

INFORMATION BULLETIN ResoFAST 2025

Currently Studying in Class IX

About ResoFAST

ResoFAST is a knowledge and aptitude test which is conducted by Resonance Schools, Hyderabad to assess the student's current academic performance and prospects.

For Foundation aspiring students ResoFAST would provide bench marking along with a real world feel of competitive spirit. It helps the student to showcase his/her talent in competitive exam pattern which will boost his/her confidence to perform well in future competitive examinations & make way for a bright career ahead.

Who can attend ResoFAST?

Students currently Studying 5th to 10th Classes are eligible to write ResoFAST exam.

How will ResoFAST help you?

- Students will get a comprehensive report, covering all domains in terms of subjects and aptitude, along with areas requiring improvement & percentile score.
- ResoFAST will evaluate your Analytical Skills & guide Students further to improve upon.
- Have a clear & personalised picture of your subject preparation concept wise.
- Qualify for a Resonance Schools and Colleges Classroom Programmes across all branches in Telugu states.

How to apply for ResoFAST ?

Students who want to apply for ResoFAST can login to **www.resofast.com** and apply by paying registration fee.

Registration Fee:

- Rs. 300/- per student – Payable Online using our secure payment gateway using Internet Banking, Debit/Credit card or any other online payment service
- You can also contact with ResoFAST Co-ordination Call for Registration Assistance on **9121219858 (9 AM to 7 PM)**

ResoFAST: Exam Process

ResoFAST exam is conducted in offline mode across all in Hyderabad as per the specific dates mentioned in website.

Disclaimer:

ResoFAST is an open excellence Test for motivating and rewarding students. Resonance doesn't ensure unconditional admissions on qualifying ResoFAST. Registration fee is nonrefundable. Resonance keeps all right for keeping details of the students confidential. Exam results cannot be challenged and reviewed.

ResoFAST 2025 Exam Pattern

Currently Studying in Class IX

- The question paper contains a total of **40 Multiple Choice Questions**, numbered from **Q1 to Q40**.
- Pattern & Marking Scheme of each section:**

Parts	Subject	No. of questions	Questions Range	Marks
Part-A	Physics	07	Q1 to Q7	28 M
Part-B	Chemistry	07	Q8 to Q14	28 M
Part-C	Biology	07	Q15 to Q21	28 M
Part-D	Mathematics	14	Q22 to Q35	56 M
Part-E	Mental Ability	05	Q36 to Q40	20 M
Total		40	Q1 to Q40	160 M

- Attempt all questions, each having only one correct answer.
- Each question carries **4 marks**.
- Candidates must ensure that the **OMR Sheet is not folded or damaged** in any way. Avoid making any **stray marks** on the OMR sheet. **Do not** write your **Roll Number** anywhere except in the designated space provided in the OMR Sheet.
- The use of **white correction fluid** is **strictly prohibited** on the OMR Sheet.
- The use of **blank papers, clipboards, log tables, slide rules, calculators, mobile phones, or any other electronic gadgets** is **strictly not permitted** inside the examination hall.
- There are empty pages left at the end of this question paper for **rough work**.

ResoFAST 2025 Syllabus

Currently Studying in Class IX

SUBJECT: PHYSICS	
Chapter Name	Topics
Force	What Is Force?, Types of Force, Effects of Force, Balanced and Unbalanced Forces, Friction
Pressure	Introduction To Pressure, Air Pressure and Winds, Storms and Cyclones, Role of Air Pressure in Storms, Safety Measures During Storms
Friction	Introduction To Friction, Types of Friction, Factors Affecting Friction, Effects of Friction, Reducing and Increasing Friction
Light	What Makes Things Visible, Laws of Reflection, Regular and Diffused Reflection, Reflected Light Can Be Reflected Again, Multiple Images, Sunlight - White or Coloured, What is inside our Eyes?, Care of Eyes, Visually Challenged Persons Can Read and Write, What is a Braille Syst Em?
Sound	Production Of Sound, Propagation of Sound, Reflection of Sound, Range of Hearing, Applications of Ult Rasound, Structure of Human Ear
Electricity	Charging And Atomic Orbital Model, Lightening and Lightening Conductors, Do Liquids Conduct Electricity?, Chemical Effects of Electric Current, Electroplating
Motion	Describing Motion, Measuring the Rate of Motion, Rate of Change of Velocity, Graphical Representation of Motion, Equations of Motion by Graphical Method, Uniform Circular Motion
Newton's Law of Motion	Balanced and Unbalanced Forces, First Law of Motion, Inertia and Mass, Second Law of Motion, Third Law of Motion, Conservation of Momentum
Gravitation	Gravitation, Free Fall, Mass, Weight

SUBJECT: CHEMISTRY	
Chapter Name	Topics
Synthetic fibres and plastics	Synthetic Fibres; Plastics; Biodegradable Materials
Metals and Non-metals	Properties of Metals and Non-Metals; Reactivity of Metals; Corrosion
Coal and Petroleum	Natural Resources-Coal, Petroleum, Natural Gas; Pollution
Combustion and Flame	Combustion; Flames; Fuels; Calorific Value
Matter around us	States of Matter; Change in States; Evaporation
Is matter around us pure	Mixtures And Its Separation; Solutions; Colloids; Physical
Structure of the atom	Fundamental Particles; Atomic Models; Isotopes and Isobars; Shells and Quantum Numbers; Electronic Configuration

SUBJECT: BIOLOGY	
Chapter Name	Topics
Crop Production & Management	Agricultural practices, basic practices of crop production, preparation of soil, sowing, adding manure and fertilisers, irrigation, protection from weeds, harvesting, storage, food from animals
Microorganisms: Friend and Foe	Microorganisms, where do microorganisms live?, microorganisms and us, harmful microorganisms, food preservation, nitrogen fixation, nitrogen cycle
Conservation of Plants & Animals	Deforestation and its causes, consequences of deforestation, conservation of forest and wildlife, biosphere reserve, flora and fauna, endemic species, wildlife sanctuary, national park, red data book, migration, recycling of paper, reforestation
Cellular level of Organization	Cellular level of organisation
Reproduction in Animals	Viviparous and oviparous animals, modes of reproduction in animals, asexual reproduction, observation of budding in hydra, observation of binary fission in amoeba, sexual reproduction, male reproductive system, female reproductive system, fusion of ovum and sperm (fertilization), internal fertilization, development of the embryo, observation of resemblance in parents & children
Pollution of Air & Water	Air pollution, how does air get polluted?, case study: the taj mahal, greenhouse effect, what can be done?, water pollution, how does water get polluted?, what is potable water and how is water purified?
Reaching the Age of Adolescence	Adolescence and puberty, changes at puberty, secondary sexual characters, role of hormones in initiating reproductive function, reproductive phase of life in humans, how is the sex of the baby determined?, hormones other than sex hormones, role of hormones in completing the life history of insects and frogs, reproductive health
Cell	Typical cell, cell membrane or plasma membrane, observing the cell membrane, cell wall, nucleus, cytoplasm, protoplasm vs. Cytoplasm, cell organelles, endoplasmic reticulum, golgi body or golgi apparatus, lysosome, mitochondria, observing mitochondria, ribosomes, plastids, observation of chloroplast in red leaf, observing chloroplast in algae, vacuole, observing vacuoles, are cells fact, where do cells come from
Tissue	Are plants and animals made of same types of tissues?, plant tissues, animal tissues
Diversity in Living Organisms	What is the basis of classification?, classification and evolution, the hierarchy of classification- groups, plantae, animalia, nomenclature

SUBJECT: MATHEMATICS

Chapter Name	Topics
Rational Numbers	Introduction to Rational numbers, Positive and Negative fractional numbers, Comparing rational numbers, Properties of Rational numbers, The Role of Zero, 1 and an Inverse, Representation of Rational numbers on Number line., Rational Number between Two Rational Numbers, Decimal representation of Rational numbers and Conversions into Rational and Decimal Forms
Squares and Square Roots	Square numbers, Pythagorean triplets, Square Roots, Finding the Square root, Estimating square roots of non perfect square numbers
Cubes and Cube Roots	Cubic Numbers, Cube roots, finding cube roots, Estimating the cube root of a number
Linear Equations in One Variable	Linear Equations, Simple equations or Linear equations in one variable, solving equation that has variables on both the sides
Exponents and Powers	Powers with Negative Exponents, Laws of Exponents, Standard Form, Comparing very large and very small numbers
Number Systems	Irrational numbers, real numbers, representing real numbers on the number line, operations on real numbers, rationalizing the denominator, law of exponents for real numbers
Polynomials	Polynomials in one variable, degree of the polynomial, zeroes of a polynomial, dividing polynomials, factorising a polynomial, algebraic identities
Linear Equations in Two Variables	Linear equations in two variables, solution of a linear equation in two variables, graph of a linear equation in two variables, equation of lines parallel to x-axis and y-axis, equation of the x-axis and the y-axis
Lines and Angles	Intersecting lines and non-intersecting lines, pairs of angles, lines and a transversal, lines parallel to the same line, angle sum property of a triangle
Surface Areas and Volumes	Surface areas and volumes of different shapes
Statistics	Collection of data, presentation of data, measures of central tendency, arithmetic mean, median, mode, deviation in values of central tendency

SUBJECT: MENTAL ABILITY

Chapter Name	Topics
Alphabet Test	Position of Alphabets, Alphabetical Order, Alphabetical Quibble, Letter word Problem, Word Formation by Unscrambling Letters, Word Formation Using Letters of a Given Word
Coding – Decoding	Letter- Letter Coding, Letter-Number Coding, Substitution Coding, Puzzle Based Coding



Class: Currently Studying in Class IX

Maximum Marks: 160 M

Duration: 60 Min.

Resonance Future Achievers Scholarship Test

Important Instructions to the Students

- The question paper contains a total of **40 Multiple Choice Questions**, numbered from **Q1 to Q40**.
- This question paper contains **FIVE PARTS**. **Part-A** is *Physics*, **Part-B** is *Chemistry*, **Part-C** is *Biology*, **Part-D** is *Mathematics*, and **Part-E** is *Mental Ability*.
- The question paper consists of **7 questions** each from **Physics, Chemistry, and Biology**, **14 questions** from **Mathematics**, and **5 questions** from **Mental Ability**, attempt all questions, each having only one correct answer.
- For any question:
 - Each **correct answer** is awarded **+4 marks**.
 - Each **incorrect answer** will result in a deduction of **0 mark**.
 - No marks (0)** will be awarded if the question is left unanswered.
- Pattern & Marking Scheme of each section:**

Parts	Subject	No. of questions	Questions Range	Marks
Part-A	Physics	07	Q1 to Q7	28 M
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All the Best

PHYSICS

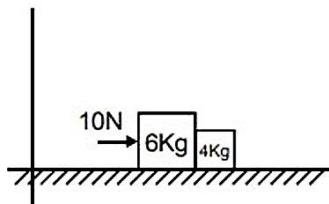
1. Gravity at Work: Can you pick the right distance formula.

The gravitational force between two bodies varies with distance r as:

- (A) $\frac{1}{r}$ (B) $\frac{1}{r^2}$ (C) r (D) r^2

2. Push Comes to Shove: What happens to the lighter block?

Two blocks are kept in contact with each other on a smooth surface. The force on the lighter block and its acceleration is:



- (A) 6 N, 1 m/s² (B) 4 N, 1 m/s² (C) 10 N, 1 m/s² (D) 0 N, 0 m/s²

3. Power up your basics: What's the Unit of Electric Current?

The SI unit of current is:

- (A) Coulomb. (B) ampere. (C) Volt. (D) Ohm.

4. Moving without a change: Can you predict the Velocity.

A body is moving with uniform velocity of 10 ms⁻¹. The velocity of the body after 10s is:

- (A) 100 ms⁻¹ (B) 50 ms⁻¹ (C) 10 ms⁻¹ (D) 5 ms⁻¹

5. Orbit Wars: Can you decode the Satellite's time trick.

The time period of a satellite revolving in a circular orbit of radius R is T . Time period of another satellite revolving in the circular orbit of radius $4R$ will be:

- (A) $4T$ (B) $\frac{1}{4}T$ (C) $8T$ (D) $\frac{1}{8}T$

6. From Tiny to Mighty: Can you convert Dynes to Newtons.

How many dynes are equal to 1N ?

- (A) 10⁶ (B) 10⁴ (C) 10⁵ (D) 10³

7. Hear That? Time to Tune into the nature of sound waves!

Sound waves are:

- (A) Longitudinal waves in air (B) Transverse waves in air
(C) Electromagnetic waves in air (D) Surface waves in air

CHEMISTRY

8. CO₂ Breakdown: Can you count the moles and molecules Right.

440 g of carbon dioxide can be represented as

- (i) 5 g mole of carbon dioxide (ii) 10 moles of carbon dioxide
(iii) 6.023×10^{23} molecules of carbon dioxide (iv) 6.023×10^{24} molecules of carbon dioxide.
(A) (i) and (ii) only (B) (ii) and (iv) only (C) (ii) and (iii) only (D) (i), (ii), (iii) and (iv).

9. Fact or Fiction: Can you spot the chemical misfits.

Which of the following statements are incorrect?

- I. Dichromate ion is a divalent and positive ion. II. Barium ion is trivalent and positive.
III. Solid sulphur is a polyatomic molecule. IV. Ammonium ion is divalent and positive.
(A) I and II only (B) III and IV only (C) I, II and III only (D) I, II and IV only

10. Atomic Twins or Just close cousins? Spot the Isobars.

Which among the following are isobars?

- (A) ${}_bX^a, {}_bY^{a+1}$ (B) ${}_bX^a, {}_cY^b$ (C) ${}_bX^a, {}_{b+1}Y^a$ (D) ${}_bX^a, {}_{b-1}Y^{a-1}$

11. **When no more will dissolve: Can you name this solution state.**

A solution, which at a given temperature dissolves as much solute as it is capable of dissolving, is said to be a

- (A) Super-saturated Solution (B) Semi-saturated Solution
(C) Unsaturated Solution (D) Saturated Solution

12. **Mixing Masses: Can you balance the Hydrogen-Oxygen equation.**

Hydrogen & Oxygen combine in the ratio of 1: 8 by mass to form water. What mass of oxygen gas would be required to react completely with 3 g of hydrogen gas?

- (A) 24 g (B) 27 g (C) 21 g (D) 3 g

13. **Heavy Hitters of the Atom: Who's really heavier, Proton or Electron?**

Which of the following statements is true?

- (A) A proton is 1837 times heavier than an electron.
(B) A proton is $1/1837$ times heavier than an electron.
(C) A proton is $1/1837$ times lighter than an electron.
(D) Proton has the same mass as an electron.

14. **Maximize the multiplicity: Can you follow Hund's Rule.**

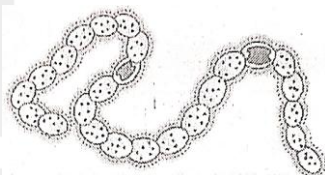
Hund's rule states that -

- (A) matter and radiation have a dual nature.
(B) in the orbitals of equivalent energy, pairing of electrons begins only after all the orbitals have been singly occupied by electron.
(C) the position and velocity of an electron cannot be exactly measured at the same time.
(D) no two electrons in an atom can have the same set of four quantum numbers.

BIOLOGY

15. **Tiny Helpers: Which role does this Microorganism play?**

The microorganism in the given figure is associated with which of the following functions?



- (A) Nitrogen fixation (B) Photosynthesis (C) Transpiration (D) Both (A) and (B)

16. **Match it right: Can you pair cells and their functions.**

Match the items in Column-I with the correct descriptions in Column-II:

	Column-I		Column-II
A	Structural unit of body	P	Mitochondria of body
B	Cell wall	Q	Cell
C	Power house of the cell	R	Nucleus of cell
D	Control unit of cell	S	Plant cell

- (A) A → Q, B → S, C → P, D → R (B) A → P, B → Q, C → R, D → S
(C) A → P, B → R, C → Q, D → S (D) A → Q, B → R, C → P, D → R

17. **Pathways to Life: Decode the Dichotomous Key Challenge.**

Refer to the given dichotomous key and select the correct statement.

- (i) (a) Single parent is involved in reproduction. Go to (ii)
(b) Two parents are involved in reproduction. Go to (iii)
(ii) (a) The nucleus of the parent body divides only once. - P
(b) The nucleus of the parent body divides repeatedly. - Q

- (iii) (a) Fertilisation occurs outside parent body. - R
 (b) Fertilisation occurs inside parent body. Go to (iv)
- (iv) (a) Embryonic development occurs outside parent body. - S
 (b) Embryonic development occurs inside parent body. - T
- (A) P occurs in Plasmodium while Q occurs in Amoeba.
- (B) in S, both the types of gametes are released from the body while in T, only one type of gamete is released from the body.
- (C) R involves only mitosis while S involves both mitosis and meiosis.
- (D) In S, eggs are surrounded by protective calcareous shell while in T protective calcareous shell is absent around the eggs.

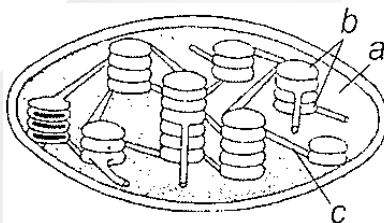
18. Monthly Mysteries: Which Reproductive Events keep the Cycle going?

Which of the following processes occur once a month in an adolescent girl?

- A. Fertilization B. Ovulation C. Menstruation
 (A) B and C only (B) A and C only (C) A and B only (D) A, B and C

19. Inside the Green Machine: Can you name the parts of a Chloroplast.

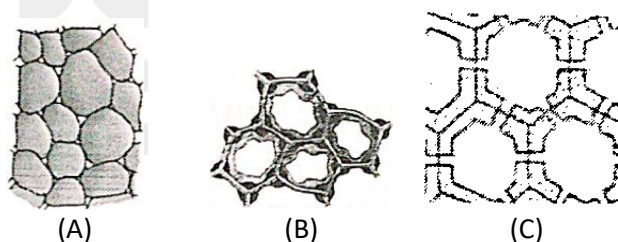
Which of the following is correct for the given figure?



- (A) The part labelled 'b' is called intergranal thylakoid.
 (B) The part labelled 'c' is called granum.
 (C) The part labelled 'a' is the site of dark reaction.
 (D) The parts labelled 'a', 'b' and 'c', all possess photosynthetic pigments such as chlorophyll.

20. Tissue Talk: Can you Identify living and dead plant cells.

Observe the given figures of three different plant tissues and select the correct statement.



- (A) A and B consist of living cells while c consists of dead cells.
 (B) Cytoplasm is present in cells of a while it is absent in cells of A and C.
 (C) Cell walls of A, B and C bear uniform thickening of suberin.
 (D) A provides mechanical strength to the plant while B and C serve as storage tissues.

21. Decode the details: Can you match the right Traits to These Organisms.

Which of the following statements is correct regarding the given dichotomous key?

- (A) The body of organism P is perforated by numerous pores called ostia whereas R possesses special stinging cells called cnidoblasts.
 (B) The excretory system of Q consists of characteristic flame cells or protonephridia.
 (C) The body wall of S consists of special stinging cells called choanocytes whereas body of T is differentiated into head, visceral mass and foot.
 (D) Body of U bears paired locomotory appendages called parapodia.

22. Fraction Fumble: How much did they overflow the bottle?

Amrita drank $\frac{3}{4}$ of a bottle of juice. Her brother drank $\frac{2}{5}$ of the same bottle. They realized they drank more than the bottle's capacity! By how much did they exceed the bottle's capacity?

- (A) $\frac{1}{20}$ (B) $\frac{1}{10}$ (C) $\frac{1}{5}$ (D) $\frac{7}{20}$

23. Crack the Code: Find the number behind the equation.

Linear Equation in One Variable.

"If I add 5 to half of a number, I get the same result as subtracting 3 from one-third of the number." What is the number?

- (A) 24 (B) -48 (C) 18 (D) 12

24. Speeding Up: Can you calculate the Machine's Final Velocity.

A machine increases its speed by a factor of 2 every minute. If its initial speed is 3 m/s, what will be its speed after 5 minutes?

- (A) 48 m / s (B) 96 m / s (C) 96 m (D) 96

25. Odd Numbers meet geometry: Can you find the Playground's Side.

A square playground has an area equal to the sum of squares of two consecutive odd numbers: $11^2 + 13^2$. What is the side length of the playground?

- (A) 16 (B) 17 (C) 15 (D) 12

26. Crack the Cube Code: What's the Volume Based on the Clues?

A cube has a volume equal to the cube of a number that is 2 more than the cube root of 125. What is the volume of the cube?

- (A) 343 (B) 729 (C) 1000 (D) 512

27. Divide and Conquer: Can you solve this Remainder Puzzle.

What is the smallest number which when divided by 8, 12 and 20 leaves a remainder of 5 in each case?

- (A) 125 (B) 245 (C) 245 (D) 165

28. Quadratic Quest: What's the value that fits these Zeros?

If $x^2 + ax + b$ has (-4) as a zero and the other zero is 5, find the value of 'a':

- (A) -1 (B) -9 (C) -2 (D) 1

29. Fare Calculation: Can You Figure Out the Total Distance Traveled.

The fare of a cab is ₹50 for the first 5 km and ₹10 per km thereafter. If a trip costs ₹120, find the total distance travelled

- (A) 10 km (B) 12 km (C) 13 km (D) 15 km

30. Unlock the Secret: Can You Crack Mr. Elric's Age Riddle?

In a quiet village, an old mathematician named Mr. Elric left behind a riddle in his will. Whoever solves it would inherit his secret library of rare mathematical scrolls. The riddle reads: "Twice the total of my two favorite numbers is equal to the difference between them plus 72. The larger number, of course, is always three times the smaller - as balance demands." The villagers were puzzled for days. Can you solve Mr. Elric's riddle and find the smaller number?

What is the smaller number?

- (A) 6 (B) 12 (C) 14 (D) 18

31. **Tank Capacity Test: How much water can this cylinder hold?**

A cylindrical water tank has a radius of 7 m and height 6 m. What is the volume of water it can hold?
Use $\pi = 22/7$.

- (A) 924 m^3 (B) 934 m^3 (C) 844 m^3 (D) 784 m^3

32. **Mean Mistake: Can you find the correct average.**

In a data set, the mean of 6 numbers is 35. One number was wrongly written as 28 instead of 82. What is the correct mean?

- (A) 44 (B) 40 (C) 45 (D) 42

33. **Reciprocal Reveal: Which number matches the given Clue?**

The reciprocal of a rational number is $3/5$. If the number is negative, which of these is it?

- (A) $-3/5$ (B) $-5/3$ (C) $3/5$ (D) $5/3$

34. **Degree Detectives: Can you spot the degree 4 monomial?"**

Which of these polynomials has degree 4 and is a monomial?

- (A) $3x^3 + x^4$ (B) $4x^2y^2$ (C) $5x^4$ (D) $2x^2y^3$

35. **Number Hunt: Can you find the smaller one from the Sum.**

"The sum of two numbers is 64. One is twice the other minus 8." What are the numbers? What is the smaller number?

- (A) 24 (B) 20 (C) 28 (D) 32

MENTAL ABILITY

36. **Letter Logic: How many pairs match the Alphabet gap?**

How many pairs of letters are there in the word "KNOWLEDGE" which have as many letters between them as in the alphabet?

- (A) 2 (B) 3 (C) 4 (D) 5

37. **Decode the Pattern: Can you find FRIDAY's Secret Code?"**

In a certain code: MONDAY = NPOEBZ. How is "FRIDAY" written in that code?

- (A) GSJEBZ (B) GSJEBX (C) GSJEBY (D) GSKEBZ

38. **Alphabet Logic: Which pair breaks the pattern?"**

Which of the following do not have the same relationship as "BEG: ADF"?

- (A) CFH : BEG (B) HJL : GIK (C) DFI : CEH (D) DFH : CEJ

39. **Royal Riddle: Can you crack the code for QUEEN.**

In a certain code: KING = MJOH. What is the code for QUEEN?

- (A) TWHHP (B) SVFFO (C) RVFFO (D) TXGGN

40. **Alphabet Sequence Puzzle: What Comes Next?**

Find the next term in the series: AZ, BY, CX, DW, ?

- (A) EV (B) EX (C) FU (D) FV

SPACE FOR ROUGH WORK



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3 OUT OF EVERY 4

**Resonance Hyderabad Students
Secured Merit Seats in 2025**

6100+ students have secured seats in IITs, NITs, IIITs, AIIMS & other top institutes in just 7 years

Think Results. Think Resonance.

2025 Result Highlights

- 175 IIT Seat Selections
- 323 NIT, IIIT, BITS Selections
- 550 Merit Seats in Top 10 EAPCET Colleges
- 910 Merit Seats in Top 30 EAPCET Colleges
- 600 Merit Seats in Top National and State Deemed universities
- 90+ Merit Seats in Top Medical Colleges
- 955 Students in State Top 10 Marks of Telangana Intermediate

HYDERABAD'S

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