

# VISA

## Vision Infinity Scholarship Award

Students of Vision Infinity who secure All India Rank in IIT-JEE within top100, will be Awarded scholarship for four years during B. Tech in IIT

# 6 Year

Paper Code :

VI-STP-2009-6Y-B

## Six Year

All India Rank in IIT-JEE	Scholarship	Total (in four years)
AIR 1	Rs. 10,000/month	Rs. 4,80,000/-
AIR 2	Rs. 7,500/month	Rs. 3,60,000/-
AIR 3	Rs. 6,000/month	Rs. 2,88,000/-
AIR 4 -10	Rs. 5,000/month	Rs. 2,40,000/-
AIR 11- 20	Rs. 3,000/month	Rs. 1,44,000/-
AIR 21-30	Rs. 1,500/month	Rs. 72,000/-
AIR 31-50	Rs. 1,000/month	Rs. 48,000/-
AIR 51-100	Rs. 500/month	Rs. 24,000/-

\* Terms & Conditions apply

## Screening Test Paper-II

Name of the Student : .....

Reg. No. : .....

Duration : 1.30 hour

Max. Marks : 150

Please read the instructions carefully. You are allotted 3 minutes specifically for this purpose.

### INSTRUCTIONS :

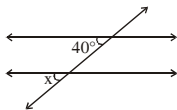
1. This Question Paper contains 75 Questions.
2. Each question has 4 choices for its answer (A), (B), (C) and (D).
3. Only ONE of them is the right answer.
4. There is **no negative marking**.
5. For each question you will be awarded +3 marks.
6. In all other cases you will be awarded 0 marks.
7. Use HB pencil to fill the bubble corresponding to correct answer.
8. You should submit the question paper & answer sheet after the completion of the test to the invigilator.
9. You should keep the question paper & answer sheet clean. Rough work must be done in the space provided.

## Mathematics

1.  $\frac{2x}{3} + \frac{1}{7} = 5$  then  $x =$   
(A) 3 (B) 5  
(C) Both (D) None of these
2.  $\frac{2+x}{3} + \frac{5+x}{7} = 1$  then  $x =$   
(A) 3 (B) 5  
(C) 7 (D) None of these
3.  $\frac{2}{x+5} + \frac{7}{5} = 2$  then  $x =$   
(A) 2 (B) 4  
(C) 6 (D) None of these.
4.  $3 + 7 + 10 - 2 + 2 \times 3 + 6 \div 2 =$   
(A) 23 (B) 25  
(C) 27 (D) 31.
5.  $1 + 2 + 3 \times 4 + 5 \times 6 + 7 + 1 =$   
(A) 23 (B) 25  
(C) 27 (D) 53.
6.  $\frac{4}{x} - \frac{1}{7} = 9$  then  $x =$   
(A) 4 (B) 7  
(C)  $\frac{7}{16}$  (D) 16.
7. If  $\frac{2+x}{3} - \frac{5+x}{7} = 1$  then  $x =$   
(A) 11 (B) 2  
(C)  $\frac{11}{2}$  (D) None of these.

8.  $(4-x)^2 - (4+x)^2 = 4$  then x is equal to :
- (A)  $\frac{1}{4}$  (B)  $-\frac{1}{4}$   
(C) 4 (D) None of these.
9. If  $x + \frac{4}{x} = 4$  then x is equal to :
- (A) 2 (B) -2  
(C) 4 (D) -4.
10. The simplification of  $\frac{7}{10} - \frac{-3}{5}$  is equal to :
- (A)  $\frac{2}{5}$  (B)  $\frac{1}{10}$   
(C)  $\frac{13}{10}$  (D)  $\frac{4}{5}$
11. When  $(5)^8$  is divided by  $(5)^{-5}$  then answer will come :
- (A)  $\frac{1}{(5)^{13}}$  (B)  $5^{13}$   
(C)  $5^3$  (D)  $\frac{1}{(5)^3}$
12.  $(1+x)(1-x+x^2)$  equal to :
- (A)  $1-x^3$  (B)  $(1-x)^3$   
(C)  $1+x^3$  (D)  $(1+x)^3$ .
13. If the sum of two numbers is 40 and if one number is three times of the other then the one number is :
- (A) 10 (B) 40  
(C) 35 (D) 5.

14. If the area of a rectangular field is  $400 \text{ m}^2$  and its length is  $40 \text{ m}$ . Then its perimeter is :
- (A)  $50 \text{ m}$  (B)  $100 \text{ m}$   
 (C)  $110 \text{ m}$  (D)  $150 \text{ m}$ .
15. If  $x - \frac{1}{x} = 5$  and  $x^2 - \frac{1}{x^2} = 30$  Then  $x + \frac{1}{x}$  is equal to :
- (A)  $6$  (B)  $25$   
 (C)  $25$  (D)  $\frac{1}{6}$
16. The square root of  $3136$  is :
- (A)  $26$  (B)  $126$   
 (C)  $56$  (D)  $66$ .
17. In the given Fig. find  $x$ -



- (A)  $40^\circ$  (B)  $140^\circ$   
 (C)  $120^\circ$  (D)  $100$ .
18. What percent of  $400$  is  $40$  :
- (A)  $10\%$  (B)  $20\%$   
 (C)  $40\%$  (D)  $0.1\%$ .
19. If  $a = 2$ ,  $b = 0.2$  Then the value of  $(a - b)(a^2 + ab + b^2)$  is equal to :
- (A)  $7.992$  (B)  $6.992$   
 (C)  $5.992$  (D)  $0$ .
20. The value of  $\sqrt{99} \times \sqrt{396}$  is :
- (A)  $198$  (B)  $99$   
 (C)  $98$  (D)  $109$ .

21. If  $(65)^2 - (60)^2 = [(55)^2 - (50)^2] \times x$ , then the value of  $x$  is—
- (A)  $\frac{23}{21}$  (B)  $\frac{28}{21}$   
 (C)  $\frac{25}{21}$  (D) None of these.
22.  $(302)^3 = ?$   
 (A) 37543608 (B) 28543608  
 (C) 27543608 (D) None of these.
23. The value of  $\left(-\frac{5}{11}\right)^3$  is—
- (A)  $\frac{125}{1331}$  (B)  $-\frac{125}{1331}$   
 (C)  $\frac{1331}{125}$  (D) None of these.
24. The value of  $\sqrt[3]{(-343) \times 512}$  is—
- (A) 56 (B) -56  
 (C) 65 (D) -65.
25. The value of  $(z^2 + 2)(z^2 - 2)$  is—
- (A)  $z^4 + 16$  (B)  $z^2 - 16$   
 (C)  $z^2 + 16^2$  (D) None of these.
26. The value of  $a^3 + b^3$  is—
- (A)  $(a + b)(a^2 - ab - b^2)$  (B)  $(a + b)(a^2 + ab + b^2)$   
 (C)  $(a - b)(a^2 + ab + b^2)$  (D)  $(a + b)(a^2 - ab + b^2)$ .
27. The value of  $(1001)^3$  is—
- (A) 1003003001 (B) 100300301  
 (C) 103003001 (D) 10030030001.
28. The value of  $x^6 - y^6$  is—
- (A)  $(x + y)(x - y)(x^2 - xy + y^2)(x^2 + xy + y^2)$   
 (B)  $(x + y)(x - y)(x^2 - xy + y^2)(x^2 - xy - y^2)$   
 (C)  $(x + y)(x - y)(x^2 + xy + y^2)(x^2 - xy - y^2)$   
 (D)  $(x + y)(x - y)(x^2 - xy - y^2)(x^2 + xy + y^2)$ .

29. If  $\frac{2x-3}{3x+2} = -\frac{2}{3}$ , then the value of x is—
- (A)  $-\frac{3}{11}$  (B)  $\frac{5}{12}$   
 (C)  $\frac{7}{12}$  (D)  $\frac{6}{13}$ .
30. If  $\frac{2x}{3x+1} = 3$ , then the value of x is—
- (A)  $-\frac{3}{7}$  (B)  $\frac{3}{7}$   
 (C)  $\frac{4}{7}$  (D)  $\frac{5}{7}$ .

### SCIENCE

31. Which of the following is not a planet ?
- (A) Mercury (B) Saturn  
 (C) Mars (D) Moon.
32. Which of the following is a good conductor of electricity ?
- (A) Paper (B) Drycloth  
 (C) Rubber (D) Copper.
33. The S.I. unit of length is :
- (A) Centimetre (B) Metre  
 (C) Decimetre (D) Kilometre.
34. The normal temperature of human body is :
- (A) 98.4 °C (B) 37 K  
 (C) 98.4 K (D) 37 °C.
35. Which of the following is the correct relation for pressure ?
- (A) Pressure = Force  $\times$  Area (B) Pressure =  $\frac{\text{Force}}{\text{Area}}$   
 (C) Pressure =  $\frac{\text{Area}}{\text{Force}}$  (D) Pressure = Force  $\times$  (Area)<sup>2</sup>.

36. Vehicles plying on road come to a stop if their engines are switched off. This is due to  
(A) Electric force (B) Magnetic force  
(C) Force of friction (D) Gravitational force.
37. Pressure of fluids can be measured with  
(A) Manometer (B) Barometer  
(C) Thermometer (D) Odometer.
38. A moving car on a road possess :  
(A) Light energy (B) Electrical energy  
(C) Kinetic energy (D) Chemical energy
39. Which of the following is not a simple machine ?  
(A) Sickle (B) Screw  
(C) Knife (D) Bicycle.
40. In celsius scale, the upper fixed point is :  
(A) 50°C (B) 100°C  
(C) 150°C (D) 200°C
41. In Kelvin scale, the lower fixed point is :  
(A) 173 K (B) 273 K  
(C) 373 K (D) 473 K
42. The unit of temperature is :  
(A) Kelvin (B) Meter  
(C) Pounds (D) Newton.
43. A man running on a road has  
(A) Light energy (B) Electrical energy  
(C) Kinetic energy (D) Chemical energy
44. Moon is the natural satellite of  
(A) Earth (B) Venus  
(C) Mars (D) Jupiter

45. Celsius scale has  
(A) 100 Division (B) 200 Division  
(C) 300 Division (D) 400 Division
46. Materials that transport heat from one end to another is called :  
(A) Good conductors of heat (B) Bad conductors of heat  
(C) Insulators (D) None of these.
47. The matter that occupies a definite space and has a definite shape is called :  
(A) Liquid (B) Solid  
(C) Gas (D) None of these.
48. The process in which solid setting down in liquid is called :  
(A) Crystallisation (B) Distillation  
(C) Sedimentation (D) Evaporation.
49. Neela thotha is :  
(A) Blue vitriol (B) Alum  
(C) Sugar (D) Common salt.
50. The process in which a solid get converted directly into its gaseous state is called :  
(A) Crystallisation (B) Sedimentation  
(C) Sublimation (D) Distillation.
51. The changes that take a long time to occur are called :  
(A) Fast changes (B) Slow change  
(C) Common changes (D) Irreversible Changes.
52. The reaction which occur only one direction is called :  
(A) Reversible reaction (B) Irreversible reaction  
(C) Neutralisation (D) None.
53. The substances that are present before a reaction are called :  
(A) Reactant (B) Products  
(C) Distillation (D) Crystallisation.
54. The types of changes in which no new substances are formed are called :  
(A) Physical changes (B) Chemical changes  
(C) Reactants (D) Products.
55. The process of separating any salt from its solution by removing water is called :  
(A) Crystallization (B) Sublimation  
(C) Evaporation (D) Distillation.
56. Iron is :  
(A) Metal (B) Non metal  
(C) Rust of metal (D) liquid metal.

57. Copper is used in making :  
(A) Coins (B) idol  
(C) Electrical wire (D) all of these.
58. Citrus Acid is present in :  
(A) apple (B) Carrot  
(C) Raddish (D) lemon
59. Number of atom present in water molecule is :  
(A) 1 (B) 2  
(C) 3 (D) 4
60. Molecule consist of how many atoms?  
(A) one (B) two or more  
(C) three (D) only two
61. Hardest substance of teeth is :  
(A) Dentine (B) Cell  
(C) Yellow layer (D) Enamel.
62. Chlorination of water make :  
(A) Germs multiplication (B) Germs free water  
(C) Dirty water (D) Clear water.
63. Vaccination is done against :  
(A) Polio (B) Hepatitis  
(C) Malaria (D) Polio and hepatitis.
64. Urethra is part of :  
(A) Digestive system (B) Circulatory system  
(C) Nervous system (D) Excretory system.
65. Heart beats at the rate of :  
(A) 20–25 per minute (B) 35–40 per minute  
(C) 60–62 per minute (D) 70–72 per minute.
66. Reflex action is related to :  
(A) Stomach (B) Hands  
(C) Legs (D) Spinal cord.
67. An organ is made up of :  
(A) One cell only (B) Tissue  
(C) Water only (D) Organ system.

68. Two words in scientific name is :  
(A) First for genus and the second for species  
(B) First for species and the second for genus  
(C) First for family and the second for species  
(D) First for family and the second for genus.
69. Plant living in scarcity of water is :  
(A) Hydrophyte (B) Mesophyte  
(C) Xerophyte (D) None of these.
70. The ultimate source of energy is :  
(A) Sun (B) River  
(C) Water (D) Wind.
71. Kidney is attach to :  
(A) Heart (B) Urethra  
(C) Lungs (D) Brain.
72. Heart have :  
(A) auricle (B) Ventricle  
(C) Both of these (D) no cell.
73. Controlling organ of the body is :  
(A) Kidney (B) Heart  
(C) Lungs (D) Brain.
74. Cactus is an example of :  
(A) Hydrophyte (B) Mesophyte  
(C) Xerophyte (D) none of these.
75. Oral vaccine is commonly used for :  
(A) Polio (B) Hepatitis  
(C) Malaria (D) AIDS.



**ANSWER****6 Year**

- |       |       |       |       |       |
|-------|-------|-------|-------|-------|
| 1. D  | 2. D  | 3. D  | 4. C  | 5. D  |
| 6. C  | 7. C  | 8. B  | 9. A  | 10. C |
| 11. B | 12. C | 13. A | 14. B | 15. A |
| 16. C | 17. A | 18. A | 19. A | 20. A |
| 21. C | 22. C | 23. B | 24. B | 25. D |
| 26. D | 27. A | 28. A | 29. B | 30. A |
| 31. D | 32. D | 33. B | 34. D | 35. B |
| 36. C | 37. A | 38. C | 39. D | 40. B |
| 41. B | 42. A | 43. C | 44. A | 45. A |
| 46. A | 47. B | 48. C | 49. A | 50. C |
| 51. B | 52. B | 53. A | 54. A | 55. A |
| 56. A | 57. D | 58. D | 59. C | 60. B |
| 61. D | 62. B | 63. D | 64. D | 65. D |
| 66. D | 67. B | 68. A | 69. C | 70. A |
| 71. B | 72. C | 73. D | 74. C | 75. A |