FIITJEE

Maharashtra Science Talent Search Examination - 2023

(only for Maharashtra State Students)

***for* students presently in Class XI**

SAMPLE PAPER

Time: 180 minute (10:00 am - 01:00 pm) **Maximum Marks: 270**

Please read the instructions carefully. Additional 30 minutes (09:30 am - 10:00 am) will be provided for Reading the Examination Instructions and filling up the information on the ORS Sheet.

INSTRUCTIONS

A: General :

1. Please immediately fill in the particulars on this page of the Test Booklet with Blue/Black Ball point pen.
2. Blank papers, clipboards, log tables, slide rules, calculators, cellular phones, pagers and electronic gadgets in any form are not allowed.
3. The answer sheet, a machine-gradable Objective Response Sheet (ORS) is provided separately.
4. Do not Tamper/mutilate the **ORS** or this booklet.
5. No additional sheets will be provided for rough work.
6. On completion of this test, the candidate must hand over the Answer Sheet to the Invigilator on duty in the Room/Hall. ***However, the candidates are allowed to take away this Test Booklet with them.***

B: Questions paper format & Marking Schema:

1. The question paper consists of **FOUR Parts: PART I (IQ), II (Physic), III (Chemistry) & IV (Mathematics).**
2. **PART-I** contains **30** multiple choice single correct type questions. Each question has four choices (A), (B), (C) and (D) out of which one and only one is correct.
3. **PART-II, III & IV** each part contains **20** multiple choice single correct type question. Each question has four choices (A), (B), (C) and (D) out of which one and only one is correct.
4. **You are advised to devote 1 hour on PART-I and 2 hours on PART-II, III & IV.**
5. For each question, in all three **PARTs,** you will be awarded **3 marks** if you darken the bubble corresponding to the correct answer **ONLY** and **zero (0) marks** if no bubbles are darkened. In all other cases, **minus one (−1) mark** will be awarded.

Registration No. : | | | | | | | | | | | | | | | | | | | | | | | |

Name of Candidate : _____

Test Centre: _____

PART – I

I.Q.

*This section contains **30 Multiple Choice Questions** number **1 to 30**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

1. An article is sold on successive discounts of 2%, 4%, 6%, ... so on upto 50 such discounts. What is the overall discount on the article.

(A) 35% (B) 50%
(C) 100% (D) 75%

2. Find the missing number in the series

2, 3, 5, 7, ?

(A) 11 (B) 12
(C) 13 (D) 14

3. If 'blue', means 'orange', 'orange' means 'white', 'white' means 'black', 'black' means 'yellow', 'yellow' means 'red' and red means 'brown', then what is the color of milk?

(A) Black (B) Brown
(C) Orange (D) Blue

4. The calendar for the year 1896 is same as which upcoming year.

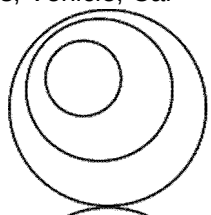
(A) 1936 (B) 1924
(C) 1904 (D) 1908

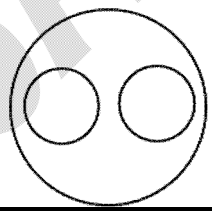
5. In a row of boys facing the North, A is sixteenth from the left end and C is sixteenth from the right end. B who is fourth to the right of A, is fifth to the left of C in the row. How many boys are there in the row?

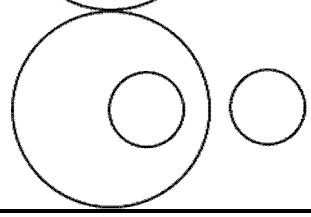
(A) 39 (B) 40
(C) 41 (D) 42

6. Which of the following diagram correctly represents Bus, Vehicle, Car

(A) 

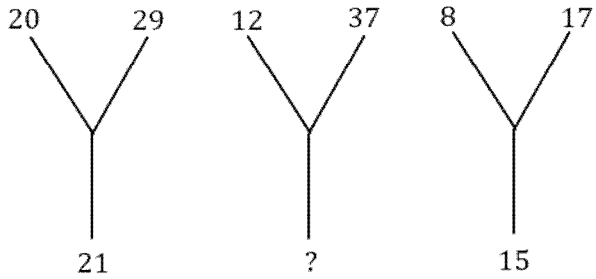
(B) 

(C) 

(D) 

Space for Rough Work

7. Find the missing character in the following



(A) 31 (B) 33
(C) 35 (D) 37

Directions (8 – 10):
Read the following information and answer the questions given below it.
'A + B' means 'A' is the daughter of B'
'A × B' means 'A' is the son of B'
'A − B' means 'A' is the wife of B'.

8. If P × Q − S, which of the following is true?
(A) S is wife of Q (B) S is father of P
(C) P is daughter of Q (D) Q is father of P

9. If T − S × B − M, which of the following is not true?
(A) B is mother of S (B) M is husband of B
(C) T is wife of S (D) S is daughter of B

10. If Z × T − S × U + P, what is U to Z?
(A) Mother (B) Grandmother
(C) Daughter – in – law (D) Cannot be determined

11. One evening before sunset two friends Sumit and Mohit were talking to each other face to face. If Mohit's shadow was exactly to his right side, which direction was Sumit facing?
(A) East (B) West
(C) North (D) South

12. The average of ten numbers is 7. If each number is multiplied by 12, then the average of the new set of numbers is:
(A) 7 (B) 82
(C) 84 (D) 19

Space for Rough Work

13. 16 litres of Kerosene mixed with 5 litres of petrol. The price of kerosene is 12 per litre and the price of petrol is 33 per litre. The average price of the mixture per litre is:

(A) Rs. 15
(B) Rs. 17
(C) Rs. 23
(D) Rs. 27

14. Two pipes A and B can fill a tank in 12 minutes and 16 minutes respectively. If both the pipes are open simultaneously, after how much time should B be closed so that tank is full in 9 minutes.

(A) 4.5 min
(B) 4 min
(C) 5 min
(D) 6 min

15. A monkey is trying to reach the top of a pole which is 30 minutes high from the ground. After climbing every 4 metres it slips down 2 meters. How many attempts will it take to reach the top of the pole?

(A) 14
(B) 15
(C) 17
(D) 16

16. Statements:
All deposits are accounts.
No deposit is a loan.
Conclusion:
I. At least some loans are accounts
II. No loan is an account

(A) Only I is true
(B) Only II is true
(C) Either I or II is true
(D) Neither I nor II is true

17. If 2 is opposite to 3 and adjacent to 4 and 6, then which of the following statement is necessarily true?

(A) 1 is opposite to 5
(B) 4 is opposite to 6
(C) 4 is adjacent to 2 and 6
(D) 1 is adjacent to 2 and 3

18. In the following question, a word has been given followed by four other words, one of which cannot be formed by using the letters of the given word. Find that word.
CONSTRUCTION

(A) SUCTION
(B) COINS
(C) CAUTION
(D) NOTION

Space for Rough Work

Directions (19 – 22):
Read the following statements carefully to answer the questions:
I. X is older than L
II. M and N are equal age
III. Z is youngest
IV. Y is younger than N
V. Y is older than X

19. Which of the above statements indicate that Y is older than L?
(A) I and IV (B) IV and V
(C) I and V (D) None of these

20. Which statement(s) indicate(s) that N is older than Z?
(A) II and III (B) III only
(C) III and IV (D) None of these

21. Which statement(s) is/are not required to prove that L is younger than M?
(A) III only (B) III and IV
(C) IV and V (D) III and V

22. Which set of statements proves that X is younger than M?
(A) I, II, IV (B) II, IV, V
(C) I, IV, V (D) None of these

Directions (23 – 27):
Read the following information carefully to answer the given questions:
Six Films – P, Q, R, S, T and U are to be released on consecutive Fridays. The schedule of the release is to be in accordance with the following conditions.
I. P must be released a week before T.
II. R must not be released immediately after the first release
III. Q must be released on the Friday following the Friday on which U is released
IV. S must be released on Fifth Friday and should not be immediately proceeded by Q.
V. T must not be released in the last.

23. Which of the following films proceeded T?
(A) P (B) Q
(C) S (D) U

24. Which of the following films is to be released immediately after Q?
(A) P (B) R
(C) T (D) U

Space for Rough Work

25. In between which of the two films S is to be released?
(A) Q and T (B) R and T
(C) P and T (D) T and U

26. Which of the following films will be released first?
(A) P (B) Q
(C) R (D) U

27. Which of the following film will be released last?
(A) T (B) S
(C) R (D) P

Directions (28 – 30):
Eight students A, B, C, D, E, F, G and H are planning to enjoy car racing. There are only two cars and following are the conditions:
I. One car can accommodate maximum five and minimum four students.
II. A will sit in the same car in which D is sitting but H is not in the same car.
III. B and C can't sit in the same car in which D is sitting
IV. F will sit in the car of four people only along with A and E but certainly not with G.

28. If E and A are sitting in the same car which of the following statements is true?
(A) Five students are sitting in same car (B) B is sitting in same car
(C) F is not sitting in the same car (D) G is not sitting in the same car

29. If H and G are sitting in the same car, who are other two students sitting in the same car?
(A) B and C (B) C and D
(C) B and D (D) E and B

30. Which of the following statements is superfluous for the above sitting arrangement?
(A) Only I (B) Only II
(C) Only III (D) Only IV

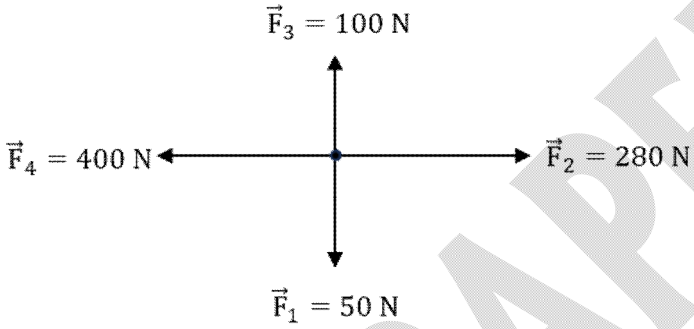
Space for Rough Work

PART – II

PHYSICS

*This section contains **20 Multiple Choice Questions** number **31 to 50**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

31. In the adjacent figure, find the magnitude of resultant vector



(A) 120 N
(B) 130 N
(C) 140 N
(D) 150 N

32. A ball is thrown at a speed of $50\ ms^{-1}$ at an angle of $60°$ with the horizontal. Find the maximum height reaches $(g = 10\ ms^{-2})$

(A) 97.75 m
(B) 93.75 m
(C) 126.5 m
(D) 100 m

33. The position of a body w.r.t time is gives by $x = 3t^3 - 6t^2 + 12t + 6$. At time $t = 0$, its acceleration is

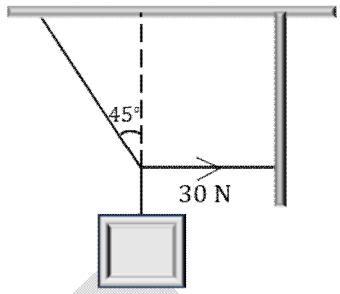
(A) -14
(B) -12
(C) 12
(D) 14

34. A cricket ball of mass 200 gm moving with velocity $15\ ms^{-1}$ is brought to rest by a player in 0.05 sec. What is the impulse of the ball and average force exerted by player?

(A) 6 N
(B) 60 N
(C) 0.6 N
(D) 120 N

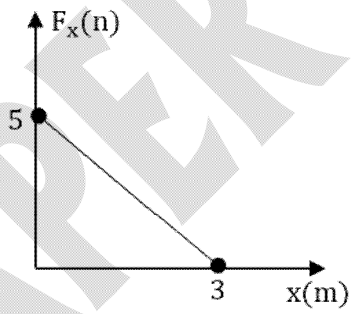
Space for Rough Work

35. In the shown figure. the tension in the horizontal cord is $30\ \text{N}$. Find the weight of the body is.



(A) $60\ \text{N}$
(B) $90\ \text{N}$
(C) $80\ \text{N}$
(D) $30\ \text{N}$

36. The force acting along x-axis on an object as a function of x is shown in the figure. Find the work done by the force in the interval. $0 \leq x \leq 3\text{m}$



(A) $7.5\ \text{J}$
(B) $10\ \text{J}$
(C) $12.5\ \text{J}$
(D) $5\ \text{J}$

37. Given $\vec{p} = 3\hat{i} - 4\hat{j}$. Which of the following perpendicular to $\vec{p}$?

(A) $3\hat{i}$
(B) $4\hat{j}$
(C) $4\hat{i} + 3\hat{j}$
(D) $4\hat{i} - 3\hat{j}$

38. Given $\vec{A} = 4\hat{i} + 6\hat{j}$ and $\vec{B} = 2\hat{i} + 3\hat{j}$. Which of the following is correct?

(A) $\vec{A} \times \vec{B} = 0$
(B) $\vec{A}$ and $\vec{B}$ is perpendicular
(C) $\frac{|\vec{A}|}{|\vec{B}|} = \frac{1}{2}$
(D) $\vec{A}$ and $\vec{B}$ are antiparallel

Space for Rough Work

39. A particle is moving eastwards with velocity of $5\ ms^{-1}$ in $10\ sec$ the velocity changes to $5\ ms^{-1}$ northwards. The average acceleration in this time is.

(A) $\frac{1}{\sqrt{2}} ms^{-2}$ towards north-east
(B) $\frac{1}{2} ms^{-2}$ towards north
(C) 0
(D) $\frac{1}{\sqrt{2}} ms^{-2}$ towards north – west

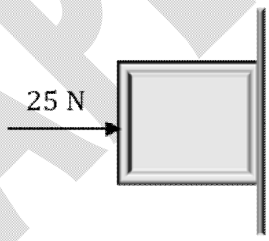
40. A projectile is given an initial velocity of $(\hat{i} + 2\hat{j}) ms^{-1}$, whose $\hat{i}$ is along the ground and $\hat{j}$ is along the vertical. If $g = 10\ ms^{-2}$, the equation of its trajectory is.

(A) $y = 2x - 5x^2$
(B) $4y = 2x - 5x^2$
(C) $4y = 2x - 25x^2$
(D) $y = x - 5x^2$

41. A particle is acted upon by force of constant magnitude which is perpendicular to the velocity of the particle, the motion of the particle takes place in a plane. It follows that.

(A) Its velocity is constant
(B) Its acceleration is constant
(C) Its kinetic energy is constant
(D) It moves in a straight line

42. A horizontal force of $25\ N$ is necessary to just hold a block stationary against a wall. The coefficient of friction between the block and the wall is 0.4. The weight of the block is.



(A) $2.5\ N$
(B) $20\ N$
(C) $10\ N$
(D) $5\ N$

Space for Rough Work

43. When a rubber – band is stretched by a distance x, it exerts a restoring force of magnitude $F = ax + bx^2$ where a and b are constants. The work done in stretching the unstretched rubber bond by L.

(A) $\frac{aL^2}{2} + \frac{bL^3}{3}$ (B) $\frac{1}{2}\left(\frac{aL^2}{2} + \frac{bL^3}{3}\right)$

(C) $aL^2 + bL^3$ (D) $\frac{1}{2}(aL^2 + bL^3)$

44. The vector sum of two forces is perpendicular to their vector difference. The forces are.

(A) Equal to each other (B) Equal to each other in magnitude

(C) Not equal to each other in magnitude (D) Cannot be predicted

45. If a parallelogram is formed with two sides represented by vectors

(A) Major diagonal when the angle between vector is acute

(B) Minor diagonal when the angle between the vector is obtuse

(C) Both (A) and (B)

(D) None of the above

46. A projectile can have the same Range R of two angles of projection. If t_1 and t_2 be the times of flights in the two cases, then the product of the two times of flights is proportional to.

(A) R^2 (B) $\frac{1}{R^2}$

(C) $\frac{1}{R}$ (D) R

47. A particle of mass $0.3\,kg$ is subjected to a force $F = -kx$ with $K = 15\ Nm^{-1}$. What will be its initial acceleration if it starts from a point $20\,cm$ away from the origin?

(A) $3\,ms^{-2}$ (B) $15\,ms^{-2}$

(C) $5\,ms^{-2}$ (D) $10\,ms^{-2}$

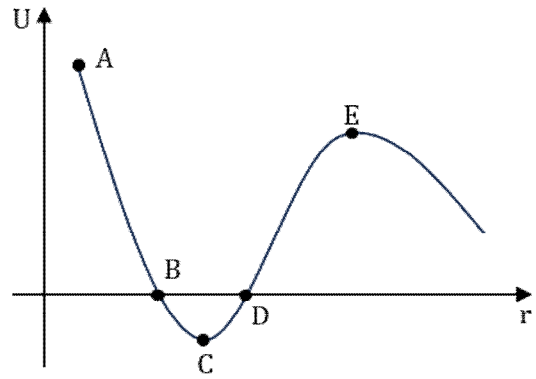
Space for Rough Work

48. A particle is projected at $60°$ to the horizontal with a kinetic energy k. The kinetic energy at highest point is.

(A) k (B) 0

(C) $\frac{k}{2}$ (D) $\frac{k}{4}$

49. The given plots shows the variation of U, the potential energy of interaction between two particles, with the distance separating them, r



i. B and d are equilibrium points
ii. C is a point of stable equilibrium
iii. The force of interaction between the two particles is attractive between points C and B, and repulsive between points D and E on the curve
iv. The force of interaction between the particles is repulsive between points C and A.

Which of the above statements are correct?

(A) i and iii (B) i and iv

(C) ii and iv (D) ii and iii

50. A particle is moving in a circular path of radius 'a' under the action of an attractive potential $U = \frac{-k}{2r^2}$. It's total energy is.

(A) $\frac{-3}{2}\frac{k}{a^2}$ (B) $\frac{-k}{4a^2}$

(C) $\frac{k}{2a^2}$ (D) 0

Space for Rough Work

PART – III

CHEMISTRY

*This section contains **20 Multiple Choice Questions** number **51 to 70**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

51. How many moles of O_2 will be liberated by one mole of CrO_5 is the following reaction
$CrO_5 + H_2SO_4 \rightarrow Cr_2(SO_4)_3 + H_2O + O_2$
(A) 4.5 (B) 2.5
(C) 1.25 (D) None

52. Which of the following reaction is not oxidation – reduction
(A) $H^{\oplus} + OH^{\ominus} \rightarrow H_2O$ (B) $\frac{1}{2}H_2 + \frac{1}{2}Cl_2 \rightarrow HCl$
(C) $CaCO_3 \rightarrow CaO + CO_2$ (D) Both (A) and (C)

53. More fraction of a solute in an aqueous solution is 0.2. The molality of the solution will be.
(A) 13.88 (B) 1.388
(C) 0.138 (D) 0.0138

54. The oxidation number of S in H_2SO_5 is
(A) $+8$ (B) $+6$
(C) $+4$ (D) $+2$

55. If E_1, E_2 and E_3 represent respectively the kinetic energy of an electron, an alpha particle and a proton each having same de-Broglie wavelength, then
(A) $E_1 > E_3 > E_2$ (B) $E_2 > E_3 > E_1$
(C) $E_1 < E_3 < E_2$ (D) $E_1 = E_2 = E_3$

Space for Rough Work

56. What is the maximum number of electrons in the possible sub-shells for $n + \ell = 4$

(A) 8 (B) 6

(C) 12 (D) 16

57. Principal, azimuthal, and magnetic quantum numbers are respectively, related to

(A) Size, orientation, and shape (B) Size, shape and orientation

(C) Shape, size and orientation (D) None of these

58. The sum of all quantum number of hydrogen.

(A) 1 (B) 0

(C) $-\frac{1}{2}$ (D) $\frac{3}{2}$

59. Equal molecules of N_2 and O_2 are kept in a closed container at pressure P. If N_2 is removed from the system, then what will be pressure of the container.

(A) P (B) $2P$

(C) $\frac{P}{2}$ (D) P^2

60. Dalton's Law of partial pressure is not applicable to –

(A) Mixture of H_2 and N_2 (B) Mixture of H_2 and Cl_2

(C) Mixture of H_2 and CO_2 (D) None

Space for Rough Work

61. The ratio of the root mean square velocity of H_2 at $50K$ to that of O_2 at $800\ K$ is –
(A) 4 (B) 2
(C) 1 (D) $\frac{1}{4}$

62. $LiNO_3$ on heating gives
(A) O_2 (B) NO_2
(C) $O_2 + NO_2$ (D) None of these

63. Thermal stability of MCO_3 in order
(A) $BeCO_3 < MgCO_3 < CaCO_3 < SrCO_3 < BuCO_3$
(B) $MgCO_3 < BeCO_3 < CaCO_3 < SrCO_3 < BaCO_3$
(C) $CaCO_3 < SrCO_3 < BaCO_3 < BeCO_3 < MgCO_3$
(D) $BeCO_3 < SrCO_3 < CaCO_3 < MgCO_3 < BaCO_3$

64. Which of the following cannot be oxidized by H_2O_2
(A) $KI + HCl$ (B) O_3
(C) PbS (D) Na_2SO_3

65. Which molecular is T – shaped
(A) BeF_2 (B) BCl_3
(C) NH_3 (D) ClF_3

66. The bond order in $O_2^{\oplus}$ is the same as in –
(A) $N_2^{\oplus}$ (B) CN^-
(C) CO (D) NO^+

Space for Rough Work

67. The correct order of bond angle (Smallest first) in H_2S, NH_3, BF_3 and SiH_4 is

(A) $H_2S < SiH_4 < NH_3 < BF_3$ (B) $NH_3 < H_2S < SiH_4 < BF_3$

(C) $H_2S < NH_3 < SiH_4 < BF_3$ (D) $H_2S < NH_3 < BF_3 < SiH_4$

68. Which of the following process refers to IE_2

(A) $X_{(g)} \rightarrow X^{2+}(g)$ (B) $X^{+}(g) \rightarrow X^{2+}(g)$

(C) $X^{+}(aq) \rightarrow X^{2+}(g)$ (D) $X_{(g)} \rightarrow X^{+}(g)$

69. Stability order of $+3$ and $+1$ states of boron family elements is –

(A) $Ga^{3+} < In^{3+} < Tl^{3+}$ (B) $Ga^{+} > In^{+} > Tl^{+}$

(C) $Ga^{+} < In^{+} < Tl^{+}$ (D) $Ga^{3+} < Ga^{+}$

70. The group having isoelectronic species is –

(A) O^{-}, F^{-}, Na, Mg^{+} (B) $O^{2-}, F^{-}, Na, Mg^{2+}$

(C) $O^{-}, F^{-}, Na^{+}, Mg^{2+}$ (D) $O^{2-}, F^{-}, Na^{+}, Mg^{2+}$

Space for Rough Work

PART – IV

MATHEMATICS

*This section contains **20 Multiple Choice Questions** number **71 to 90**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

71. The value of x that satisfy the equation $\log_2 x + \log_x 8 = \frac{13}{2}$ is

(A) 16 (B) 26
(C) 32 (D) 64

72. The value of $2^{\log_5 7} - 3^{\log_4 11} - 7^{\log_5 2} + 11^{\log_4 3}$ equals

(A) 0 (B) 1
(C) 3 (D) 6

73. The complete solution set of the inequation $\frac{x^2+6x-7}{|x+4|} < 0$ is

(A) $(-7,-4)$ (B) $(-7,-4) \cup (-4,1)$
(C) $(-7,1)$ (D) $(-7,-4) \cup (-4,-1)$

74. If $|x+3| \geq 9$, then $x \in$

(A) $[-12,6]$ (B) $(-\infty,-12] \cup [-6,\infty)$
(C) $(\infty,-12] \cup [6,\infty)$ (D) $[-6,6]$

75. The value of $\frac{\sec^2\theta+\operatorname{cosec}^2\theta}{(1+\tan^2\theta)(1+\cot^2\theta)}$ for all $\theta \in R - \left\{n\pi, (2n \pm 1)\frac{\pi}{2}, n \in Z\right\}$ equals _____

(A) 2 (B) 1
(C) 4 (D) 6

Space for Rough Work

76. Simplify the product:
$\log\cot 1^\circ \log\cot 2^\circ \ldots\ldots \log\cot 89^\circ$
(A) 2^{44} (B) 2^{45}
(C) 2 (D) 0

77. For all positive real values of x, the minimum value of the expression $x + \frac{1}{x}$ equals _____
(A) 0 (B) $\frac{1}{2}$
(C) $\frac{3}{2}$ (D) 2

78. The number of positive integer values of x that satisfy the inequation $x^2 - x - 6 < 0$ equals
(A) 2 (B) 3
(C) 4 (D) 6

79. The quadratic equation whose one of the roots is $2 + \sqrt{3}$, is
(A) $x^2 + 4x - 1 = 0$ (B) $x^2 + 2\sqrt{3}x - 1 = 0$
(C) $x^2 + 2x - \sqrt{3} = 0$ (D) $x^2 - 4x + 1 = 0$

80. If a is one of the roots of the quadratic equation $x^2 - (ax + b) + b^2 = 6$ then a value of b can be
(A) 2 (B) 3
(C) 6 (D) $\sqrt{6}$

Space for Rough Work

81. The greatest value of $\frac{x+2}{2x^2+3x+6}$ for all real values of x equals _____

(A) 1 (B) $\frac{1}{2}$

(C) $\frac{1}{3}$ (D) $\frac{1}{6}$

82. The value of m for which the expression $y^2+2xy+2x+my-3$ is capable of resolution into two linear factors in x and y is _____

(A) -2 (B) 2

(C) 3 (D) -3

83. If three geometric means G_1, G_2, G_3 are inserted between $\frac{9}{4}$ and $\frac{4}{9}$, the value of G_3 equals _____

(A) $\frac{3}{4}$ (B) $\frac{2}{3}$

(C) $\frac{3}{8}$ (D) 1

84. The numbers of terms of the A.P: $26, 21, 16$..... that must be taken to sum up to an amount of 74 equals

(A) 7 (B) 8

(C) 4 (D) 5

Space for Rough Work

85. The distance between the points $A(3\cos\theta, 3\sin\theta)$ and $B(-3\sin\theta, 3\cos\theta)$ for all real values of θ equals _____

(A) 3 (B) $3\sqrt{2}$

(C) $3\sqrt{3}$ (D) 6

86. The ratio in which the line joining the points $(5, 3)$ and $(1, -2)$ is divided by $x-$ axis is _____

(A) $5:1$ (B) $2:5$

(C) $1:3$ (D) $3:2$

87. The distance between the lines

$4x + 3y = 12$

$8x + 6y = 13$

is _____

(A) 5 (B) $\frac{1}{2}$

(C) $\frac{11}{5}$ (D) $\frac{11}{10}$

Space for Rough Work

88. The image of the point $(2, -4)$ in the line $x + y - 6 = 0$ is _____

(A) $(4, 2)$ (B) $(10, 4)$

(C) $(10, 8)$ (D) $(4, 8)$

89. If one end of the diameter is $(1, 1)$ and the other end lies on the line $x + y = 3$, then the locus of center of circle is _____

(A) $x + y = 1$ (B) $2x + 2y = 5$

(C) $2x - 2y = 1$ (D) $x + y = 2$

90. If $16\ell^2 + 9m^2 = 24\ell m + 6\ell + 8m + 1$ and S be the circle whose one of the tangents has the equation $\ell x + my + 1 = 0$. Then radius of S equals _____

(A) 5 (B) 6

(C) 3 (D) 4

Space for Rough Work

FIITJEE

Maharashtra Science Talent Search Examination - 2023

(only for Maharashtra State Students)

***for* students presently in Class XI**

SAMPLE PAPER

ANSWER KEYS (SAMPLE PAPER)

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