

RPS GROUP OF SCHOOLS

ADMISSION-*Cum*-SCHOLARSHIP TEST

For Grade III to XI

Sunday, 1st January 2023

APPEARING FOR CLASS XI

**SCHOLARSHIP ASPIRANTS TODAY
VICTORS IN LIFE TOMORROW !**

At **RPS** *Excellence is a* **HABIT**

NEET TOPPER

Above 600 Marks

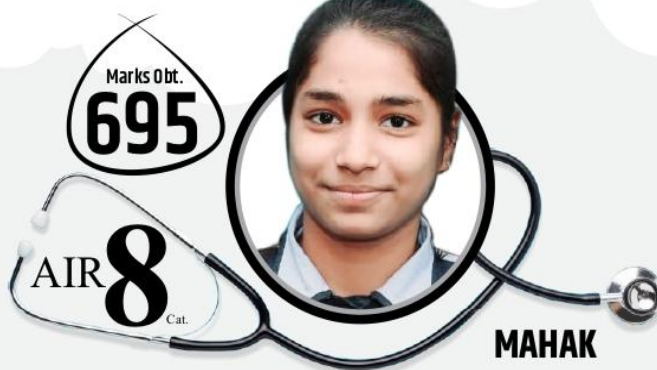
45⁺
STUDENTS

Above 550 Marks

91⁺
STUDENTS

Total
Qualifiers

405⁺
STUDENTS

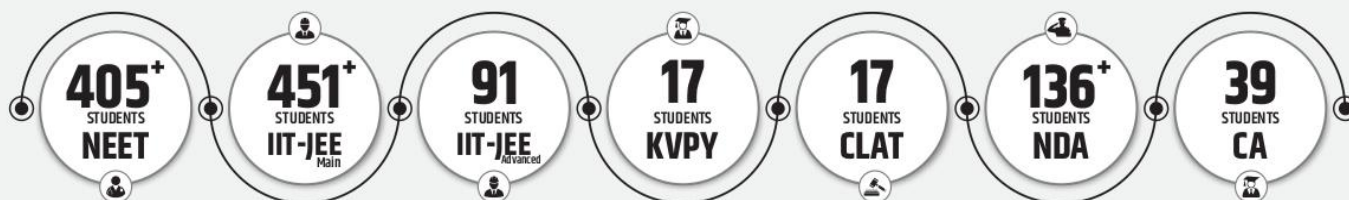


IIT-JEE TOPPER



OUR RESULTS SPEAK LOUDER THAN WORDS

SESSION 2022-23



APPEARING FOR CLASS XI

Science: 1-20

Mathematics: 21-40

Social Science: 41-60

English: 61-80

TIME: 90 Minutes

M.M. 80

Student's Name: Father's Name: Mobile No.:

Address

Present School:

General Instructions:

1. Duration of Test is 90 minutes and Question Paper contains 80 Questions with maximum 80 marks.
2. Use of gadgets is not allowed.
3. Student should abide by the instructions issued during the examination by the invigilator or the centre incharge.
4. Before attempting the question paper ensure that it contains all the pages and that no question is missing.
5. **There is No Negative marking.**

Correct Method



Wrong Method



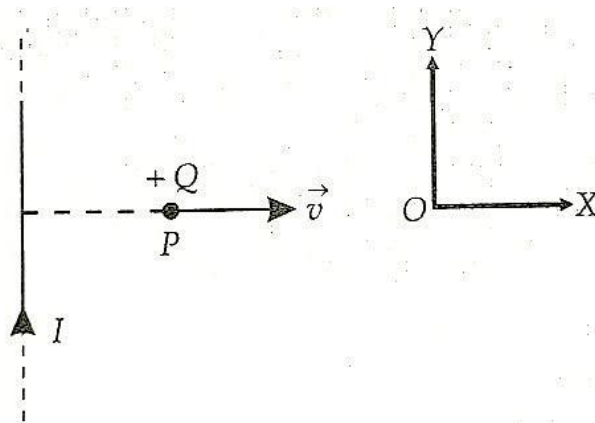
Science (20 Marks)

Physics (7 Marks)

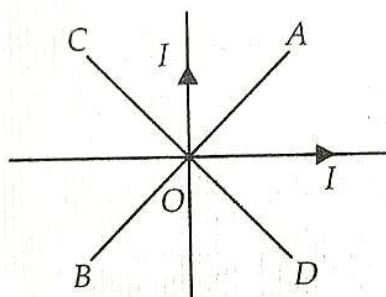
- Q1. If a concave mirror is held in water, then its focal length :
- A) increases B) decreases
C) remains unchanged D) may increase or decrease depending upon the level of water
- Q2. A plane glass slab is kept over various colour letters, the letter which appears least raised is:
- A) red B) violet C) green D) blue
- Q3. A person can see clearly objects only when they lie between 50cm and 400cm from his eyes. In order to increase the maximum distance of distinct vision to infinity, the type and power of the correcting lens, the person has to use, will be
- A) concave, -0.2 diopter B) convex, $+0.15$ diopter
C) convex, $+2.25$ diopter D) concave, -0.25 diopter

- Q4. A very long straight wire carries a current I . At the instant when a charge $+Q$ at point P has velocity $\vec{v}$ as shown, the force on the charge is

- A) along OY
B) opposite to OY
C) along OX
D) opposite to OX



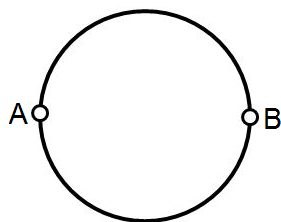
- Q5. Two equal electric currents are flowing perpendicular to each other as shown in the figure.



AB and CD are perpendicular to each other and symmetrically placed w.r.t. the currents. Where do we expect the resultant magnetic field to be zero?

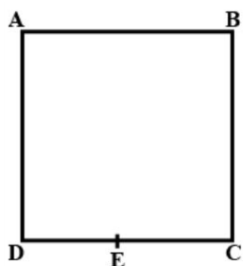
- A) on AB
B) on CD
C) on both AB and CD
D) on both OD and BO

- Q6. A wire of resistance 12 ohms per metre is bent to form a complete circle of radius 10cm. The resistance between its two diametrically opposite points, A and B as shown in the figure is



- A) $3\ \Omega$
B) $6\ \pi\ \Omega$
C) $6\ \Omega$
D) $0.6\ \pi\ \Omega$

- Q7. A wire of resistance R is bent to form a square ABCD as shown in the figure. The effective resistance between E and C is (E is midpoint of arm CD)



- A) $\frac{3}{4} R$
B) R
C) $\frac{1}{16} R$
D) $\frac{7}{64} R$

Chemistry (7 Marks)

- Q8. A white precipitate can be obtained by adding dilute sulphuric acid to:
A) CuSO_4 solution B) NaCl solution C) BaCl_2 solution D) Na_2SO_4 solution
- Q9. The reaction of white phosphorus with aqueous NaOH gives phosphine along with another phosphorus containing compound. The reaction type; the oxidation states of phosphorus in phosphine and the other product are respectively
A) redox reaction; -3 and -5 B) redox reaction; $+3$ and $+5$
C) disproportionation reaction; -3 and $+1$ D) disproportionation reaction; -3 and $+3$
- Q10. Conjugate acid-base pair is:
A) HCO_3^- , CO_3^{2-} B) NH_4^+ , NH_2^- C) OH^- , H_2O_2 D) NO_2^- , NO_4^-
- Q11. One mole of magnesium in the vapour state absorbed 1200 kJ mol^{-1} of energy. If the first and second ionization energies of Mg are 750 and 1450 kJ mol^{-1} respectively, the final composition of the mixture is
A) $31\% \text{ Mg}^+ + 69\% \text{ Mg}^{2+}$ B) $69\% \text{ Mg}^+ + 31\% \text{ Mg}^{2+}$
C) $86\% \text{ Mg}^+ + 14\% \text{ Mg}^{2+}$ D) $14\% \text{ Mg}^+ + 86\% \text{ Mg}^{2+}$
- Q12. Give the IUPAC name for
$$\begin{array}{c} \text{CH}_3 \\ | \\ \text{CH}_3\text{CH}_2\text{OCHCH}_2\text{CH}_2\text{CH}_2\text{Cl} \end{array}$$

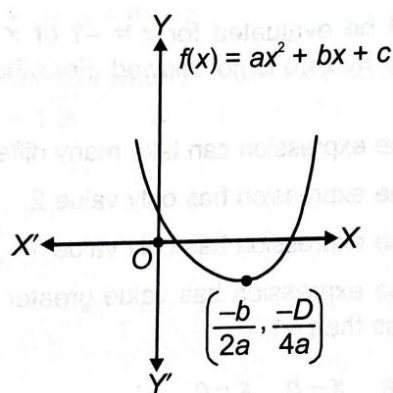
A) 2-ethoxy-5-chloropentane B) 1-chloro-4-ethoxy-4-methylpentane
C) 1-chloro-4-ethoxypentane D) ethyl-1-chloropentyl ether
- Q13. A metal M of moderate reactivity is present as its sulphide X . On heating in air, X converts into its oxide Y and a gas evolves. On heating Y and X together, the metal M is produced. X and Y respectively.
A) X cuprous sulphide, Y cuprous oxide. B) X cupric sulphide, Y cupric oxide.
C) X sodium sulphide, Y sodium oxide. D) X calcium sulphide, Y calcium oxide.
- Q14. A hydrocarbon 'A' (C_3H_8) on treatment with chlorine in presence of sunlight yielded compound 'B' as major product. Reaction of 'B' with aqueous KOH gave 'C' which on treatment with concentrated H_2SO_4 yielded 'D'. Hydrogenation of 'D' gave back 'A'. The sequence of reactions involved in above conversion is:
A) Substitution, Substitution, Addition, Dehydration
B) Substitution, Substitution, Dehydration, Addition
C) Substitution, Dehydration, Addition, Addition
D) Addition, Substitution, Dehydration, Substitution

Biology (6 Marks)

- Q15. Pancreatic juice takes part in digestion of –
A) Proteins, carbohydrates and fats B) Proteins and fats
C) Proteins, carbohydrates D) Proteins only
- Q16. Name the plant hormone responsible for falling of senescent leaves
A) Gibberelin B) Auxin C) Cytokinin D) Absciscic Acid
- Q17. Menopause is the stage in human female when
A) Menstruation starts B) Puberty
C) Reproduction capacity arrested D) Ovaries enlarges
- Q18. Which of the following carry hereditary characters to the offspring in an organism?
A) Ribosome B) Chromosome C) Plasma D) Lysosome
- Q19. Deforestation causes
A) Soil erosion B) Pollution C) No floods D) None of these
- Q20. Nature's cleaners are:
A) Decomposers B) Producers C) Consumers D) Carnivores

Mathematics (20 Marks)

- Q21. $3^9 + 3^{12} + 3^{15} + 3^n$ is a perfect cube, $n \in N$, then the value of $n =$
A) 18 B) 17 C) 14 D) 16
- Q22. If $pqr = 1$, then the value of $\left(\frac{1}{1+p+q^{-1}} + \frac{1}{1+q+r^{-1}} + \frac{1}{1+r+p^{-1}}\right)$ is
A) 0 B) pq C) 1 D) $\frac{1}{pq}$
- Q23. The given figure shows the graph of the polynomial $f(x) = ax^2 + bx + c$



- A) $a > 0, b < 0$ and $c > 0$
B) $a > 0, b < 0$ and $c < 0$
C) $a < 0, b > 0$ and $c > 0$
D) $a < 0, b > 0$ and $c < 0$
- Q24. One equation of a pair of dependent linear equations is $-5x + 7y = 2$. The second equation can be
A) $10x + 14y + 4 = 0$ B) $-10x - 14y + 4 = 0$
C) $-10x + 14y + 4 = 0$ D) $10x - 14y = -4$

Q25. If $\sin \alpha$ and $\cos \alpha$ are the roots of $ax^2 + bx + c = 0$, then $a^2 + 2ac =$

- A) c^2 B) $-2ab$ C) b^2 D) 0

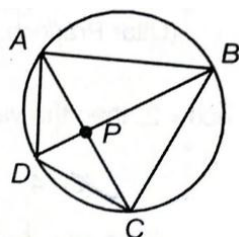
Q26. The common difference of an A.P., the sum of whose n terms is S_n , is

- A) $s_n - 2S_{n-1} + S_{n-2}$ B) $S_n - 2S_{n-2}$ C) $S_n - S_{n-2}$ D) $S_n - S_{n-1}$

Q27. $\triangle ABC$ is a right triangle in which $\angle C = 90^\circ$ and $CD \perp AB$. If $BC = a$, $AC = b$, $AB = c$ and $CD = p$, then

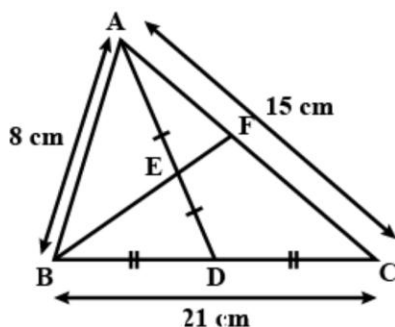
- A) $p^2 = a^2 + b^2$ B) $\frac{1}{p^2} = \frac{1}{a^2} + \frac{1}{b^2}$ C) $\frac{1}{c^2} = \frac{1}{a^2} + \frac{1}{b^2}$ D) None of these

Q28. In below figure, diagonals of a cyclic quadrilateral $ABCD$ intersect at point P . Area of triangle APB is 24 cm^2 . If $AB = 8 \text{ cm}$ and $CD = 5 \text{ cm}$. Calculate the area of $\triangle DPC$



- A) 20 cm^2 B) 12 cm^2 C) $9\frac{3}{8} \text{ cm}^2$ D) 9.5 cm^2

Q29. In $\triangle ABC$, AD is median and E is the mid-point of AD . BE is extended and it meets AC in F . If $AB = 8 \text{ cm}$, $BC = 21 \text{ cm}$ and $AC = 15 \text{ cm}$, then AF is equal to



- A) 7 cm B) 3 cm C) 12 cm D) 5 cm

Q30. The coordinates of point on x -axis which lies on the perpendicular bisector of the line segment joining the points $(7, 6)$ and $(-3, 4)$ are

- A) $(0, 2)$ B) $(3, 0)$ C) $(0, 3)$ D) $(2, 0)$

Q31. A pair of equations $x = a$ and $y = b$ graphically represent lines which are

- A) Intersecting at (a, b) B) Intersecting at (b, a) C) Parallel D) Coincident

Q32. If the side of a cube is increased by 50%, then what percent increase will be in the area of the vertical faces of the cube?

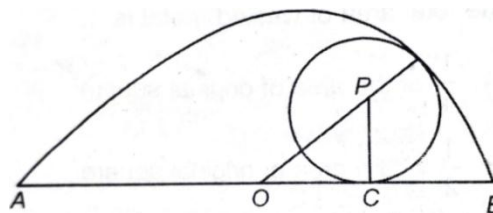
- A) 125% B) 150% C) 100% D) 50%

Q33. If V be the volume and S the surface area of a cuboid of dimensions a , b and c , then $\frac{1}{V}$ is equal to

- A) $\frac{S}{2} (a + b + c)$ B) $\frac{2}{S} \left(\frac{1}{a} + \frac{1}{b} + \frac{1}{c} \right)$ C) $\frac{2S}{a + b + c}$ D) $2S(a + b + c)$

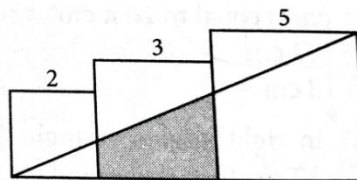
- Q34. In the above figure O and P are centres of circles, $AB = 10\text{cm}$ and $AC = 6\text{cm}$, then diameter of smaller circle is

A) 8cm B) 4.8cm
C) 4cm D) 2cm



- Q35. Three squares have the dimension indicated in the diagram. What is the area of shaded quadrilateral?

A) 4.5 B) $\frac{16}{7}$
C) $\frac{21}{4}$ D) 3.6



- Q36. If $\sin \theta_1 + \sin \theta_2 + \sin \theta_3 = 3$ then $\cos \theta_1 + \cos \theta_2 + \cos \theta_3 =$
A) 3 B) 2 C) 1 D) 0
- Q37. If $\sin \theta + \operatorname{cosec} \theta = 2$ then $\sin^{100} \theta + \operatorname{cosec}^{100} \theta =$
A) 1 B) 2 C) 4 D) None of these
- Q38. A balloon of radius r makes an angle α at the eye of an observer and the angle of elevation of its centre is β . The height of its centre from the ground level is given by
A) $r \cos \frac{\beta}{2} \sec \alpha$ B) $r \cos \beta \sec \frac{\alpha}{2}$ C) $r \sin \frac{\alpha}{2} \operatorname{cosec} \beta$ D) $r \sin \beta \operatorname{cosec} \frac{\alpha}{2}$
- Q39. The median of certain observations 17, 18, 23, 27, $x - 3$, $x + 5$, 45, 49, 74 and 85, arranged in ascending order is 35. Later on, it was found that one observation 72 was misread as 27 by mistake. The correct median of the data is
A) 36 B) 38 C) 42 D) 47
- Q40. The probability of guessing the correct answer to a certain test questions is $x/12$. If probability of not guessing the correct answer is $2/3$, then x is equal to
A) 2 B) 3 C) 4 D) 6

Social Science (20 Marks)

- Q41. Identify the correct statement with regard to 'The Act of Union – 1707' from the following options.
A) The British monarchy surrendered the power to English Parliament.
B) The British parliament seized power from Ireland.
C) The formation of the 'United Kingdom of Great Britain'.
D) The British nation was formed as result of a war with Scotland and Wales.
- Q42. What did the Rowlatt Act, 1919 presume?
A) Detention of political prisoners without trial B) Forced recruitment in the army
C) Forced manual labour D) Equal pay for equal work

- Q43. What is the main philosophy behind public sector industries and joint ventures in India?
- In India the industrial development is a precondition for eradication of poverty.
 - regional disparities by establishing industries
 - export of manufactured goods
 - raw materials
- Q44. Identify the soil with help of the following features.
- Also known as regur soil.
 - Made of extremely fine i.e. clayey material
 - Ideal for growing cotton
- Alluvial
 - Black
 - Laterite
 - Red and Yellow
- Q45. In a 'Holding together federation':
- A large country divides its power between constituent states and the national government.
 - The Central government tends to be more powerful vis-à-vis the States.
 - All the constituent states usually have equal powers.
 - Constituent states have unequal powers.
- Which of the above statements are correct?
- I, II, III and IV
 - I and IV
 - II and III
 - I, II and IV
- Q46. Which of the following is not applicable for a worker, who works in the organised sector?
- She gets a regular salary at the end of the month
 - She is not paid for leave
 - She gets medical allowance
 - She got an appointment letter stating the terms and conditions of work when she joins work.
- Q47. Which one of the following is a major reason that prevents the poor from getting loans from the banks?
- lack of capital
 - not affordable due to high rate of interest
 - absence of collateral security
 - absence of mediators
- Q48. Arrange the following in chronological order:-
- Indian National Congress
 - BahujanSamaj Party
 - BhartiyaJanata Party
 - Communist Party of India-Marxist
- III, II, I, IV
 - I, IV, III, II
 - II, IV, III, I
 - II, I, III, IV

- Q49. In which of the following countries the participation of women in public life is very low?
- A) Asian Countries
 - B) European Countries
 - C) American Countries
 - D) South Asian Countries
- Q50. Choose the correct option from Column A and Column B.
- | Column A | Column B |
|-----------------------------------|---------------------------|
| I) Chandrapur Thermal Power Plant | a) Odisha |
| II) Mayurbhanj iron ore mines | b) Amarkantak |
| III) Kalol oil fields | c) Gujarat |
| IV) Bauxite mines | d) Maharashtra |
| A) I-d, II-a, III-c, IV-b | B) I-a, II-b, III-c, IV-d |
| C) I-d, II-c, III-b, IV-a | D) I-c, II-a, III-d, IV-b |
- Q51. Who among the following had sought to put together a coherent programme for a unitary Italian Republic during 1830s?
- A) Victor Emmanuel-I
 - B) Victor Emmanuel-II
 - C) Giuseppe Mazzini
 - D) Count Cavour
- Q52. Why did General Dyer open fire on the peaceful gathering at Jallianwala Bagh on 13th April 1919?
- A) He wanted to gain prominence in the eyes of British govt.
 - B) He wanted to enforce martial law very strictly in Amritsar.
 - C) He wanted to demoralize the local congress leaders.
 - D) He wanted to create feeling of terror and awe in the minds of satyagrahis
- Q53. Which of following minerals belongs to the category of ferrous minerals?
- A) Gold
 - B) Copper
 - C) Manganese
 - D) Bauxite
- Q54. Which of the following is a solid pollutant?
- A) Carbon dioxide
 - B) Carbon
 - C) Sulphur dioxide
 - D) Carbon monoxide
- Q55. From which Five Year Plan (FYP) has India made concerted efforts for achieving the goals of resource planning?
- A) 1st FYP
 - B) 5th FYP
 - C) Annual Plans
 - D) 10th FYP
- Q56. Who help the borrowers to overcome the problem of lack of collateral?
- A) State Government
 - B) Employers
 - C) Money lenders
 - D) Self help groups

- Q57. The Equal Remuneration Act of _____ provides that equal wages should be paid to equal work.
- A) 1986 B) 1976 C) 1966 D) 1972
- Q58. Belgium has borders with France, the Netherland _____ and Luxembourg.
- A) Sweden B) Austria C) Itlay D) Germay
- Q59. Which of following statements describes the national income?
- A) The budget introduce by the government.
- B) It is the total of various income factors.
- C) Profit of different units in the public sector.
- D) The income gained by the Govt.
- Q60. Identify the political party from the following symbol:



- A) AIMIM B) CPI(M)
- C) Janata Dal (United) D) Jammu & Kashmir National Conference

English (20 Marks)

- Q61. The teacher said, “My God ! I have forgotten my register.” (**Change into indirect speech**)
- A) The teacher said that he had forgotten his register.
- B) The teacher exclaimed with sorrow that he had forgotten his register.
- C) The teacher exclaimed with regret that he had forgotten his register.
- D) The teacher exclaimed with joy that he had forgotten his register.
- Q62. John said to his father, “Pardon me, Sir.” (**Change into indirect speech**)
- A) John told his father that he should be pardoned.
- B) John asked his father that he should be pardoned.
- C) John requested his father to pardon me.
- D) John respectfully sought his father’s pardon.
- Q63. They decided to go home at once. (**Change into passive voice**)
- A) To go home was decided by them at once.
- B) It is decided to go home at once.
- C) It was decided to go home at once.
- D) None of them.

- Q64. It is your duty to make the guests feel comfortable. **(Change into passive voice)**
 A) Your duty is to make the guests feel comfortable.
 B) You are supposed to make the guests feel comfortable.
 C) You are advised to make the guests feel comfortable.
 D) You are ordered to make the guests feel comfortable.
- Q65. **Choose the one option that best expresses the meaning of the given idiom/phrase :** ‘To show a clean pair of heels’
 A) to escape B) to enter C) to threaten D) to fight
- Q66. **Choose the one option that best expresses the meaning of the given idiom/phrase :** ‘To grease the palm’
 A) to bribe B) to take into confidence C) to manicure D) to lubricate the palm
- Q67. **Identify the underlined clause by choosing the best option :**
 Make hay while the sun shines.
 A) Noun clause B) Adjective clause
 C) Adverb clause of time D) Adverb clause of condition
- Q68. **Identify the underlined clause by choosing the best option :**
 We take extra care of the students who are weak in studies.
 A) Noun clause B) Adjective clause C) Adverb clause D) Principal clause

Fill the gaps choosing the best option : (Q69. to Q80.)

- Q69. little knowledge of English I have helps me a great deal.
 A) A B) Some C) The D) Any
- Q70. I had difficulty in locating your house.
 A) many B) few C) any D) a lot of
- Q71. He wondered why I him before.
 A) have not visited B) did not visit C) visit D) will not visit
- Q72. Some strange object flew my face. Fortunately, it did not hit me.
 A) past B) in C) of D) through
- Q73. She resembles her mother.
 A) with B) to C) in D) no preposition
- Q74. Let us settle down for a small car, we don't have enough parking space.
 A) so B) and C) for D) but
- Q75. you face any trouble, please come to me.
 A) Will B) Shall C) Should D) May
- Q76. You wash that sweater. It has to be drycleaned.
 A) can't B) mustn't C) won't D) daren't

- Q77. No sooner had we boarded the train it started to move.
A) than B) then C) when D) while
- Q78. all the letters, she asked the assistant to dispatch them.
A) Having typed B) Typing C) To type D) Typed
- Q79. The students came to me with a view to some knowledge.
A) get B) got C) getting D) have got
- Q80. Galileo a telescope to study stars.
A) has made B) makes C) made D) had made

(Space for rough work)

(Space for rough work)

THANK YOU FOR BELIEVING IN US!

**X CLASS
TOPPER**

VINAYAK

**99.2% IN CLASS X
CBSE BOARD EXAMINATION 2022**

**XII CLASS
TOPPER**



SANYAM BANSAL

**1ST
RANK**

**1ST RANK, INTERNATIONAL COMMERCE
OLYMPIAD, CTF, DELHI**

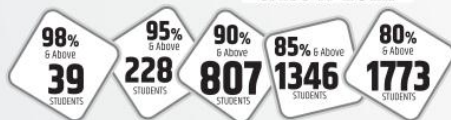
**1ST RANK- ICAL, COMMERCE WIZARD
(REWARDED WITH RS. 1 LAC BY THE GOVT. OF INDIA)**

1ST RANK (STATE)-STSE, RAJASTHAN

SANYAM BANSAL

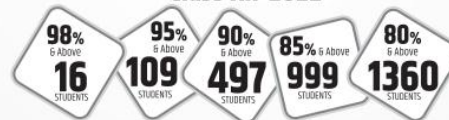
**99.8% IN CLASS XII
CBSE BOARD EXAMINATION 2022**

Class X-2022



**TOTAL
MERITS
2151**

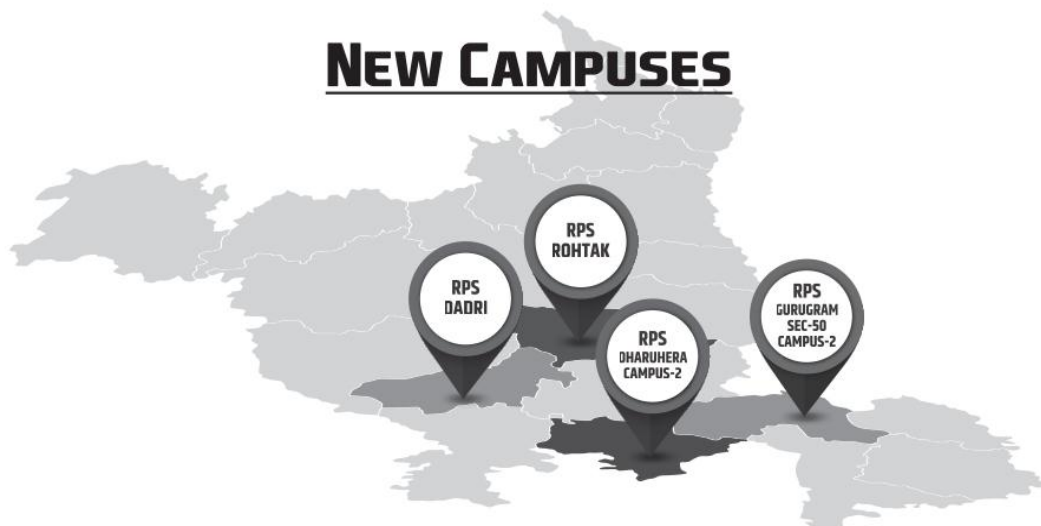
Class XII-2022



**TOTAL
MERITS
1887**

WE ARE SPREADING OUR WINGS

NEW CAMPUSES



New Campuses

Dharuhera Campus -2 Ph.: 9467064534 | **Rohtak** Ph.: 7419998800 | **Dadri** Ph.: 8222048283, 84 | **Gurugram Sec-50 Campus 2:** 8409989898

Mahendergarh Ph.:01285-222645, 9416150201 | **Rewari** Ph.:8222000359 | **Rewari City** Ph.:9053555526 | **Dharuhera** Ph.:9467064534 | **Kosli** Ph.:9255148141 | **Behror** Ph.:9529678004 | **Narnaul** Ph.:01282-248014, 8198976666 | **Hansi** Ph.:9813196969, 9896100407 | **Gurugram Sec- 50** Ph.:8409989898, 7827466258 | **Gurugram Sec- 89** Ph.:8222999182 | **Hisar** Ph.:8307760465 | **Karnal** Ph.:8398000304/06

Top-Notch **Hostel Accommodation** for **Boys and Girls** in M/GARH, BEHROR, KOSLI & HANSI CAMPUSES