(CODE : 1P)

NARAYANA
IIT-JEE / NEET / FOUNDATIONS

SRAMAYEVA JAYATHE

NSAT-2021

Class IX Moving to Class X

MAT, MATHEMATICS, PHYSICS, CHEMISTRY & BIOLOGY

NARAYANA SCHOLASTIC APTITUDE TEST (NSAT)

Time: 1:00 Hr.   *Date : 28-11-21*   *Maximum marks: 140*

SET-1

IMPORTANT INSTRUCTIONS:
1.   The test Booklet consists of 35 questions. The maximum marks are 140.
2.   There are five parts in the question paper of MAT, Mathematics, Physics, Chemistry & Biology having 35 questions. Each question is allotted **4 (four)** marks for each **correct** response.
3.   **No Negative Marking.**
4.   Mark only one correct answer out of **four** alternatives.
5.   Use Blue/Black Ball Point Pen only for writing particulars/marking.
6.   Use of Calculator is not allowed.
7.   Dark the circle in the space provided only.
8.   Use of white fluid or any other material which damage the answer sheet, is not permissible on the Answer Sheet.

TO BE FILLED IN CAPITAL LETTERS

NAME OF THE STUDENT : _____

FATHER'S NAME : _____

CONTACT NUMBERS:_____**SCHOOL NAME :** _____

ROLL NO. :_____**TEST CENTRE :** _____

I have read all the instructions and shall abide by them	I have verified all the information filled in by the Candidate
.... **Signature of the Candidate**	.... **Signature of the Invigilator**

EDUCATION IS INTEGRAL FOR GROWTH AND DEVELOPMENT

Education is integral for the growth and development of an individual. The expectation from an educational institute is always about making the society better for all and to bring out one's true Potential in the service of mankind.

At Narayana, we believe that a student's education is complete only when we are able to contribute towards his/her overall development besides imparting knowledge based and career oriented training.

With an aim to provide top of the league training to students to excel in every sphere of their lives, Narayana Group has been focusing on result oriented inputs.

Narayana's courses have been designed to cater to all the needs of the aspirants to help them excel in various competitive as well as Board examinations. Innovative strategies and techniques adopted in our centres keep our students abreast of the ever-changing pattern of top level Engineering/Medical Entrance Exams. As a result, Narayana's time-tested learning formulae are percolating to far-flung corners of India to benefit students from all backgrounds.
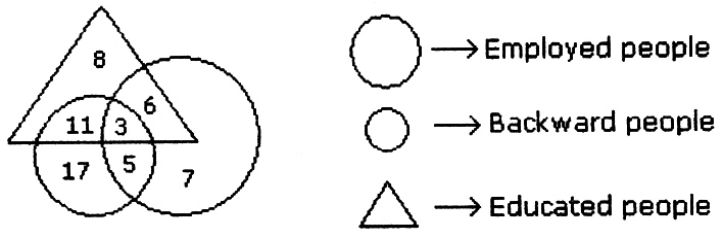
"Footprints on the sands of time are not made by sitting down". Today we rededicate the last 4 decades of our success to your dreams. I wish all our students a very successful academic year ahead.

Dr. P. NARAYANA
Founder, Narayana Group

MENTAL ABILITY

Direction:- (Q. No. 1 & 2):-Study the following figure and answer the question given below:

Q1. How many educated people are employed?
(A) 9   (B) 18
(C) 20   (D) 15

Q2. How many backward uneducated people are employed?
(A) 14   (B) 5
(C) 7   (D) 11

Q3. Select a suitable figure from the Answer Figures that would replace the question mark (?) .

(A) 1   (B) 2
(C) 3   (D) 4
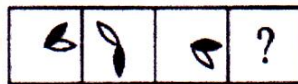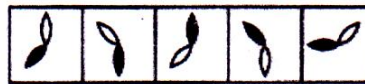
Space for rough work

Direction(Question 4 to 6): In each of the following questions, you are given a fig.(X) followed by four alternative figures (A), (B), (C) and (D) such that fig. (X) is embedded in one of them. Trace out the alternative figure which contains fig. (X) as its part.

Q4.

(X)   (A)   (B)   (C)   (D)

Q5.

(X)   (A)   (B)   (C)   (D)

Q6.

(X)   (A)   (B)   (C)   (D)
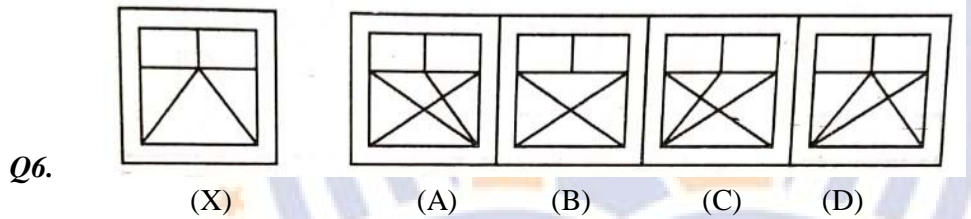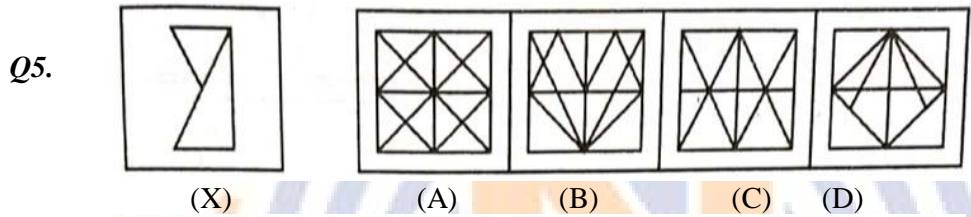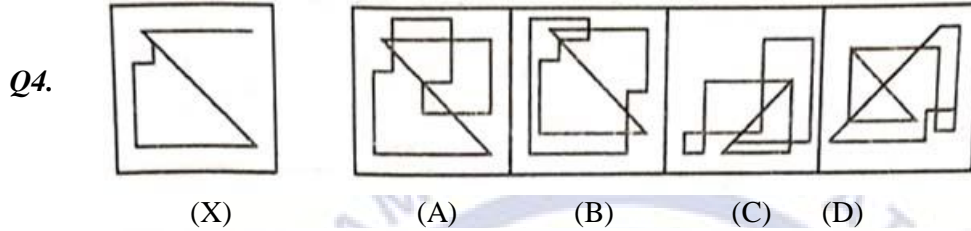
Q7. Choose the figure which is different from the rest.

(1)   (2)   (3)   (4)
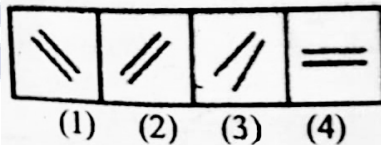
(A) 1   (B) 2   (C) 3   (D) 4

Space for rough work

MATHS

Q8. The number of integers between $-\sqrt{8}$ and $\sqrt{32}$ is :

(A) 5   (B) 6

(C) 7   (D) 8

Q9. The point $(-3, 2)$ is at a distance of _____ units from Y-axis

(A) 2 units   (B) 3 units

(C) -3 unit   (D) 5 units

Q10. The solution of $x + 2y = 4$ and $7x + 4y = 18$ is

(A) $x = 2,\ y = 1$ (B) $x = 3,\ y = 1$

(C) $x = 4,\ y = 4$ (D) $x = 5,\ y = 2$

Q11. In given figure $AB \parallel CD$ and $EF \parallel DQ$. Then the value of $\angle PDQ,\ \angle AED$ and $\angle DEF$ respectively are

(A) $60^{o}, 42^{o}, 68^{o}$ (B) $68^{o}, 34^{o}, 68^{o}$

(C) $70^{o}, 30^{o}, 80^{o}$ (D) $80^{o}, 70^{o}, 30^{o}$
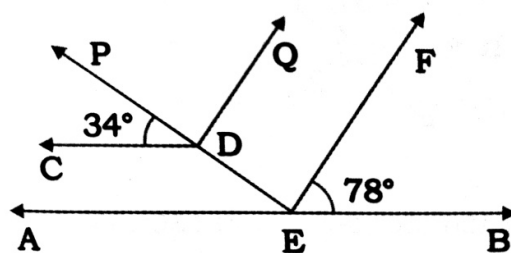
Space for rough work

Q12. In $\triangle ABC$, AD is the median through A and E is the mid-point of AD. BE produced meets AC at F. Then the value of AF is equal to
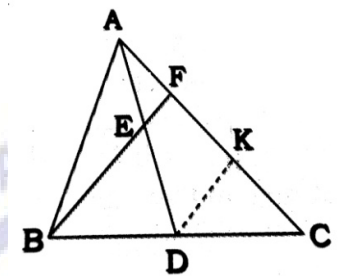
(A) $1/4\ AC$ (B) $1/2\ AC$

(C) $1/3\ AC$ (D) $2/3\ AC$

Q13. The area of an isosceles triangle having the base $x\ cm$ and one side $y\ cm$ is

(A) $\dfrac{y}{2}\sqrt{x^2 - \dfrac{y^2}{4}}$ (B) $\dfrac{x}{4}\sqrt{y^2 - \dfrac{x^2}{4}}$

(C) $\dfrac{x}{2}\sqrt{y^2 - \dfrac{x^2}{4}}$ (D) $\dfrac{1}{x}\sqrt{y^2 - \dfrac{x^2}{4}}$

Q14. If the mean of x and $\dfrac{1}{x}$ is M, then the mean of x^2 and $\dfrac{1}{x^2}$ is

(A) M^2 (B) $\dfrac{M^2}{4}$

(C) $2M^2 - 1$ (D) $2M^2 + 1$

Space for rough work

PHYSICS

Q15. Acceleration is positive when

(A) Velocity of a body increases with time   (B) Velocity of a body decreases with time

(C) Velocity of a body constant with time   (D) All of these

Q16. For a moving body distance travelled is

(A) Always positive   (B) Always negative

(C) May be positive or negative   (D) May be zero

Q17. A boy standing at the top of a tower of 20m height drops a stone assuming $g = 10\, ms^{-2}$ the velocity with which it hits the ground is

(A) $20\, ms^{-1}$ (B) $40\, ms^{-1}$

(C) $5\, ms^{-1}$ (D) $10\, ms^{-1}$

Q18. If a body covers first half of its journey with uniform speed v_1 and the second half of the journey with uniform speed v_2 then the average speed is

(A) $v_1 + v_2$ (B) $\dfrac{2v_1 v_2}{v_1 + v_2}$

(C) $\dfrac{v_1 v_2}{v_1 + v_2}$ (D) $v_1 v_2$

Space for rough work

Q19. A constant force (F) is applied on a stationary particle of mass 'm'. The velocity attained by the particle in a certain displacement will be proportional to

(A) m

(B) 1/m

(C) $\sqrt{m}$

(D) $\dfrac{1}{\sqrt{m}}$

Q20. A force produces an acceleration of in a_1 body and the same force produces an acceleration of a_2 in another body. If the two bodies are combined and the same force is applied on the combination, the acceleration produced in it is

(A) $a_1 + a_2$

(B) $\dfrac{a_1 + a_2}{a_1 a_2}$

(C) $\dfrac{a_1 a_2}{a_1 + a_2}$

(D) $\sqrt{a_1 a_2}$

Q21. n balls each of mass m impinge elastically in each second on a surface with velocity u. The average force experienced by the surface will be

(A) mnu

(B) 2mnu

(C) 4mnu

(D) Mnu/2

Space for rough work

CHEMISTRY

Q22. 15g of a salt dissolved in 60g of water to form a saturated solution at 600°C Calculate the solubility of the salt at this temperature.

    (A) 100   (B) 75

    (C) 50   (D) 25

Q23. Which of the following is not a true solution:

    (A) copper sulphate in water   (B) ethanol in water

    (C) NaCl in water   (D) none of these

Q24. Which of the following refers to the ability of one substance to dissolve in another at a given temperature and pressure?

    (A) Distillation   (B) Suspension

    (C) Solvent   (D) Solubility

Q25. The atomicity of $K_2Cr_2O_7$ is

    (A) 9   (B) 11

    (C) 10   (D) 12

Q26. 1u or 1 amu means

    (A) $1/12^{th}$ mass of one C-12 atom   (B) Mass of C-12 atom

    (C) Mass of O-16 atom   (D) Mass of hydrogen molecule

Space for rough work

Q27. An element X is divalent and another element Y is tetravalent. The compound formed by these two elements will be:

(A) XY   (B) XY_2

(C) X_2Y (D) XY_4

Q28. 0.25 mole of oxygen molecules contains

(A) $0.25 \times N_A$ molecules   (B) $0.5 \times N_A$ atoms

(C) Both (A) and (B)   (D) None
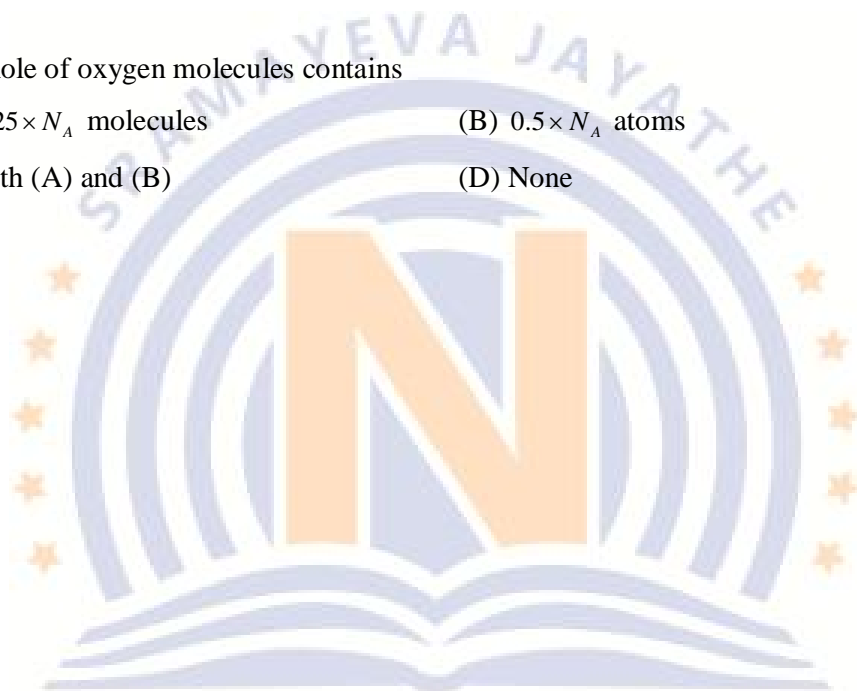
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BIOLOGY

Q29. Examples of congenital disease are
(A) Albinism   (B) Sickle cell anaemia
(C) Hemophilia   (D) All the above

Q30. The primary organ affected during tuberculosis is
(A) Bone, marrow   (B) spleen
(C) intestine   (D) lungs

Q31. A plastid capable of producing all other types is
(A) Chloroplast   (B) Leucoplast
(C) Amyloplast   (D) All of these

Q32. Which of the following subunits are found in eukaryotic 80 S ribosomes?
(A) 50 S and 40 S   (B) 40 S and 40 S
(C) 60 S and 40 S   (D) 50 S and 30 S

Q33. Stratified epithelium has maximum role in.
(A) absorption   (B) secretion
(C) excretion   (D) protection

Q34. The water conducting tissue generally present in gymnosperm is
(A) vessels   (B) sieve tube
(C) tracheids   (D) xylem fibres

Q35. Intercalated disc is present in
(A) striated muscle   (B) smooth muscle
(C) cardiac muscle   (D) both 2 and 3

⌘❖⌘❖⌘

Space for rough work

COURSES OFFERED FOR STUDENTS STUDYING IN:

Class 7th	Class 8th	Class 9th	Class 10th	Class 11th	Class 12th
7th Moving to 8th	8th Moving to 9th	9th Moving to 10th	10th Moving to 11th	11th Moving to 12th	Studying Students
1,3 & 5 Year Integrated Courses	1,2 & 4 Year Integrated Courses	1 & 3 Year Integrated Courses	2 Year Integrated Courses	1 Year Integrated Courses	1 Year Repeater Courses

School / Board Exams, NTSE, Olympiads, NEET / JEE (MAIN & ADVANCED FOUNDATION)   NEET / JEE (MAIN & ADVANCED)

SENSATIONAL SUCCESS
in JEE ADVANCED-2021
ALL INDIA OPEN CATEGORY

1st Rank MRIDUL AGARWAL Roll. No. 2050447
4th Rank SANTOSH REDDY Roll No. 6115012
5th Rank SAI LOKESH REDDY Roll. No. 6103113
9th Rank ARNAV ADITYA Roll. No. 2063168
14th Rank AMEYA PRASHANT D Roll No. 1063147
18th Rank ASHWIN ABRAHAM Roll No. 6085120

ALL INDIA OPEN CAT. 100 — 26
ALL INDIA BELOW 100 — 98
ALL INDIA BELOW 1000 — 502

Rank 21 V R SAI KUMAR | Rank 25 NISHIT SHRIVASTAVA | Rank 26 GURANMIT SINGH | Rank 27 AYAN MIDHAN KHAN | Rank 29 ADITYA NEMIWAL | Rank 36 PRIYANSHU YADAN | Rank 41 ADARSH REDDY | Rank 43 OVM AGARWAL | Rank 48 DNYANSH SINGHAL | Rank 51 YASHWANTH REDDY

Rank 53 ADITYA J V | Rank 55 DESAI SAI PRANAV | Rank 63 SOHITH KUMAR P | Rank 64 HARI PRAKASH REDDY JP | Rank 74 NIMAN KADAKEDKAR | Rank 82 DHRUV AHLAWAT | Rank 85 SHAUN MATHEW | Rank 86 VAMSI KRISHNA REDDY N | Rank 97 DANISH JHAVLI | Rank 100 RAJAT GOLECHHA

JEE MAIN 2021
ALL INDIA OPEN CATEGORY TOP 10 RANKS

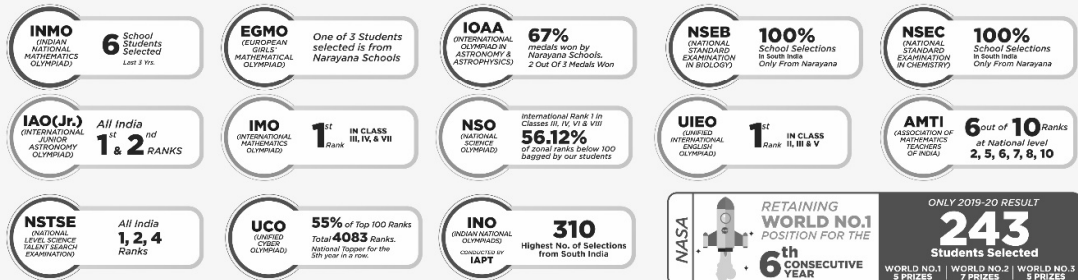**Rank 1** K. Sharanya App. No. 210310208613
Rank 1 M Adarsh Reddy App. No. 210310179692
Rank 1 P. Veera Shiva App. No. 210310521974
Rank 1 Rahul Naidu App. No. 210310322801
Rank 1 Gaurab Das App. No. 210310003516
Rank 2 Venkat Aditya App. No. 210310215185
Rank 4 P L Sai Lokesh App. No. 210310181629
Rank 6 K. Puneeth Kumar App. No. 210310272002
Rank 7 B. Rohith Reddy App. No. 210310206278

BELOW 100	**25** RANKS
BELOW 1000	**126** RANKS
TOTAL QUALIFIED FOR JEE-ADV.	**15146**

NARAYANA STUDENTS WHO SECURED HIGHEST PERCENTILE IN MATHS, PHYSICS & CHEMISTRY

Percentile & Above	in Maths	in Physics	in Chemistry
100	70	48	21
99	719	532	610
98	1325	864	1030
97	1848	1201	1392
96	2420	1490	1742
95	2969	1785	2095
94	3502	2076	2447
93	4035	2401	2807
92	4639	2746	3182
91	5223	3022	3539
90	5806	3364	3967

ALL CATEGORIES ALL INDIA RANKS BELOW 100	**109**
ALL CATEGORIES ALL INDIA RANKS BELOW 1000	**564**
NARAYANA STUDENTS QUALIFIED FOR JEE-ADVANCED	**15146**

NEET- 2020

1st RANK ABHIUDAY PRATAP SINGH HT No. 4408108130
2nd RANK D. SAI CHAKRADHAR HT No 1202006287
2nd RANK SHIVA RAMA KRISHNA HT No 1205021314
3rd RANK NARENDRA BISHNOI HT.No. 3905217001
6th RANK D. VISHNU SAI HT No. 1203003022
7th RANK J VENU PRAKASH HT No. 1206017081
8th RANK KARTHIK REDDY HT.No. 2705014193
9th RANK K. SHARANYA HT No. 1202009435

| Below 10 | **8** Ranks | Below 100 | **32** Ranks | Below 200 | **43** Ranks | Below 300 | **59** Ranks |

*All Cat.

SOLID FOUNDATION GIVEN BY NARAYANA MAKES STUDENTS WORLD CHAMPIONS
IN MATHS, PHYSICS, CHEMISTRY, BIOLOGY, ASTRONOMY, ENGLISH & CYBER OLYMPIADS

INMO (INDIAN NATIONAL MATHEMATICS OLYMPIAD) — 6 School Students Selected Last 3 Yrs.

EGMO (EUROPEAN GIRLS' MATHEMATICAL OLYMPIAD) — One of 3 Students selected is from Narayana Schools

IOAA (INTERNATIONAL OLYMPIAD IN ASTRONOMY & ASTROPHYSICS) — 67% medals won by Narayana Schools. 2 Out 3 Medals Won

NSEB (NATIONAL STANDARD EXAMINATION IN BIOLOGY) — 100% School Selections in South India Only From Narayana

NSEC (NATIONAL STANDARD EXAMINATION IN CHEMISTRY) — 100% School Selections in South India Only From Narayana

IAO(Jr.) (INTERNATIONAL JUNIOR ASTRONOMY OLYMPIAD) — All India 1st & 2nd RANKS

IMO (INTERNATIONAL MATHEMATICS OLYMPIAD) — 1st Rank IN CLASS III, IV, & VII

NSO (NATIONAL SCIENCE OLYMPIAD) — International Rank 1 in Classes III, IV, VI & VII 56.12% of zonal ranks below 100 bagged by our students

UIEO (UNIFIED INTERNATIONAL ENGLISH OLYMPIAD) — 1st Rank IN CLASS II, III & V

AMTI (ASSOCIATION OF MATHEMATICS TEACHERS OF INDIA) — 6 out of 10 Ranks at National level 2, 5, 6, 7, 8, 10

NSTSE (NATIONAL LEVEL SCIENCE TALENT SEARCH EXAMINATION) — All India 1, 2, 4 Ranks

UCO (UNIFIED CYBER OLYMPIAD) — 55% of Top 100 Ranks Total 4083 Ranks. National Topper for the 5th year in a row.

INO (INDIAN NATIONAL OLYMPIADS) CONDUCTED BY IAPT — 310 Highest No. of Selections from South India

NASA RETAINING WORLD NO.1 POSITION FOR THE 6th CONSECUTIVE YEAR — ONLY 2019-20 RESULT **243** Students Selected — WORLD NO.1 5 PRIZES | WORLD NO.2 7 PRIZES | WORLD NO.3 5 PRIZES

NARAYANA
IIT-JEE / NEET / FOUNDATIONS
(A Unit of NSPIRA Management Services Pvt. Ltd.)

SRAMAYEVA JAYATHE