VELAMMAL NEXUS

I – QUEST '24

SAMPLE QUESTION PAPER

CLASS – VI

I – Quest '24 is a talent search exam for Foundation and Non Foundation students of classes VI to IX among the Velammal Nexus Schools. It exposes the students for competitive exam based on 21st century skills. This exam is scheduled in the month of February.

- This sample question paper will give a clarity on topology of the exam.
- Students can solve sample paper during the pongal holidays.
- Solving the sample question paper will give hands on experience and increase the confidence of the students to face the final exam.
- Students can seek parents help to solve the questions.
- Similar questions will reflect in the final paper.
- Answer key will be displayed in the class.
- Completed question paper to be submitted to the class teacher.
- Prepare well for I – Quest '24 exam and grab attractive prizes and cash awards.
- Cash Awards is for all classes in both categories : Foundation & Non Foundation
  First Prize - ₹ 5000/-
  Second Prize - ₹ 3000/-
  Third Prize - ₹ 2000/-
- Consolation Cash Prizes of ₹ 1000, ₹ 750 and ₹ 500 for all deserving students.

GENERAL INSTRUCTIONS FOR THE FINAL EXAM (I – QUEST '24)

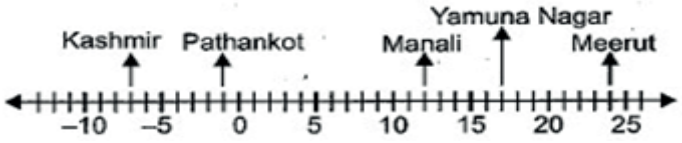
Mode of I – QUEST question paper	Candidates will be given an OMR sheet to mark the answers with a black or blue ballpoint pen
Duration of the exam	2 hours
Question Type	Multiple choice questions
Total number of questions	The question paper consists of 90 questions and it is divided into four sections A, B, C and D. (Maths, Physics, Chemistry & Reasoning) Candidates will have to answer all 90 questions
Total marks	360 Marks
Marking scheme	4 marks will be awarded for each correct answer One mark will be deducted for each wrong attempt No marks for unanswered question

MATHEMATICS

1. A boy was carrying a basket of eggs. He fell down and some of the eggs were broken. The boy has 10 eggs left with him. When asked by his mother, how many eggs were broken, the boy could not recall. However, he recalled that when 1 egg was left, he counted 3 at a time. When counted 4 at a time, 1 egg was left and when counted 5 at a time, no egg was left. Minimum how many eggs were broken?

a) 15 b) 20 c) 25 d) 30

2. The following number line shows the temperature in degree Celsius (°C) at different places on a particular day. Find P, Q and R.



(i) The temperature difference between the hottest and the coldest places is P.

(ii) The temperature difference between Yamuna Nagar and Pathankot is Q.

(iii) The temperature difference between Pathankot and Kashmir is R.

	P	Q	R
a)	31°C	8°C	5°C
b)	30°C	18°C	6°C
c)	31°C	18°C	6°C
d)	30°C	7°C	8°C

3. When we multiply a whole number and the multiplicative identity of the whole numbers, then we get _____

a) The number itself b) The multiplicative identity

c) zero d) Negative of that number

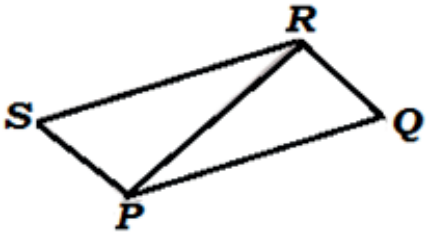
4. To enhance the reading skills of grade IV students, the school nominates you and two of your friends to set up a class library. There are two sections- Section A and Section B of grade IV. There are 32 students in Section A and 36 students in Section B. What is the minimum number of books you will acquire for the class library, so that they can be distributed equally among students of Section A or Section B?

a) 144 b) 128 c) 288 d) 272

5. A pole is of a certain length of which 0.35 m is painted red, 1.27 m is painted white and 3.27 m is painted black. The remaining 5.63 m is left unpainted. Which of the following is the length of the pole?

a) 10.52 m b) 11.52 m c) 15.2 m d) 19.23 m

6. Which of the following statement is definitely true, if PQRS is a parallelogram?



a) PQ and SR are adjacent sides

b) $\angle P$ and $\angle Q$ are opposite angles

c) SR $\parallel$ PQ d) PR = RQ

7. Three friends plan to help flood victims. They move away from a point in three different directions such that the direction of each is equally inclined to those of the other two. Find the angle their directions make with another.

a) 90° b) 120° c) 180° d) 150°

8. On Monday Prashant's school bus was late due to a traffic jam and his maths class was missed. He was very upset as his teacher had introduced a new topic on geometry. Rahul promised to help him after school. Rahul went to Prashant's house and explained the topic. He also gave him the following test also:

Which of the following statements are true?

(i) Two adjacent angles are said to form a linear pair of angles if their uncommon arms are two opposite rays.

(ii) The sum of all the angles around a point is equal to 180°.

(iii) The angle between the bisectors of a linear pair of angles is a right angle.

a) All the statements are true. b) All the statements are false.

c) (i) and (iii) are true d) only (i) is true

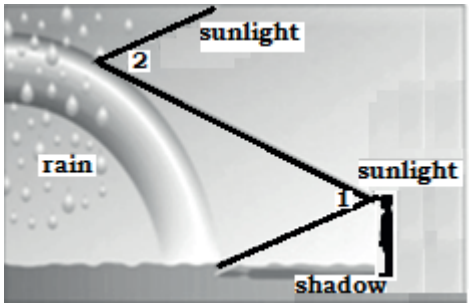
9. A shopkeeper mixed 4.8 kg of hazel nuts with 0.48 kg of raisins. He packed the mixture equally in four boxes. The weight of each box will be

a) 1320 g b) 1350 g c) 870 g d) 1720 g

10. $\frac{1}{10}$ of a rod is coloured red, $\frac{1}{20}$ orange, $\frac{1}{30}$ yellow, $\frac{1}{40}$ green, $\frac{1}{50}$ blue, $\frac{1}{60}$ black and the rest violet. If the length of the violet portion is 13.59 m, then what is the length of the rod?

a) 16 m b) 18 m c) 20 m d) 30 m

11. When sunlight enters a drop of rain, different colours leave the drop at different angles. That's what makes a rainbow.



For red light, $m\angle 2 = 42°$. What is $m\angle 1$?.

a) 138°

b) 142°

c) 42°

d) 90°

12. Find the value of CXVI + XIII + VI + CCLXV – XVI.

a) CD b) CCCLXXXIV c) CCCLXXXV d) M

13. If a new number is formed by interchanging the tens and thousands place digits of 8727, then what is the relation between them?

a) New number is smaller than original number.

b) New number is greater than original number.

c) New number is equal to the original number.

d) Can't be determined.

14. In my accounts book, I write positive numbers for profits and negative numbers for losses that I make in my business. Following are the entries in the book for the last seven days: 21, -19, 11, -20, 17, 25 and -13. How much profit did I make in the last week?

a) 32 b) 24 c) 34 d) 22

15. Look at the alphabet given below and answer the given questions.

K E S H A V

i) What fraction of alphabet is made of exactly 3 straight lines?

ii) What fraction of alphabet is made of curved lines?

	a)	b)	c)	d)
i)	$\frac{5}{6}$	$\frac{3}{6}$	$\frac{2}{6}$	$\frac{1}{6}$
ii)	$\frac{4}{6}$	$\frac{1}{6}$	$\frac{3}{6}$	$\frac{2}{6}$

PHYSICS

16. An object is placed 2 cm from a plane mirror. If the object is moved by 1 cm towards the mirror. What will be new distance between the object and the image ?

a) 1 cm b) 2 cm c) 3 cm d) 4 cm

17. If an object is placed unsymmetrical between two plane mirrors, inclined at an angle of 72°, then the total number of images formed is

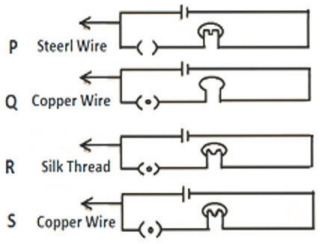
a) 5 b) 4 c) 2 d) infinite

18. The mirror image of TRANSPARENT will be

a) TRANSPARENT b) TRANSPARENT

c) TRANSPARENT d) TNERAPSNART

19. Consider the four circuits P, Q, R and S as shown in the given figure. Which of the following is closed circuit ?



a) Circuit P b) Circuit R

c) Circuit S d) Circuit Q

20. We place an object X in between a reflecting surface and a screen Q, on which an image of X is formed. If a clear image of object X is formed on the screen Q, then which of the following properties is true for object X?

a) Transparent b) Translucent c) Opaque d) All the above

21. Which of the following statement about pinhole camera are correct ?

i. It is camera with a single lens

ii. It produces an upside down image of an object

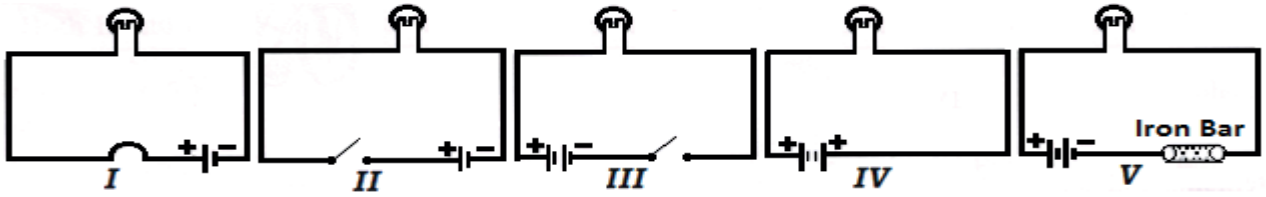
iii. it does not have a screen

iv. it works because light travels in a straight line

v. It forms virtual and colourless shadow of object

a) (i), (iii) and (iv) only b) (ii), (iv) and (v) only c) (i) and (v) only d) (ii) and (iv) only

22. In which of the following arrangements will the bulb glow ?



a) I and III only b) I and IV only c) I and V only d) II, III and V only

23. Human body is an example for

a) insulator b) conductor c) semi conductor d) all

24. If Silk cloth is rubbed with glass rod then 100 electrons are transferred to silk cloth, the charge on glass rod is

a) 1.6×10^{-19} C b) 1.6×10^{-18} C c) 1.6×10^{-17} C d) 1.6×10^{-20} C

25. Statement – I : A proton repels an alpha particle

Statement – II : Like charges attract each other.

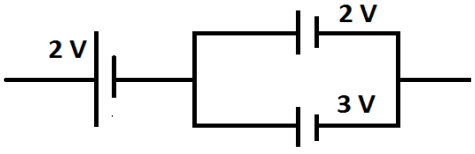
a) Statement 1 is correct but 2 is wrong b) Statement 1 is wrong but 2 is correct

c) Both the statements are correct d) Both the statements are wrong.

26. The current passing through the wire is 3.2A in one second. The number of electrons passing through it is

a) 2×10^{17} b) 2×10^{18} c) 2×10^{19} d) 2×10^{20}

27. What is the effective emf of the circuit?



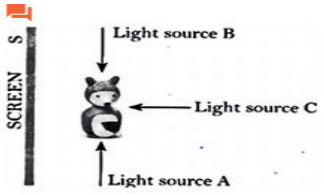
a) 4V b) 5V

c) 3V d) 2V

28. Rahul and Ravi are standing on the opposite sides of a closed door, both of them are able to see each other clearly. Which type of substance is used to make this door?

a) Transparent b) Translucent c) Opaque d) All the above

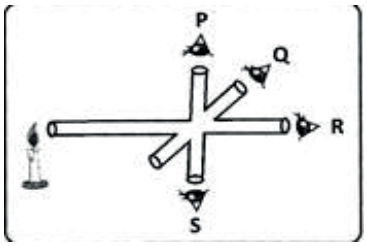
29. On the basis of above figure. Light from which source will form shadow on the screen S?



a) Light source A b) Light source B

c) Light source C d) All the above

30. The diagram given below shows the positions of four students P, Q, R and S observing the flame of a candle through the pipes.
Which student can see the candle flame?



a) P b) Q

c) R d) S

CHEMISTRY

31. Choose the material from the following which is not soluble in water?

a) Sugar b) Common salt c) Wax d) Washing soda

32. Clinical thermometers are made of glass. Identify the characteristic(s) considered for the selection

(i) It is a bad conductor of heat (ii) It is transparent (iii) It is strong

a) Only (i) and (ii) b) Only (ii) and (iii) c) Only (i) and (iii) d) (i), (ii) and (iii)

33. Sheela, Sam and Raj have to dissolve maximum amount of sugar in the same amount of milk, so as to win the game. Raj took hot boiling milk while Sheela took ice cold milk and Sam managed to get milk at room temperature. Whom do you think would win the game?

a) Sheela b) Raj c) Sam d) Sam and Raj

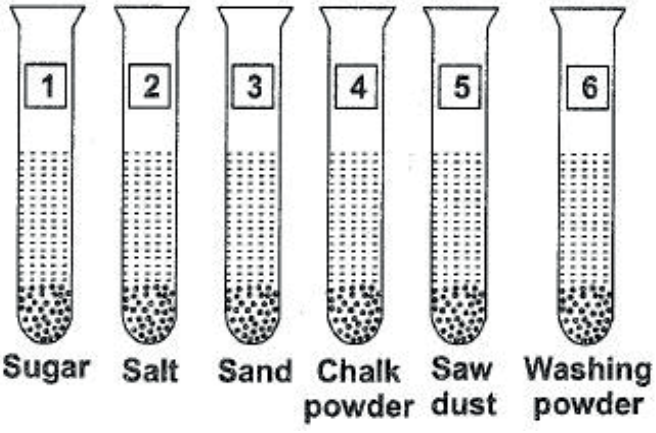
34. Take 10 mL of water in 6 test tubes and add different samples of substances to each test tube as shown in the given figure. Shake the test tubes vigorously for a couple of seconds and leave them undisturbed. In which of these test tubes, sample substances will remain insoluble in water?

a) 1, 2 and 3

b) 2, 3 and 4

c) 3, 4 and 5

d) 4, 5 and 6



35. Consider the two statements given below and choose the correct option.

Statement 1: Filtration is a method used to separate insoluble substances from a liquid.

Statement 2: Distillation is a method used to separate soluble substances in a mixture.

a) Statement 1 is correct but 2 is wrong
b) Statement 1 is wrong but 2 is correct
c) Both the statements are correct
d) Both the statements are wrong.

36. What happens when distilled water is evaporated?

a) Some salt is left behind
b) Some sand is left behind
c) Some sugar is left behind
d) Nothing is left behind.

37. Rathi's grandmother is suffering from diabetes. Her doctor advised her to take lassi with less fat content. Which of the following methods would be appropriate for Rathi to prepare it?

a) Filtration b) Decantation c) Churning d) Winnowing

38. Mixtures of chalk powder in water, mothball in water, petrol in water and honey in water are given to four students namely Sophia, Mahesh, Raju& Ram. Whose mixture is in solution form?

a) Raju b) Ram c) Mahesh d) Sophia

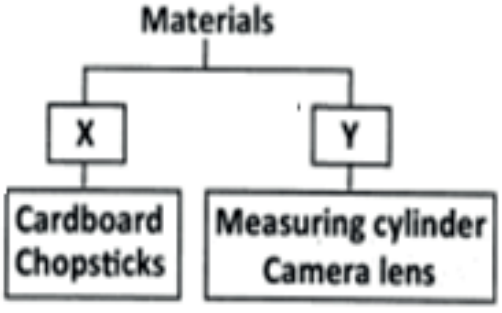
39. On a bright sunny day, Akash was playing hide and seek game with his sister. He hid himself behind a glass door. Do you think his sister will be able to locate ? Find the exact reason.

a) Glass is opaque
b) Glass is translucent
c) It was a sunny day
d) Glass is transparent.

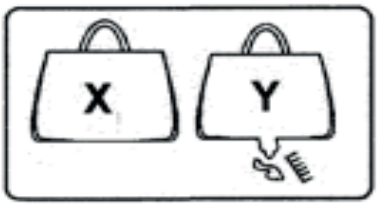
40. Read the given classification.

Which of the following materials are used in the making of 'X' and 'Y?

a) Wood, Metal
b) Plastic, Glass
c) Bamboo, Glass
d) Bamboo, Plastic



41. Suresh put the same things in two different bags X and Y. However bag Y could not hold all the items and got torn. What did Suresh conclude?



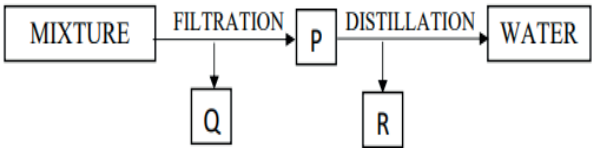
a) Bag X is more flexible than bag Y.

b) Bag Y is lighter than bag X

c) Bag Y is softer than bag X

d) Bag X is stronger than bag Y.

42. The following flowchart gives the technique a student adopted to separate the constituents of a mixture. What could the mixture be?



a) water + glass + sand

b) oxygen + hydrogen + salt

c) stones + rice + water

d) chalk powder + sugar + water

43. A mixture contains three different substances X, Y and Z. They are of the same size, cubical in shape and yellow in colour. 'X' particles are very heavy insoluble, non – magnetic and contribute 50% of the mixture. 'Y' particles are very light, insoluble, non – magnetic and contribute 40% of the mixture and 'Z' particles are iron pieces. Which of the following methods can separate X, Y and Z.

a) winnowing, magnetic separation

b) magnetic separation, winnowing

c) sieving, magnetic separation, filtration

d) handpicking, sublimation, sieving

44. The sky looks clearer and brighter after the rain due to loading by rain drops. Which of the following is similar to the process mentioned above?

a) separation of butter from curd

b) separation of salt from seawater

c) sprinkling water on a dusty sheet before sweeping

d) separation of grain seeds from the stalks.

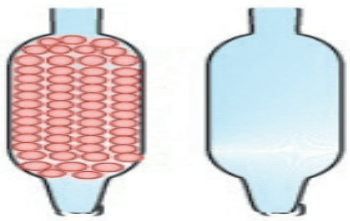
45. Which tubes in the figure will be more effective as a condenser in the distillation apparatus?

a) with marble

b) without marble

c) both a and b

d) none of the above



REASONING

46. In the following question, a sequence of groups of letters and numbers is given with one term missing as shown by_____. Choose the missing term out of the given alternatives. Q1F, S2E, U6D, W21C ?

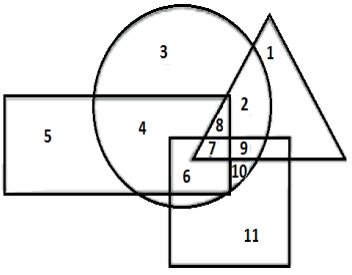
a) Y66B b) Y44B c) Y88B d) Z88B

47. In a certain code '415' means 'milk is hot'; '18' means 'hot soup'; and '895' means 'soup is tasty'. What number will indicate the word 'tasty'?

a) 9 b) 7 c) 6 d) 3

48. In the following figure Rectangle, Square, Circle and Triangle represent the regions of Wheat, Gram, Maize and Rice cultivation respectively. On the basis of the figure answer the following question.

Which area is cultivated by Rice and Maize only?



a) 9

b) 2

c) 8

d) 7

49. If 'Moon' is called 'Wednesday', 'Venus' is called 'Sunday', 'Sun' is called 'Thursday', 'Jupiter' is called 'Monday' and 'Mars' is called 'Saturday'. Then the earth revolves around _____.

a) Sunday b) Tuesday c) Wednesday d) Thursday

50. Shyam walks 5 km towards East and then turns left and walks 6 km. Again he turns right and walks 9 km. Finally he turns to his right and walks 6 km. How far is he from the starting point?

a) 26 km b) 21 km c) 14 km d) 9 km

OUR STELLAR PERFORMERS IN NEET 2023

PRABANJAN J
JIPMER

ALL INDIA
1st
RANK

720
720

SANJAY PRAKASH S
705 / 720
JIPMER

AKSHAY I N
700 / 720
JIPMER

BHUVAANESH MS
700 / 720
JIPMER

KISHOREKUMAR K S
695 / 720
MMC

AKSHVITHA R S
690 / 720
MMC

IRENE KAVYA M
685 / 720
JIPMER

CHAMPIONS WHO HAVE SECURED 638 & ABOVE IN NEET 2023

AMALAN J A
676

NIRMAL N
675

SANJAY KUMAR S
675

AISHWARYA V
675

SHREYA NAMBIAR R
672

ANJANA R
670

DARSHAN S
665

HRITHIN P
665

VARSHINI K
665

SUJITH KUMAR V
662

ROHAN RAVI
661

MONESH SANTHOSH M
661

APARNA P ANIL
660

JOTHIKA R J
657

SUSHMITHA V
656

NITHIN KUMAR K
655

SUNIL KUMAR V
645

JOSHITAA B R
643

UDHAYA KRUTHIKA K
642

KANISTHIKA V R
641

SUJO S
641

JASHWANTH D
640

MARAN M
639

DENNIS ANTONY D
638

TOTAL MEDICAL SELECTION THROUGH NEET - 2023
289

PRANAV RAGURAM

ALL INDIA 1st RANK

OPEN CATEGORY

JEE MAIN

(B. PLANNING)

2023

NIT / IIIT ADMISSIONS - 2023

NIT TRICHY

MOHIT A

SUHAS T M

HARISH KUMAR S

HRISHITA T

AKASH V

SRI HARSHINI S

GIREESH A

MOHITH PRANAV M

HARSHITHA G

NIT TRICHY

YUGESH R P S

VIRANYU SRINIVASAN

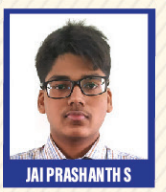
SARAN R

PAVITHRA A

YASHVANTH KUMAR S

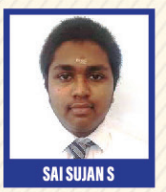
SHAILESH

NIT WARANGAL



JAI PRASHANTH S

NIT CALICUT



SAI SUJAN S

GANESH RAJA

IIIT TRICHY

DURJESH V

IIIT KANCHIPURAM

SANTHANA SRINIVASAN R

VETHAASREE G

NITHYANAND R

PRAMESH

IIIT DARWAD

NITHIN ATHREYA R

IIIT MANIPUR

MOHAMMED IMRAAN H

BITS PILANI

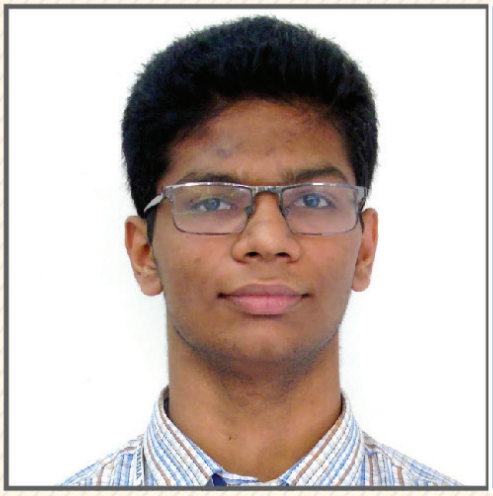
VIJAY KRISHNA A

ARJUN S

23	51	68	90	108	125	162
Students Secured above	Students Secured above	Students Secured above	Students Secured above	Students Secured above	Students Secured above	Students Secured above
99 PERCENTILE	98 PERCENTILE	97 PERCENTILE	96 PERCENTILE	95 PERCENTILE	94 PERCENTILE	90 PERCENTILE

45% SUCCESS RATE IN NEET

EXCEPTIONAL PERFORMANCE IN



CRL 635

JEE ADVANCED 2023

SHRAVAN J

IIT ADMISSIONS - 2023

IIT MADRAS


SHRAVAN J


LALITH AKASH M


SANDEEP M R


ITHYA KRISHNAN


MOGITH GURU A P


PRANAV RAGHURA


MITHIN VIKKASH S


SREE RAGHAV M R


EYAGIRISH BALA.

IIT MADRAS


DOBALAN MOHA


SUVETHA G


KARTHICK A


VASANTH P


VISHWESH J


PRANAV RAM P S

IIT BOMBAY


MONICA S

IIT HYDERABA

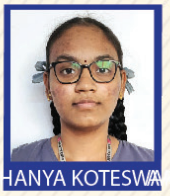

GOKUL KRISHNA J

IIT BHUVANESWA


YASH RAJ REDDY

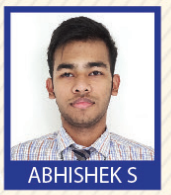
IIT TIRUPATI


SURIYAA M M


HANYA KOTESWA

IIT GANDHINAGAR

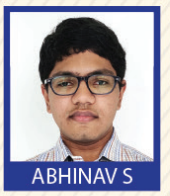

KASH VENKATES.


ABHISHEK S

IIT KHARAGPU


LOGHITH U S

IIT KANPUR


ABHINAV S

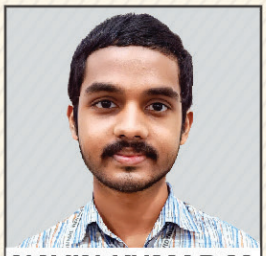
IIT VARANAS


GUNAL S

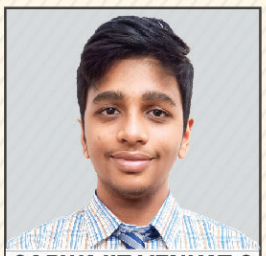
70% SUCCESS RATE IN IIT/NIT/DEEMED

IIT / NEET FOUNDATION ACHIEVEMENTS

INDIAN OLYMPIAD QUALIFIER IN MATHEMATICS (IOQM)-2023



NAVIN KUMAR M
STD - XII



SARWAJIT VENKAT S
STD - XI

RUDRA K
STD - XI

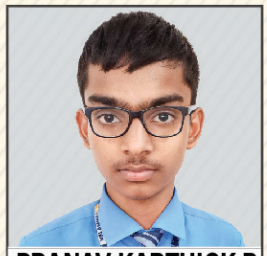
SAMUEL JOHN G
STD - X

PAVITHRA RS
STD - X

MAHATHI G R
STD - X

SHEREEYADATTA MV
STD - X

SIVIN G K
STD - X



PRANAV KARTHICK B
STD - IX

YOUNG RAMANUJAN COMPETITION

VARUN RAJA R
CLASS - VIII
STATE RANK - 2

RATHIN M
CLASS - VIII
STATE RANK - 2

MAHADEERA K K
CLASS - VIII
STATE RANK - 2

ARJUN R
CLASS - VIII
STATE RANK - 3

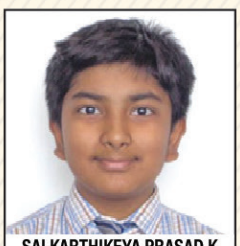
IIT MADRAS MATHEMATICS OLYMPIAD

VARUN RAJA R
CLASS - VII
STATE RANK - 1, TROPHY

THILAN KESHAV M
CLASS - VIII
STATE RANK - 3, TROPHY

INTERNATIONAL SOCIETY FOR OLYMPIAD IN MATHEMATICS (ISFO)

NARESH K
CLASS - VI
GIFT WORTH OF RS.5000/-



SAI KARTHIKEYA PRASAD K
CLASS - VI
GIFT WORTH OF RS.3000/-

VELAMMAL NEXUS

VELAMMAL NEXUS GROUP OF SCHOOLS

CHENNAI

MATHEMATICS

1	a	b	c	d	☐
2	a	b	c	d	☐
3	a	b	c	d	☐
4	a	b	c	d	☐
5	a	b	c	d	☐
6	a	b	c	d	☐
7	a	b	c	d	☐
8	a	b	c	d	☐
9	a	b	c	d	☐
10	a	b	c	d	☐
11	a	b	c	d	☐
12	a	b	c	d	☐
13	a	b	c	d	☐
14	a	b	c	d	☐
15	a	b	c	d	☐

PHYSICS

16	a	b	c	d	☐
17	a	b	c	d	☐
18	a	b	c	d	☐
19	a	b	c	d	☐
20	a	b	c	d	☐
21	a	b	c	d	☐
22	a	b	c	d	☐
23	a	b	c	d	☐
24	a	b	c	d	☐
25	a	b	c	d	☐
26	a	b	c	d	☐
27	a	b	c	d	☐
28	a	b	c	d	☐
29	a	b	c	d	☐
30	a	b	c	d	☐

CHEMISTRY

31	a	b	c	d	☐
32	a	b	c	d	☐
33	a	b	c	d	☐
34	a	b	c	d	☐
35	a	b	c	d	☐
36	a	b	c	d	☐
37	a	b	c	d	☐
38	a	b	c	d	☐
39	a	b	c	d	☐
40	a	b	c	d	☐
41	a	b	c	d	☐
42	a	b	c	d	☐
43	a	b	c	d	☐
44	a	b	c	d	☐
45	a	b	c	d	☐

REASONING

46	a	b	c	d	☐
47	a	b	c	d	☐
48	a	b	c	d	☐
49	a	b	c	d	☐
50	a	b	c	d	☐

INSTRUCTIONS FOR MARKING OMR SHEET

1. Use only blue or black ball point pen
2. Circle should be darkened completely and properly
3. Cutting and erasing on the sheet are not allowed
4. Sheet should not be folded or crushed.
5. Don't use marker or white fluid to hide the marking.

CORRECT METHOD ○○●○

WRONG METHODS ⊗○✓◐

Candidate Signature