorganic salt
47. In \_\_\_\_\_ soil, frequent irrigation is required  
(A) Sandy (B) Clayey  
(C) Loamy (D) All of these
48. Milch animals are given \_\_\_\_\_ to increase the quantity of milk.  
(A) grass (B) straw  
(C) ambon (D) horse gram
49. The microorganism which has the ability to fix nitrogen is -  
(A) Virus (B) *Euglena*  
(C) *Rhizobium* (D) *Amoeba*
50. Formation of curd by milk is done by -  
(A) *Lactobacillus* (B) Moulds  
(C) Yeasts (D) algae
51. A disease caused by viruses in animal is -  
(A) Anthrax (B) Aspergillosis  
(C) Foot and mouth (D) None
52. Milk is converted into milk powder by -  
(A) Vacuum drying (B) Bottling  
(C) Canning (D) Dehydration
53. Which of the following disease is caused by a fungus?  
(A) Small pox (B) Tuberculosis  
(C) Cancer (D) Aspergillosis
54. Yeast is -  
(A) Alga (B) Fungus  
(C) Bacterium (D) Liverwort

55. Consequences of deforestation is  
(A) Reduced rainfall (B) Desertification  
(C) Global warming (D) all of these
56. Which of the following has become extinct because of hunting by humans?  
(A) Dinosaurs (B) Dodo  
(C) Bison (D) Squirrel
57. Limited private operations are permitted in -  
(A) National Parks (B) Wildlife sanctuaries  
(C) Zoological parks (D) None of these
58. All the plants found in a particular area are termed as:-  
(A) Flora (B) Fauna  
(C) Trees (D) Garden
59. According to IUCN red list. What is the status of red panda (*Ailurus fulgens*)  
(A) Extinct species (B) Vulnerable species  
(C) Endangered species (D) Critically endangered species
60. Species listed in Red Data Book are  
(A) Threatened (B) Endangered  
(C) Rare (D) All of these

## Section B - MATHEMATICS

61. How many rational numbers exist between any two distinct rational numbers?  
(A) 2 (B) 3  
(C) 11 (D) Infinite
62. Which of the following numbers is the product of  $\frac{6}{13}$  &  $\frac{-26}{3}$   
(A) 1 (B) -4  
(C)  $\frac{-266}{133}$  (D)  $\frac{266}{133}$
63. Which of the following numbers lies in the middle of  $\frac{3}{4}$  &  $\frac{7}{4}$   
(A) 5.0 (B) 3.0  
(C) 2.5 (D) 1.25
64. Which of the following numbers is the simplest form of  $\frac{3}{4} + \left(-\frac{1}{4}\right) + \left(-\frac{5}{4}\right)$   
(A)  $\frac{9}{4}$  (B)  $\frac{-3}{4}$   
(C)  $\frac{-9}{4}$  (D)  $\frac{7}{4}$

65. If  $\frac{x}{3} + 1 = \frac{7}{15}$ , then the value of 'x' is
- (A)  $\frac{22}{5}$  (B)  $-\frac{8}{5}$   
(C)  $\frac{7}{5}$  (D) 3
66. What is the degree of the equation?  
 $x^2 + 2x - 3 = x^2 + 7x - 23$
- (A) zero (B) one  
(C) two (D) three
67. What is the length of the rectangle whose breadth is 10 cm & perimeter 60 cm.
- (A) 15cm (B) 16cm  
(C) 20cm (D) 25cm
68. If  $\frac{\frac{2}{3}x + 1}{x + \frac{1}{4}} = \frac{5}{3}$ , then x = ?
- (A)  $\frac{7}{12}$  (B)  $\frac{5}{13}$   
(C)  $\frac{6}{13}$  (D)  $\frac{7}{14}$
69. The sum of all the angles of a quadrilateral is
- (A)  $180^\circ$  (B)  $270^\circ$   
(C)  $360^\circ$  (D)  $400^\circ$
70. A quadrilateral whose opposite sides are parallel is called
- (A) a rhombus (B) a kite  
(C) a trapezium (D) a parallelogram
71. A square has
- (A) all sides equal and diagonals unequal  
(B) all sides equal and diagonals equal  
(C) all sides unequal and diagonals equal  
(D) none of these
72. In the given figure angle  $\angle ADC$  is



- (A)  $70^\circ$  (B)  $90^\circ$   
(C)  $80^\circ$  (D)  $60^\circ$



73. What is the probability of getting a king if a card is drawn from a pack of 52 cards?
- (A)  $\frac{1}{52}$  (B)  $\frac{2}{52}$   
(C)  $\frac{3}{52}$  (D)  $\frac{4}{52}$
74. What is the probability of getting a prime number if a die is tossed once?
- (A)  $\frac{1}{6}$  (B)  $\frac{2}{6}$   
(C)  $\frac{3}{6}$  (D)  $\frac{4}{6}$
75. The least 4-digit number which is a perfect square is
- (A) 1024 (B) 1016  
(C) 1036 (D) 1044
76. An odd number when multiplied by itself gives 2401. Find the number.
- (A) 41 (B) 39  
(C) 49 (D) 51
77. Which of the following is not a perfect square?
- (A) 12544 (B) 3136  
(C) 23832 (D) 1296
78. The greatest 3-digit number which is a Perfect square is
- (A) 729 (B) 927  
(C) 961 (D) 972
79. Sam purchased 20 dozens of toys at the rate of Rs. 375 per dozen. He sold each one of them at the rate of Rs. 33. What was his percentage profit?
- (A) 3.5 (B) 4.5  
(C) 6.5 (D) None
80. A man buys a cycle for Rs. 1400 and sells it at a loss of 15%. What is the selling price of the cycle?
- (A) Rs. 1090 (B) Rs. 1160  
(C) Rs. 1190 (D) Rs. 1202
81. Peter purchased a machine for Rs. 80,000 and spent Rs. 5000 on repair and Rs. 1000 on transport and sold it with 25% profit. At what price did he sell the machine?
- (A) Rs. 1,05,100 (B) Rs. 1,06,250  
(C) Rs. 1,07,500 (D) Rs. 1,17,500
82. If all the sides of a rectangle are increased by 40%, then by what percentage does its area increase:
- (A) 16% (B) 96%  
(C) 116% (D) 196%

83. For what value of  $a$  for which the polynomial  $(x^4 - x^3 - 11x^2 - x + a)$  is divisible by  $x + 3$ .  
 (A)  $-12$  (B)  $12$   
 (C)  $13$  (D)  $-14$
84. What must be added to  $\frac{1}{x}$  to make it equal to  $x$ ?  
 (A)  $\frac{x-1}{x+1}$  (B)  $\frac{x+1}{x-1}$   
 (C)  $\frac{x^2+1}{x}$  (D)  $\frac{x^2-1}{x}$
85. The product of a monomial and a binomial is a:  
 (A) monomial (B) binomial  
 (C) trinomial (D) none of these
86. In a polynomial, the exponents of the variables are always:  
 (A) integers (B) positive integers  
 (C) non-negative integers (D) non-positive integers
87. If  $x + y = 7$  and  $xy = 12$ , the value of  $(x^2 + y^2)$  is:  
 (A)  $25$  (B)  $29$   
 (C)  $37$  (D)  $49$
88. If  $\left(x + \frac{1}{x}\right) = 3$ , then  $\left(x^2 + \frac{1}{x^2}\right)$  is equal to :  
 (A)  $\frac{10}{3}$  (B)  $\frac{82}{9}$   
 (C)  $7$  (D)  $11$
89. The value of  $n$  for which the expression  $25x^2 + nx + 16$  becomes a perfect square, is:  
 (A)  $20$  (B)  $40$   
 (C)  $18$  (D)  $24$
90. The value of:  
 $(a^{1/8} + a^{-1/8})(a^{1/8} - a^{-1/8})(a^{1/4} + a^{-1/4})(a^{1/2} + a^{-1/2})$  is:  
 (A)  $(a + a^{-1})$  (B)  $(a - a^{-1})$   
 (C)  $(a^2 - a^{-2})$  (D)  $(a^{1/2} - a^{-1})$

### Section C – MENTAL ABILITY

91. Arrange the given words in a meaningful sequence and then choose the most appropriate sequence from amongst the alternatives provided below each question:
- Honey
  - Flower
  - Bee
  - Wax
- (A) 1, 3, 4, 2 (B) 2, 1, 4, 3  
 (C) 2, 3, 1, 4 (D) 4, 3, 2, 1

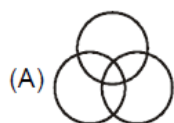
92. In question written below a statement is given followed by two conclusion I and II.

**Statement:** Adversity makes a man wise.

**Conclusions:**

- I. The poor are wise  
II. Man learns from bitter experience.

- (A) Only conclusion I is true  
(B) Only conclusion II is true  
(C) Both conclusions I and II are true  
(D) Neither conclusion I nor conclusion II are true.
93. In a showroom, 60 percent discount is given to everybody on all the articles. The successive discount of 40 percent is offered to female students. If printed price of an article of Rs. 1000 is bought by a female student, how much she will have to pay for that article?
- (A) Inconclusive (B) Zero  
(C) Rs. 160 (D) Rs.240
94. Amit said, "This girl is the wife of the grandson of my mother." How is Amit related to the girl?
- (A) Father (B) Father-in-law  
(C) Grandfather (D) Husband
95. Which of the Venn diagrams given in the alternatives best represents the relation between the given items?  
Doctors, Engineers, Lawyers



96. Select the missing numbers in the following sequence.

3, 6, 24, 30, 63, 72, ?, ?, 195, 210

- (A) 117, 123 (B) 120, 132  
(C) 123, 135 (D) 135, 144

97. Find the missing term in figures.

6	8	4
9	12	6
15	20	?

- (A) 5 (B) 10  
(C) 20 (D) 25
98. A sprinter goes off the starting block for 100m run and at that instant the second-hand of a stopwatch had pointed towards North. He touches the finishing line exactly after 12 seconds. In which direction did the second hand point when he just crossed the finishing line?
- (A) 18° North of East (B) 18° East of North  
(C) 72° North of East (D) 82° East of North

99. Ashish leaves his house at 20 minutes to seven in the morning, reaches Kunal's house in 25 minutes, they finish their breakfast in another 15 minutes and leave for their office which takes another 35 minutes. At what time do they leave Kunal's house to reach their office?
- (A) 7.40 A.M. (B) 7.20 A.M.  
(C) 7.45 A.M. (D) 8.15 A.M.
100. The priest told the devotee, "The temple bell is rung at regular intervals of 45 minutes. The last bell was rung five minutes ago. The next bell is due to be rung at 7.45 a.m." At what time did the priest give this information to the devotee?
- (A) 7.40 a.m. (B) 7.05 a.m.  
(C) 6.55 a.m. (D) None of these

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# ADMISSION TEST (FOUNDATION)

## SAMPLE PAPER 1

**COURSE : FOUNDATION-IX (VIII going to IX)**

### ANSWER KEY

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