

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

5 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

Model Test Paper-II

Five Year Programme

Name of the Student :

Reg. No. :

Duration : 1.30 hours

Max. Marks : 225

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. The lowest from of $\frac{48}{128}$ is :

(A) $\frac{24}{64}$	(B) $\frac{12}{32}$
(C) $\frac{6}{16}$	(D) $\frac{3}{8}$

2. The sum of two rational number is $\frac{1}{2}$. If one of the number is $\frac{-8}{19}$, then the other number is:

(A) $\frac{35}{38}$	(B) $\frac{31}{38}$
(C) $\frac{29}{38}$	(D) $\frac{27}{38}$

3. The reciprocal of $\frac{-13}{29}$ is:

(A) $\frac{-13}{-29}$	(B) $\frac{-29}{13}$
(C) $\frac{-29}{-13}$	(D) $\frac{29}{13}$

4. The value of $(x \times y)^{-1}$ is:

(A) $x^{-1} \times y^{-1}$	(B) $x \times y^{-1}$
(C) $x^{-1} \times y$	(D) $x^{-1} \div y^{-1}$

5. For $x = \frac{3}{5}$ and $y = \frac{-3}{7}$, the value of $|x| + |y|$ is :

(A) $\frac{6}{35}$	(B) $\frac{36}{35}$
(C) $\frac{21}{35}$	(D) $\frac{15}{35}$

6. The value of $0.3 \times 0.03 \times 0.003$ is :

(A) $\frac{27}{100}$	(B) $\frac{27}{10000}$
(C) $\frac{27}{1000000}$	(D) $\frac{27}{100000000}$

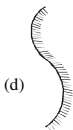
7. Which is not correct:
- (A) $\frac{-4}{11} < \frac{3}{11}$ (B) $\frac{-5}{8} < \frac{-3}{4}$
- (C) $\frac{-7}{12} > \frac{-5}{6}$ (D) $\frac{-4}{9} > \frac{-3}{-7}$
8. The value of $\frac{1}{6} + \frac{-2}{5} - \frac{-2}{15}$ is:
- (A) $\frac{-1}{10}$ (B) $\frac{2}{15}$
- (C) $\frac{-8}{30}$ (D) $\frac{2}{75}$
9. The decimal term of $\frac{17}{5}$ is:
- (A) 3.6 (B) 3.5
- (C) $3.\bar{4}$ (D) 3.4
10. If $(-4)^9 \div (-4)^3 = (-4)^x$, then value of x is:
- (A) 12 (B) 6
- (C) 27 (D) 3.
11. The value of $2^0 \times 3^0 + 3^0 \times 4^0 + 4^0 \times 5^0$ is:
- (A) 38 (B) 21
- (C) 0 (D) 3.
12. If $\frac{1}{2}\%$ of b is 50, then the value of b is:
- (A) 25 (B) 100
- (C) 10000 (D) 1000
13. The value of $(6x + 7)(6x - 7)$ is:
- (A) $36x^2 - 49$ (B) $36x^2 + 84x - 49$
- (C) $36x^2 - 84x + 49$ (D) $36x^2 - 84x - 49$
14. The value of $51^2 - 49^2$ is:
- (A) 100 (B) 200
- (C) 300 (D) 400

15. If $\frac{x}{3} - \frac{5}{2} = 6$, then the value of x is:
(A) 24.5 (B) 25.5
(C) 26.5 (D) 27.5
16. Sum of two numbers is 95. If one exceeds the other by 3, then the smaller number is:
(A) 43 (B) 40
(C) 46 (D) 37.
17. In $\triangle ABC$, $BC = CA$, then:
(A) $\angle A = \angle B$ (B) $\angle B = \angle C$
(C) $\angle C = \angle A$ (D) $\angle A \neq \angle B \neq \angle C$
18. If $\triangle ABC$ is a right angled triangle, right angled at B then :
(A) $AB^2 + BC^2 = CA^2$ (B) $BC^2 + CA^2 = AB^2$
(C) $AB^2 + CA^2 = BC^2$ (D) $AB^2 + CA^2 > BC^2$
19. The point of concurrence of the altitudes (produced if necessary) of a triangle is called its:
(A) Circumcentre (B) Incentre
(C) Centroid (D) Orthocentre
20. The edge of a cube is of length 5 m. Then the surface area of the cube is:
(A) 250 m^2 (B) 150 m^2
(C) 125 m^2 (D) 100 m^2 .
21. The value of $\sqrt{99} \times \sqrt{396}$ is :
(A) 150 (B) 196
(C) 194 (D) 198
22. The value of $\frac{\sqrt{1.44}}{\sqrt{2.25}}$ is :
(A) $\frac{12}{15}$ (B) $\frac{1.2}{1.5}$
(C) $\frac{0.12}{0.15}$ (D) $\frac{0.012}{0.015}$

23. Multiplicative inverse of $\frac{-3}{7}$ is :
- (A) $\frac{3}{7}$ (B) $\frac{7}{3}$
(C) $\frac{-7}{3}$ (D) 0
24. If $x + \frac{1}{x} = 3$, Then the value of $x^2 + \frac{1}{x^2}$ is :
- (A) 5 (B) 7
(C) 9 (D) 9
25. The factorization of $x^4 - y^4$ is :
- (A) $(x^2 + y^2)^2$ (B) $(x^2 - y^2)^2$
(C) $(x + y)(x + y)(x - y)^2$ (D) $(x + y)(x - y)(x^2 + y^2)$
26. The altitude of a triangle whose area is 42 cm² and base 12 cm is :
- (A) 3.5 cm (B) 7 cm
(C) 14 cm (D) 10 cm
27. What is the area of a right angled triangle whose hypotenuse is 25 cm and base is 7 cm.
- (A) 94 cm² (B) 85 cm²
(C) 84 cm² (D) 64 cm²
28. The area of a square is 64 m². What is the area of the square joining the mid points of the square.
- (A) 16 m² (B) 32 m²
(C) 48 m² (D) 64 m²
29. If principal = Rs 3000, Rate = 5%, Time = 2 years, Then Interest is :
- (A) 3307.50 (B) 307.50
(C) 30.75 (D) None of these
30. What is the value of x if $2^x + 2^x + 2^x = 192$
- (A) 3 (B) 4
(C) 5 (D) 6

SCIENCE

31. The volume of a cube is 1 cm^3 . If the length of each side is increased 4 times, the volume of the new cube is :
- (A) 8 cm^3 (B) 32 cm^3
(C) 64 cm^3 (D) 128 cm^3 .
32. Mathematical formula for the volume of a sphere of radius r is :
- (A) $4\pi r^3$ (B) $\frac{4}{3}\pi r^3$
(C) $\frac{4}{3}\pi r^2$ (D) $4\pi r^2$
33. Which of the following statement is incorrect ?
- (A) Air is a good conductor of heat
(B) Transfer of heat in liquids and gases takes place by convection
(C) The process of transfer of heat from a hot body to a cold body, without any medium in between, is called radiation
(D) We receive heat from the sun by radiation.
34. The boiling point of water is :
- (A) 0°C (B) 10°C
(C) 100°C (D) 200°C .
35. Which of the following is a concave mirror ?



36. Voice of which the following is likely to have a minimum frequency ?
- (A) baby girl (B) baby boy
(C) a man (D) a woman.
37. Choose the incorrect statement :
- (A) A charged body attracts small bits of paper
(B) Electroscope is a simple device to detect the presence of charge on a body
(C) Lightning is due to electric discharge that occurs due to changes in the clouds
(D) Electric charges are created when a body is charged by friction.

38. Which of the following instrument is not classified as percussion instruments ?
(A) Flute (B) Drum
(C) Tabla (D) Dholak.
39. The melting point of ice is :
(A) 0°C (B) 10°C
(C) 100°C (D) 200°C .
40. Which of the following is the unit of time :
(A) Sec. (B) Meter
(C) Sec^2 (D) Meter^2 .
41. Which of the following statements is correct regarding the symbol for a cell ?
(A) The longer line in the symbol for a cell represents its positive terminal
(B) The longer line in the symbol for a cell represents its negative terminal
(C) The shorter line in the symbol for a cell represents its positive terminal
(D) The two lines drawn in the symbol for a cell must be equal in length.
42. The combination of two or more cells is called :
(A) Electric fuse (B) Electric bulb
(C) Battery (D) Electromagnet.
43. The safety device based on the heating effect of electric current is :
(A) Electric fuse (B) Electric bulb
(C) Battery (D) Electromagnet.
44. The first person to notice the deflection of compass needle every time the current was passed through the wire was :
(A) Hans Christian Oersted (B) Neil Bohr
(C) Isaac Newton (D) Michael Faraday.
45. The complete form of CFL is :
(A) Compact fluorescent lamp (B) Carbon fluorescent lamp
(C) Carbon fluorine lamp (D) Chloro fluoro lamp.
46. The naturally occurring indicators are :
(A) Turmeric (B) Litmus
(C) China rose (D) All of these.

47. Ammonium hydroxide is found in :
(A) Lime water (B) Soap
(C) Window cleaner (D) None of these.
48. Baking soda is :
(A) Potassium hydrogen carbonate (B) Sodium hydrogen carbonate
(C) Sodium carbonate (D) Sodium chloride
49. Change of colour from white to brown in a slice of apple if it is not consumed immediately is :
(A) a physical change (B) a chemical change
(C) both of these (D) a natural change
50. Stainless steel is made up of iron with carbon and metals like :
(A) sodium (B) zinc
(C) silver (D) nickel
51. Lohi is the name of breed of :
(A) Goat (B) Cow
(C) Sheep (D) Elephant.
52. Mulberry, tassar, eri, Mooga etc are :
(A) type of silk (B) type of wool
(C) type of cotton (D) None of these.
53. Temperature is measured by a device called :
(A) Stethoscope (B) Thermometer
(C) Barometer (D) None of these.
54. Plastics are :
(A) Conductors (B) Good conductors
(C) Insulator (D) None of these.
55. Source of Tartaric acid is :
(A) Curd (B) Spinach
(C) Amla (D) Grapes.

56. The effect of the string can be neutralised by rubbing moist :
(A) NaCl (B) KCl
(C) Baking soda (D) Sod ash.
57. Excessive use of chemical fertilizer make soil :
(A) Basic (B) Acidic
(C) Neutral (D) Fertile.
58. Explosion of a firework is a :
(A) Chemical change (B) Physical change
(C) Neutral change (D) None of these.
59. During galvanisation process :
(A) Iron get deposit on zinc (B) Zinc get deposit on Iron
(C) Zinc never get deposit on iron (D) Iron get rusted.
60. Ozone layer absorb :
(A) Light rays (B) UV rays
(C) Cl₂ gas (D) None of these.
61. The ability to camouflage in prey is an example of:
(A) Growth (B) Development
(C) Adaptation (D) None of these
62. The soil which is used to make pots and toys are:
(A) Clayey (B) Loamy
(C) Sandy (D) Loamy and Sandy
63. During heavy exercise, we get cramps in the legs due to the accumulation of :
(A) Carbon dioxide (B) Lactic acid
(C) Alcohol (D) Water
64. Blood consist of:
(A) Plasma (B) RBC
(C) WBC (D) All of these
65. When pollen grain transfer from the another to the stigma of the same flower:
(A) pollination (B) self pollination
(C) cross pollination (D) reproduction

66. If forest disappear, the amount of CO_2 in air will be :
(A) Decrease (B) Increase
(C) Remain same (D) Exhaust
67. Cuscuta is:
(A) crop plant (B) parasite plant
(C) photosynthetic plant (D) worm
68. Degestion of protein starts in :
(A) buccal cavity (B) stomach
(C) intestine (D) liver
69. Liver produce:
(A) Salvia (B) Acid
(C) Bile juice (D) Water
70. The product of photosynthesis is:
(A) H_2O (B) O_2
(C) $\text{C}_6\text{H}_{12}\text{O}_6$ (D) All of these
71. Iodine test is for :
(A) starch (B) sodium
(C) proteins (D) fats
72. Gall bladder store :
(A) Liver enzyme (B) bile juice
(C) pancreatic juice (D) gastric juice
73. In respiration, glucose oxidise to give :
(A) CO_2 (B) H_2O
(C) energy (D) All of these
74. Stethoscope is a device to amplify the sound of the :
(A) liver (B) chest
(C) lung (D) heart
75. Fragmentation is seen in :
(A) spirogyra (B) Fungi
(C) Amoeba (D) Rose

ANSWER**5 Year**

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