

ACADEMIC SESSION 2024-26

Name :

Application No.:

RNTSE : 2024-25 Resonance Nashik Talent Search Exam



SAMPLE PAPER For Students of Class 10th Std.

Exam Date : 06 Oct 2024 Duration: 90 Min. Max.Marks: 210

Pattern : Single Option Correct (+3, -1) Total No. of Questions 70 (Physics : 15, Chemistry : 15, Mathematics : 25, Biology : 15)



PHYSICS: Ray optics: Reflection, plane and spherical mirror. Refraction, Lenses & prism. Current electricity: Ohm's law, Resistivity, Combination of resistor, Ammeter, Voltmeter, heating effect of current. Kinematics : Motion on straight line, displacement and distance, average velocity. Acceleration. graphs for rectilinear motion. Motion under gravity. Heat : Temperature, its various units and their relationship. Specific heat capacity, Latent heat of fusion and vaporization, principle of calorimetry

CHEMISTRY: Matter, Mole concept, Periodic classification, Acid base and salt, Metal and non metals (Metallurgy), Carbon and it's compounds, Chemical reaction and equations, Atoms and molecules

MATHEMATICS : Real numbers, Polynomials, Linear equations, Quadratic Equations, Trigonometry, Arithmetic Progression, Geometry (Triangles & Circles)

BIOLOGY: Animal Diversity / Classification, Plant Diversity / Classification, Reproduction (Plant & Animal), Heredity / Genetics, Tissue (Plant & Animal), Transport in plants, Co-ordination in human being (Nervous system & Endocrine system)

Resonance Eduventures Ltd Nashik Study Centre				
- KULKARNI GARDEN CAMPUS -	- NASHIK ROAD CAM	PUS -		
Roongta Arcade, Near 21st Century Hotel, Opp. Kulkarni Garden, Sharanpur Road, Nashik - 422 002,	Campus 1 : 2 nd Floor, Anand Commerce Centre, Above Govind Dande & Sons, Near Datta Mandir Stop, Nashik Pune Road, Nashik - 422 101,	Campus 2 : 3rd Floor, Above Mansi Hotel, Shahu Marg, Nashik Road.		
Call or Whatsapp : 8380 830 444 / 8390 560 444	Call or Whatsapp - 8390 890 444 / 8390 870 444	Tel - : 0253 2997944		

. IPIA. Near City Mall. Jhalawar Road. Kota (Raj.) - 324005 | Tel. No.: 0744-2777777 | CIN: U80302R J2007PL C024029 | Visit: www.resonance.ac.in (ota Study Centre & Registered Corporate Office: CG Tower, A-46 & ! To know more: sms RESO at 56677 | contact@resonance.ac.in | www.resonance.ac.in

Toll Free: 1800 258 5555 🕴 facebook.com/ResonanceEdu 💟 twitter.com/ResonanceEdu 📇 www.youtube.com/resowatch 🔞 blog.resonance.ac.in

JEE 2023 RESULTS @ NASHIK



Computer Science(Dual)



KAUSHAL MORANKAR IIT - Hydrabad Computer Science(B.Tech)



ASHISH MORE IIT - GUWAHATI Energy Engineering



NEEL KOTKAR IIT - KHARAGPUR Applied Geology 4 Yrs. B.Sc.



VIVEKANAND SAHOO NIT - TRICHY Electrical & Electronic



ABHISHEK KUMBHAR NIT - AGARTALA Computer Science



TANISHA HASE IIT - BOMBAY Electrical Engineering(Dual)



RUSHAD TIDAKE IIT - Delhi Production & Industrial Eng.



SHANESHRAJE KADU IIT - BHU (VARANASI) Industrial Chemistry



ATHARVA DUBE NIT - TRICHY Instrumentation Engineering



NITIN SHEWALE IIIT- BHOPAL Information Technology



ARYA JUSHI IIT-BOMBAY

Engineering Physics



OJAS PATHAK IIT - BOMBAY Chemical Engineering (B.Tech)



OM DEORE IIT - ROORKEE Geophysical Technology



PAWAN BHATKAR IIT - DHANBAD Mathematic & Computing



GOVINDA SONAWANE NIT - KURUKSHETRA Electronics & Communication



VEDANT SALVE NIT - JALANDHAR Data Science & Engineering



SHIVAM SHANKAR IIT - BOMBAY Engineering Physics



AYUSH PAWAR IIT - BOMBAY BS Maths



PRITI BAGUL IIT - DHANBAD Petroleum Engineering



YASH GOHIL NIT - SURAT Electrical Engineering



YASH DAWANGE NIT - NAGPUR Metallurgical Engineering



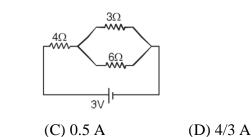
Section-I(Physics)

1. Find current supplied by the 3 Volt cell in the circuit

(B) 3 A

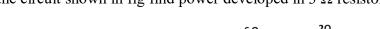
(A) 1 A

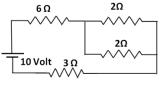
(A) 100/3 W



2. For the circuit shown in fig find power developed in 3 Ω resistor

(B) 30 W

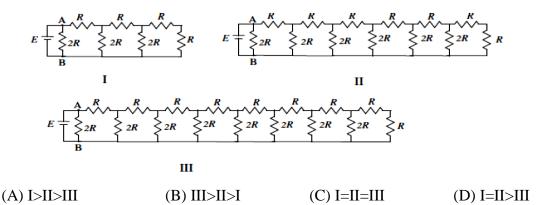




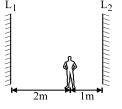
(C) 3W

(D)5W

3. Three different circuits (I, II and II) are constructed using identical batteries and resistors of R and 2R ohm. What can be said about current 'I' in arm AB of each circuit?



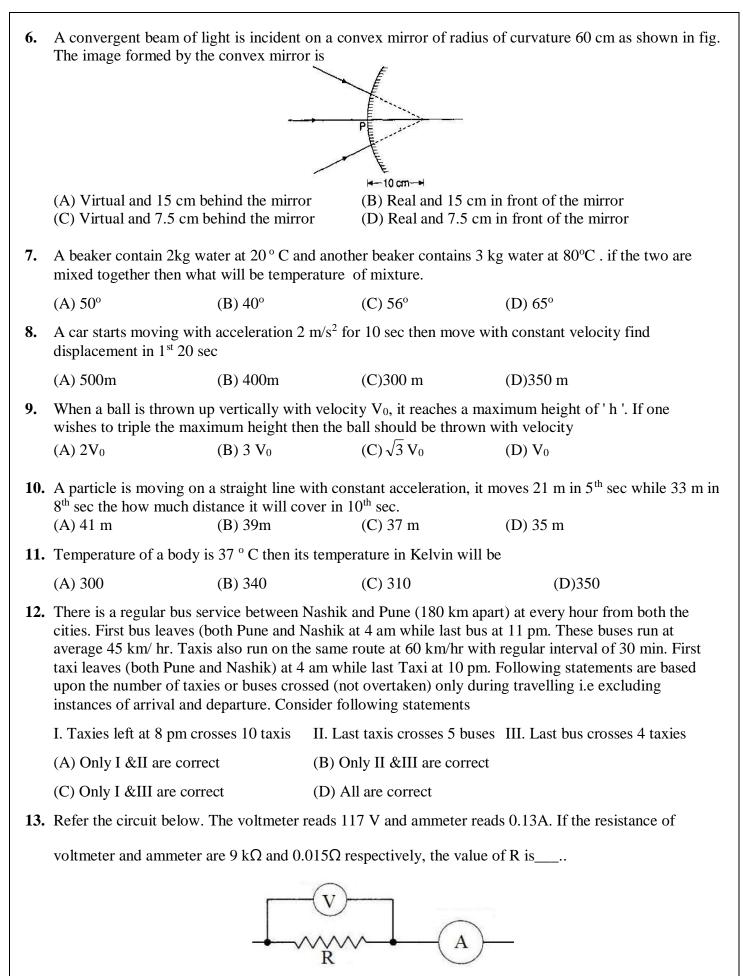
- An object of height 2cm is placed perpendicular to principle axis at distance 30 cm from pole of a convex lens(f=20 cm) then its image will be
 (A) real and of height 4 cm
 (B) real and of height 1 cm
 (C) Virtual and of height 4 cm
 (D) Virtual and of height 1 cm
- 5. Two mirrors labeled L_1 for left mirror and L_2 for right mirror in the figure are parallel to each other and 3.0 m apart. A person standing 1.0 m from the right mirror (L_2) looks into this mirror and sees a series of images. The second nearest image seen in the right mirror is situated at a distance:



(A) 2.0 m from the person(C) 6.0 m from the person

(B) 4.0 m from the person(D) 8.0 m from the person





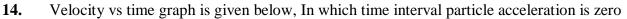
(A) $2 k\Omega$ (B) 1.5 kΩ

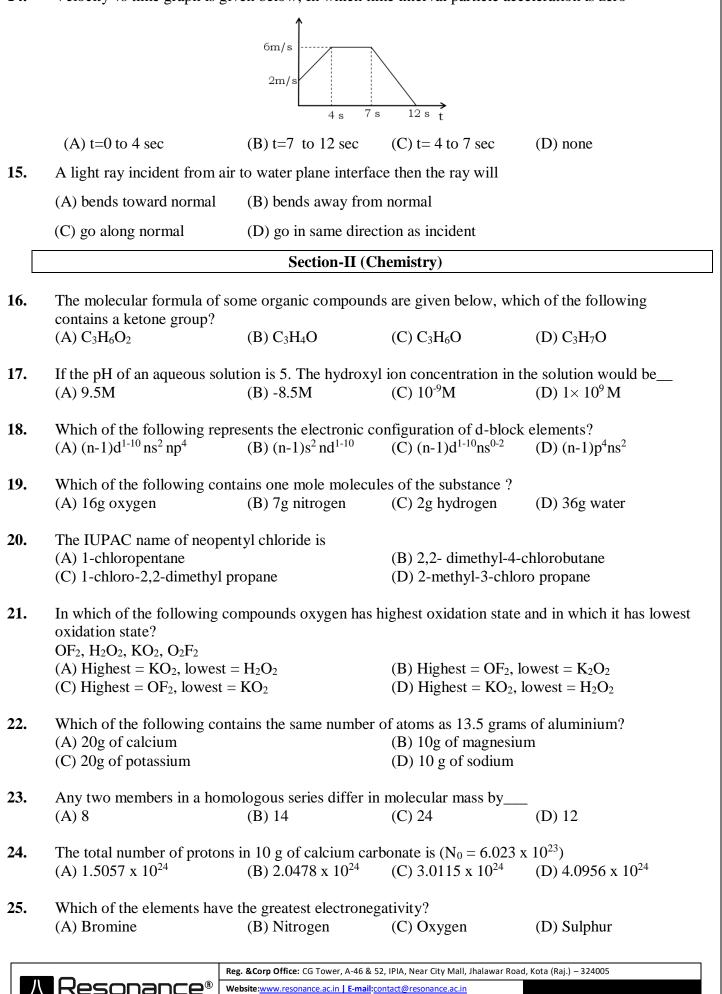
(C) 1 kΩ

(D) 1.1 kΩ



8390890444,8390870444 | CIN: U80302RJ2007PLC024029





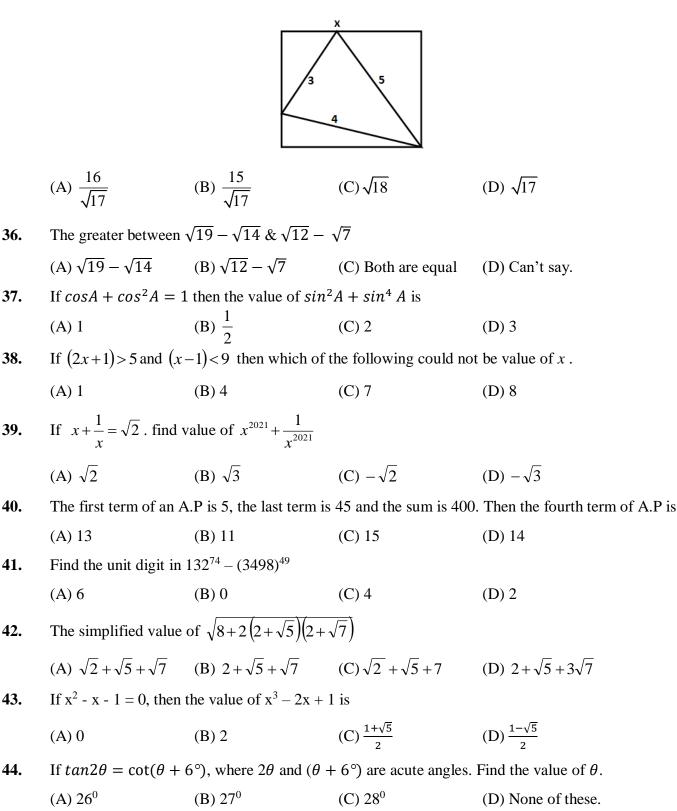
8390890444,8390870444 | CIN: U80302RJ2007PLC024029

Educating for better tomorrow

26.	 Sol and gel are examples of (A) Solid - solid colloids (B) Sol is solid in liquid colloid, gel is liquid in solid colloid (C) Sol is solid in solid colloid, gel is solid in liquid colloid (D) Sol is liquid in solid colloid, gel is solid in liquid colloid 				
27.	In a compound C, H and N atoms are present in $9:1:3.5$ by weight. Molecular weight of compound is 108. Molecular formula of compound is				
	$(A) C_2 H_6 N_2$	$(B) C_3 H$	H_4N (C) $C_6H_8N_2$	(D) $C_9H_{12}N_3$	
28.	The value of σ and (A) 15,4	d π bonds present in (B) 13,5	4-methyl,pent-4-en-1-yne re (C) 13,3	espectively are (D) 12,4	
29.	The pair of atoms $(A)^{12}_{6}C^{24}_{,12}$ Mg	s having the same num $(B)^{23}_{11}Na$	mber of neutrons is $A_{19}^{19} F (C)_{11}^{23} Na_{12}^{24} M$	g (D) ²³ ₁₁ Na, ³⁹ ₁₉ K	
30.	The amount of CaCO ₃ which will precipitate if 50 ml of 1.0M Na ₂ CO ₃ and 50 ml of 0.2 M CaCl ₂				
	are mixed is (A) 5.0 g	(B) 2.0g	g (C) 1.0 g	(D) 0.5 g	
		S	ection-III (Math)		
31.	-	ber a,b,c satisfy at $\frac{x}{b+1} + \frac{2cx}{ac+c+1} = 1$	pc = 1, solve Equation in	X	
	(A) 1	(B) $\frac{1}{2}$	(C) 2	(D) 3	
32.	Two non negative integers 'x' and 'y' are such that $2x + y = 5$. The sum of maximum and minimum values of $(x+y)$ is.				
	(A) 2	(B) 5	(C) 18	(D) 8	
22	If $a+b-1$ a^2+	$b^2 = 2$ then $a^{11} + b^2$	$b^{11} - 2$		
33.	(A) $\frac{989}{32}$	(B) $\frac{989}{31}$	(C) $\frac{989}{33}$	(D) 3	
34.	The area of region	n represented by (?)	if 2,3,4, represent the area	of respected region	
	(A) 6.8	(B) 7.8	(C) 4.8	(D) 9.8	



35. A triangle is drawn inside a square with sides 4,3 and 5. If X is the length of the side of square find X



Reg. &Corp Office: CG Tower, A-46 & 52, IPIA, Near City Mall, Jhalawar Road, Kota (Raj.) – 324005

(B) Website:<u>www.resonance.ac.in</u> <u>E-mail:contact@resonance.ac.in</u>

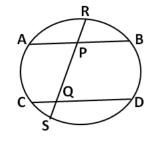
Educating for better tomorrow

45. If AP = 12, PB = 20, CQ = 10, DQ = 24, PQ = 14, RS = ?

(A) 33

(A) 30°

t

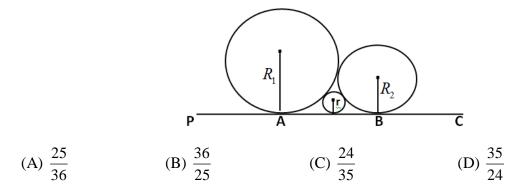


(B) 35 (C) 34 (D) 30

46. If \propto , β are roots of the equation $x^2 - 5x + 6 = 0$ then the equation whose roots are ($\propto +3$) and ($\beta + 3$) is

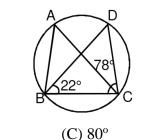
(A) $2x^2 - 11x + 30 = 0$ (B) $-x^2 + 11x = 0$ (C) $2x^2 - 22x + 60 = 0$ (D) $x^2 + 8x - 9 = 0$

- 47.The sum of those integers from 1 to 100 which are not divisible by 3 or 5 is =(A) 2489(B) 4735(C) 2317(D) 2632
- **48.** The figure shown three circles which are touching one another and P-A-B-C is straight line if $R_1 = 9, R_2 = 4$ then find r = ?



- 49. The sum of the roots of equation $2^{333x-2} + 2^{111x+1} = 2^{222x+2} + 1_{is} = 2^{222x+2} + 2^{22x+2} + 2^{22x+2} + 2^{2x+2} + 2^{2x+2}$
 - (A) 111 (B) $\frac{111}{2}$ (C) $\frac{2}{111}$ (D) $\frac{3}{112}$
- 50. In the given fig, $\angle DBC = 22^\circ$ and $\angle DCB = 78^\circ$, then $\angle BAC$ is equal to

(B) 44°



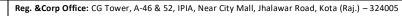
(D) 54°

- 51. Given that the real number s & t satisfying $19s^2 + 99s + 1 = 0$ $t^2 + 99t + 19 = 0$ and $st \neq 1$. then value st + 4s + 1
 - (A) 4 (B) -5 (C) 5 (D) -4



52.	Let α and β be roots of x	$c^2 - 3x - 2 = 0 \text{with}$	h $\alpha > \beta$. If $a_n = \alpha^n - \beta$	β^n for a	$n \ge 1$. then $\frac{a_{20} - 2a_{18}}{3a}$ is.
) -1		(D) 3	$5u_{19}$
53.	The value of $\frac{x^4 - 6x^3 - 2}{x^2 - 8}$ (A) 10 (B)		n $x = \sqrt{19 - 8\sqrt{3}}$ (C) 20	(D) 1:	5
54				. ,	, ,
54.	The value of $\sin^2 5^\circ + \sin^2 (A)$ (B)	$10 + \sin^2 15 + -$	$(C) 9\frac{1}{2}$) (D) 1()
55.	The sum of all the two dig		2		
		855	(C) 755	(D) 5	
		Section	n-IV (Biology)		
56.	What is the similarity bet (A) Phloem of both have (B) Endosperm is formed (C) Origin of ovule and so (D) Both have leaves, step	companion cells. before fertilizatio eed is similar in be	n in both.		
57.	Identify the examples of s (A) Epithelial Tissue (C) Meristematic Tissue	(B) Blood	nd C		
58.	In phylum echinodermata, the adult echinoderms areA but larvae areB (A) A – radially symmetrical; B – bilaterally symmetrical (B) A – bilaterally symmetrical; B – radially symmetrical (C) A – bilaterally symmetrical; B – asymmetrical (D) A – metamerically segmented; B – asymmetrical				
59.	 A squirrel was eating a fruit on the ground. Suddenly it was attacked by a dog. The squirrel rushed to the tree immediately and saved itself from the dangerous attack. What immediate changes are most likely to have taken place in the body of the squirrel? (a) Blood flows to the stomach for rapid digestion. (b) Adrenalin was secreted in the blood by the adrenal glands. (c) Heart beat becomes faster and pumps more blood so that muscles get more oxygen. (d) Adrenocorticotropic hormone is secreted in the blood and blood flows more towards the vital organs. Select the correct combination of options given below. (A) a and b (B) a and c (C) b and c (D) c and d 				
60.	"Girdling" is the process of removal of outer tissues around the branch or trunk of a woody plant. Girdling can be shallow (i.e., only bark is removed) or deep (i.e., bark along with xylem is removed). Which one of the following will result if a grapes-bearing branch of a plant is girdled?(A) If the girdling is shallow, it will not have any effect on the plant.(B) If the girdling is deep, the leaves on the branch will become turgid as transpiration will halt.(C) If the girdling is deep, the plant will die.(D) If the girdling is shallow, the fruits on the branch will be sweeter.				
八	Resonance [®] Educating for better tomorrow	Website: <u>www.resonance.ac</u> .	er, A-46 & 52, IPIA, Near City Mall, JI in J E-mail:contact@resonance.ac.in 444 <u>CIN: U80302RJ2007PLC</u>		, Kota (Raj.) – 324005 RNTSE SAMPLE PAPER

61.	In reflex action the reflex arc is formed by (A) Brain →Spinal cord →Muscles (C) Muscle →Receptor →Brain		 (B) Receptor →Spinal cord →Muscles (D) Muscles →Spinal cord →Receptor 		
62.	Cleistogamous flowers are (A) Wind pollinated	(B) Self-pollinate	d (C) Cross-pollin	ated (D) Insect pollinated	
63.	Oxytocin hormone is produced (A) Pituitary gland	uced by (B) Adrenal gland	l (C) Hypothalan	nus (D) Thyroid gland	
64.	When a tall plant with round seeds was hybridized with a dwarf plant with wrinkled seeds; all offspring in F1 generation were tall plants that produced round seeds. As per Mendel' s law of independent assortment, what percent of offspring will produce wrinkled seeds if F1 is crossed with tall plant producing wrinkled seeds?				1
65.	(A) 10Testes descend into scrotus(A) Spermatogenesis(C) Fertilization		(C)50 of visceral organs of sex organs	(D) 100	
66.	 Which one of the following is the correct matching of the events occurring during menstrual cycle ? (A) Menstruation : Breakdown of myometrium and ovum not fertilised (B) Ovulation : LH and FSH attain peak level and sharp fall in the secretion of progesterone (C) Proliferative phase : Rapid regeneration of myometrium and maturation of Graafian follicle (D) Secretory phase : Development of corpus luteum and increased secretion of progesterone 				?
67.	 Given below are three statements about bryophytes: (i) Bryophytes are lower plants with plant body differentiated into root, stem and leaves. (ii) Bryophytes are devoid of xylem and phloem. (iii) Bryophytes required water for completion of their life cycle. Which of the above statement/s is/are true with respect to bryophytes? (A) ii only (B) i and ii (C) i and iii (D) ii and iii 				
68.	 Which of the following statement is incorrect regarding cuboidal epithelium ? (A) It is an epithelial tissue. (B) It is composed of a single layer of cube-like cells. (C) They are found in the walls of blood vessels and air sacs of lungs. (D) Secretion and absorption are the main functions of these tissue. 				
69.	the probability of their son	being hemophilic is:	-	ic male marries a normal femal D) 100%	le,
70.	An injury in accident has The part of brain affected (A) Cerebellum (B)	is :		water balance and hunger. D) Hypothalamus	



Resonance[®] Educating for better tomorrow Website:www.resonance.ac.in | E-mail:contact@resonance.ac.in

Answer key:

 Answer key:
 Physics
 1.C
 2.C
 3.C
 4.A
 5.C
 6.B
 7.C
 8.C
 9.C
 10.A
 11.C
 12.B
 13.C

 14.C
 15.A
 15.A
 15.A
 19.C
 20.C
 21.C
 22.A
 23.B
 24.C
 25.C
 26.B
 27.C
 28.C

 29.C
 30.C
 17.C
 18.C
 19.C
 20.C
 21.C
 22.A
 23.B
 24.C
 25.C
 26.B
 27.C
 28.C

 29.C
 30.C
 18.C
 32.D
 33.A
 34.B
 35.A
 36.B
 37.A
 38.A
 39.C
 40.A
 41.A
 42.B
 43.B

 44.C
 45.C
 46.C
 47.D
 48.B
 49.C
 50.C
 51.B
 52.A
 53.B
 54.C
 55.B
 43.B

 Answer key:
 Biology
 56.D
 57.D
 58.A
 59.C
 60.D
 61.B
 62.B
 63.A
 64.C
 65.A

 66.D
 67.D
 68.C
 69.A
 70.D
 70.D
 64.C
 65.A
 65.A

 The Wilestones in M



ABHIGYAN CHAKRABORTHY AFMC-PUNE, AIR-4 2014-16



PRAJWAL KHOKALE LTMC MUMBAI, KVPY AIR-30 2016-20



JAYANT SHIRODE KEM MUMBAI, 360/360 (BIO) 2020-21



YASH CHANDAK AIIMS - AIR-1347, SR-04 2015-17



SMRUTI CHAWARE BJMC PUNE, KVPY AIR-1701 2018-20



SAI BHOSALE ICAR - 99.67% ile 2019-21

Resonance® जैसा कोई नहीं!

KOTA 2023 RESULTS

JEE (Main) 2023 RESULT

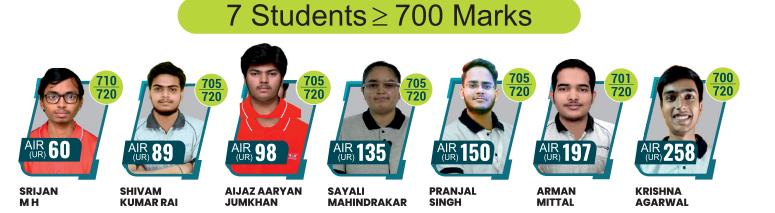


JEE (Adv.) 2023 RESULT

8 STUDENTS IN TOP-50 AIRs | 15 STUDENTS IN TOP-100 AIRs



NEET (UG) 2023 RESULT



जैसा कोई नहीं !

Resonance®