RPS GROUP OF SCHOOLS

ADMISSION– *Cum* –SCHOLARSHIP TEST

For Grade III to XI
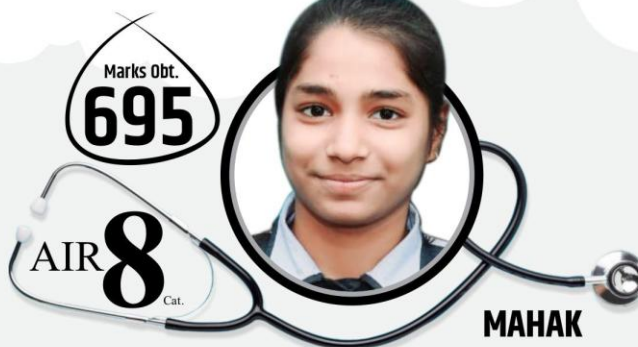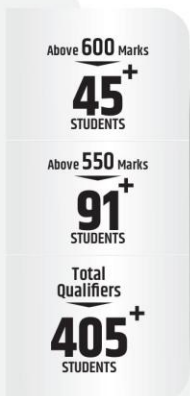
Sunday, 1st January 2023

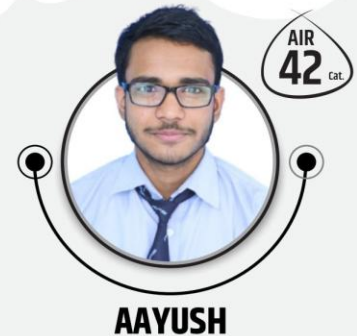## APPEARING FOR CLASS IX

SCHOLARSHIP ASPIRANTS TODAY
VICTORS IN LIFE TOMORROW !

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

NEET TOPPER

IIT-JEE TOPPER

Above **600** Marks
45⁺
STUDENTS

Above **550** Marks
91⁺
STUDENTS

Total Qualifiers
405⁺
STUDENTS

Marks Obt.
695

AIR **8** Cat.

MAHAK

AIR **42** Cat.

AAYUSH

OUR RESULTS SPEAK LOUDER THAN WORDS

SESSION 2022–23

| **405⁺** STUDENTS NEET | **451⁺** STUDENTS IIT-JEE Main | **91** STUDENTS IIT-JEE Advanced | **17** STUDENTS KVPY | **17** STUDENTS CLAT | **136⁺** STUDENTS NDA | **39** STUDENTS CA |
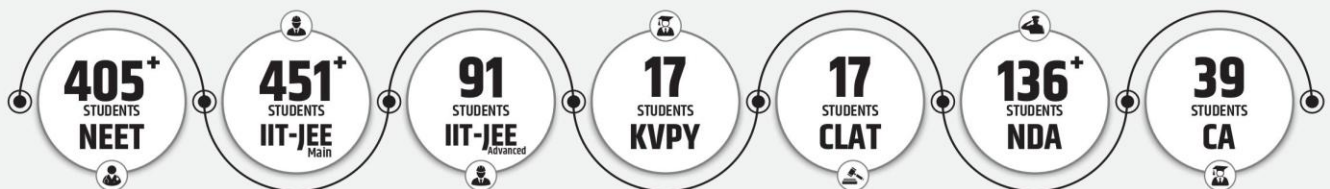
APPEARING FOR CLASS IX

| Science: 1-20 | Maths: 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 Minute 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

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Science (20 Marks)

Physics (07 Marks)

1. Right angle mirrors produce three images of objects. Which of the following statements is/are true of the middle image ?

    (a) The middle image is the same as the object

    (b) The middle image is the same distance from the mirror as the object

    (c) The middle image will exhibit left- right reversal relative to the object

    (d) The middle image is a real image

2. How many images of an object in a room will be formed if two mirrors are fitted on adjacent walls and one mirror on the roof of the room ?

    (a) 2   (b) 5   (c) 7   (d) 10

3. The image shows three experimental setups. A consists of a light ray incident on a plane mirror. B consists of a light beam incident of a prism and C shows light incident on a mirror placed inside a bowl filled with water. Which of the below setups will be useful for demonstrating dispersion of light ?
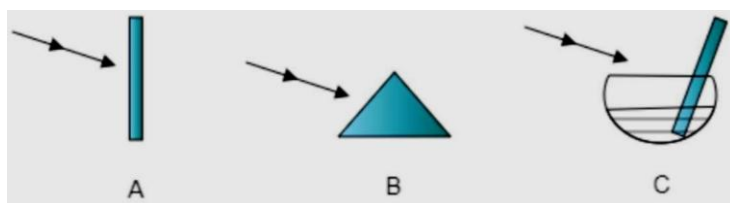
    (a) only A   (b) only B   (c) B and C   (d) only C

4. The pressure exerted by a force of 50 N, Normal to the nail of area 1 mm^2 is

    (a) 5×10^7 Pa   (b) 5×10^6 Pa   (c) 5×10^5 Pa   (d) 5×10^4 Pa

5. Frictional force between two surface in contact is due the

    (a) Adhesive force between the molecules   (b) Cohesive force between the molecules

    (c) Repulsive forces between the molecules (d) Both B and C

6. A sound has the frequency 20×10^3Hz. Find the wavelength corresponding to this frequency. Take velocity of sound is 340m/s

    (a) 15×10^{-3}m   (b) 11×10^{-3}m   (c) 17×10^{-3}m   (d) 15×10^{-8}m

7. Statement 1 : Loudness is the characteristic of a musical sound by which a loud sound can be distinguished from a faint sound.

    Statement 2 : Echo is always produced when sound is incident on the hard and polished surface.

    (a) Both statements 1 and 2 are true and statement 2 is the correct explanation of statement 1.

    (b) Both statements 1 and 2 are true but statement 2 is not the correct explanation of statement 1.

    (c) Statement 1 is true but statement 2 is false

    (d) Statement 1 is false but statement 2 is true.

Chemistry (07 Marks)

8. The Mass number of an atom is 31. If the atom has 5 electrons in M – shell, calculate the number of neutrons.

    (a) 14   (b) 15   (c) 16   (d) 17

9. The ratio of the number of electrons in the N- shell of A and the M- shell of B with atomic numbers 40 and 32 respectively, is

    (a) 5 : 3   (b) 9 : 5   (c) 5 : 9   (d) 5 : 4

10. A, B, C and D are four gases. If the order of their critical temperature is as D < B < C < A, then which of the following gases has the highest boiling point ?

    (a) A   (b) B   (c) C   (d) D

11. $Fe_2O_3 + 3C \rightarrow 2Fe + 3CO$, In this reaction –

    (a) Fe undergoes oxidation and C undergoes reduction

(b) Fe_2O_3 undergoes reduction and C undergoes oxidation.

(c) Both Fe and C undergo reduction.

(d) Both Fe and C undergo oxidation.

12. $X + O_2 \rightarrow Y$, $Y + H_2O \rightarrow Z$, Z turns red litmus to blue then X may be

(a) Ca   (b) S   (c) C   (d) P

13. Water gas is mixture of

(a) CO_2 and H_2 (b) H_2 and CH_4 (c) CO and H_2 (d) CO and N_2

14. Gypsum is –

(a) hydrated magnesium sulphate   (b) anhydrous magnesium sulphate

(c) hydrated calcium sulphate   (d) anhydrous calcium sulphate

Biology (06 Marks)

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

I. (i) Single parent is involved in reproduction – Go to (II)

  (ii) Two parents are involved in reproduction – Go to (III)

II. (i) The nucleus of the parent body divides only once – P

  (ii) The nucleus of the parent body divides repeatedly – Q

III (i) Fertilization occurs outside parent body. – R

  (ii) Fertilisation occurs inside parent body. – Go to (IV)

IV (i) Embryonic development occurs outside parent body – S

  (ii) 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.

16. Refer to the given paragraph where few words have been italicized.

Hormones are produced by organs called endocrine glands. These are ductless glands. Very small quantity of different hormones is required by our body. *Adrenaline* is secreted when we are stressed or excited. *Liver* regulates the sugar metabolism in the body by its hormone *insulin.* *Pineal* glands secrete calcitonin while *thyroid* glands secrete melatonin.

Select the correct option regarding these.

(a) *Insulin* Should be replaced by aldosterone.

(b) *Liver* should not be replaced as it is correctly mentioned.

(c) Positions of *Pineal* and *thyroid* should be interchanged

(d) *Adrenaline* should be replaced by *progesterone*.

17. Organic farming is the technique of raising crops through the use of

    (a) manure   (b) biofertilisers   (c) resistant varieties   (d) all of these

18. Select the incorrect statement.

    (a) Anthrax is a bacterial disease that affects humans and cattle.

    (b) Rust of wheat is a fungal disease that spread by air.

    (c) Citrus canker is a viral disease that affects citrus fruits.

    (d) Yellow vein mosaic is a viral disease that affects bhindi.

19. Identify P,Q, R and S in the given venn diagram and select the incorrect option regarding them.
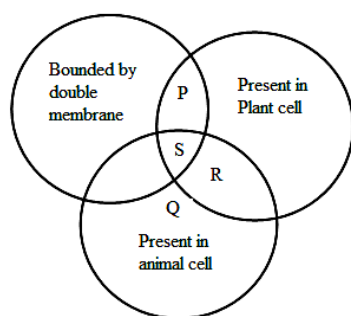
    (a) P could be a colourless organelle that helps to store reserve food in the form of lipids, carbohydrates and proteins.

    (b) Q could be an organelle that is involved in formation of spindle during cell division.

    (c) R could be an organelle that contains genetic material organized as DNA along with proteins to form chromosomes.

    (d) S could be an organelle that produces energy currency of the cell, ATP through cellular respiration.

20. Which one is the 1st National Park in India ?

    (a) Kanha National Park   (b) Jim Corbett National Park

    (c) Kaziranga National park   (d) Satpura National Park.

Mathematics (20 Marks)

21. Anil's present age is one-third of that of his father. After twenty-four years, his age will be 32 years less than that of his father. Find the age of his father 8 years ago (in years).

    (a) 44   (b) 40   (c) 36   (d) 42

22. The sum of the digits of a two-digit number is 9. If 27 is subtracted from the number, then the digits get reversed. Find the number.

    (a) 81   (b) 72   (c) 36   (d) 63

23. If the sum of all interior angles of a polygon is 1260^0, then number of sides of polygon is

    (a) 6   (b) 7   (c) 8   (d) 9

24. In a rhombus ABCD, diagonals AC and BD are respectively 8 cm and 6 cm, the length of each side of rhombus is

    (a) 7 cm   (b) 5 cm   (c) 6 cm   (d) 8 cm

25. In a examination, Ramesh secured 574 marks and Rekha secured 76 % of the total marks. If Ramesh secured 82 % of total marks, the difference in their marks is ....

    (a) 40   (b) 41   (c) 42   (d) 43

26. In how many years will a sum of Rs. 3200 compounded quarterly at the rate of 50 % p.a. amount to Rs. 4050 ?

    (a) One year   (b) Half year   (c) Two years   (d) 3 years

27. In a mess there was enough food for 200 students for 20 days. If 50 new students joined them, then the food will last for

    (a) 15 days   (b) 16 days   (c) 17 days   (d) 18 days

28. One pipe can fill a tank in 40 min and an outlet pipe can empty the full tank in 24 min. If both the pipes are opened simultaneously, then what time will it take for the full tank to be emptied ?

    (a) 30 min.   (b) 60 min.   (c) 15 min.   (d) 45 min.

29. What is the difference between the total surface area and curved surface area of a cylinder whose radius is equal to 10 cm ?

    (a) $200\,\pi\,\text{cm}^2$ (b) $300\,\pi\,\text{cm}^2$ (c) $100\,\pi\,\text{cm}^2$ (d) $10\,\pi\,\text{cm}^2$

30. The area of a ring is 16.94 cm^2 and the area of the outer circle is 55.44 cm^2. Find the perimeter of the inner circle.

    (a) 22 cm   (b) 26.4 cm   (c) 38.5 cm   (d) 29.04 cm

31. If $x + y = 2$ and xy $= 1$, then find $x^4 + y^4$

    (a) 6   (b) 4   (c) 8   (d) 2

32. Factorization of the polynomial $11x^2 - 10\sqrt{3}x - 3$ gives-

    (a) $\left(x + \sqrt{3}\right)\left(11x - \sqrt{3}\right)$ (b) $\left(x + 3\sqrt{3}\right)\left(11x - \sqrt{3}\right)$

    (c) $\left(x - \sqrt{3}\right)\left(11x + \sqrt{3}\right)$ (d) $\left(x + \sqrt{3}\right)\left(11x + \sqrt{3}\right)$

33. If $5^{n-3} = 625$, then 5^{n+3} is

    (a) 5^{12} (b) 5^9 (c) 5^{10} (d) 5^{15}

34. Which is the greatest among 2^{156}, 4^{79}, 128^{23} and 8^{54} ?

    (a) 4^{79} (b) 128^{23} (c) 2^{156} (d) 8^{54}

35. Given that $\sqrt{1521} = 39$, the value of $\sqrt{0.1521} + \sqrt{15.21}$ is

    (a) 42.9   (b) 4.29   (c) 3.51   (d) 35.1

36. A certain number of men went to a hotel. Each of them spent as many rupees as one-fourth of the men. If the total bill paid was Rs. 20,449, then how many men visited the hotel ?

    (a) 286   (b) 284   (c) 281   (d) 283

37. The expansion of $(x^2+4)(x^2-4)(x^4+16)$ is

   (a) x^8-128 (b) x^4-16^2 (c) x^6-256 (d) x^8-256

38. Factors of $3x^2+7x-6$ are

   (a) $(3x-2)(x+3)$ (b) $(3x+2)(x-3)$ (c) $(3x-2)(x-3)$ (d) $(3x+2)(x+3)$

39. How many congruent isosceles triangle does a square pyramid have ?

   (a) 2   (b) 4   (c) 6   (d) 8

40. In a polyhedron, F= 17, V = 30, then E is

   (a) 30   (b) 45   (c) 60   (d) none of these

Social Science (20 Marks)

41. Which of the following statements is/ are correct about Jyotirao phule

   (i) He studied in the schools set up by christian missionaries.

   (ii) He was born in 1830

   (iii) He claimed that before Aryans there existed golden age.

   (iv) He wrote the famous book Gulamgiri

   (a) (i) and (ii) only   (b) (ii) and (iii) only

   (c) (i), (iii), (iv) only   (d) All of these

42. Insurance is an example of

   (a) Primary Activity   (b) Secondary Activity

   (c) Tertiary Activity   (d) Agriculture Activity

43. The Schedule castes and the schedule Tribes (Prevention of Atrocities) Act Passed in which year ?

   (a) 1988   (b) 1998   (c) 1989   (d) 1990

44. Which article endeavors to separate the Judiciary from the executive

   (a) Article 44   (b) Article 49   (c) Article 39   (d) Article 50

45. Which one of the following does not constitute the electoral college for electing the president of India ?

   (a) Elected members of Lok Sabha   (b) Elected Members of Legislative assembly

   (c) Elected members of Legislative council   (d) Elected members of Rajya Sabha

46. Subsidiary Alliance was imposed on Awadh in

   (a) 1800   (b) 1801   (c) 1810   (d) 1815

47. Which of the following Acts were passed in 1878.

   (i) Arms Act   (ii) Rowlatt Act

   (iii) Education Act   (iv) Vernacular press Act

(a) (i) and (ii) only   (b) (i), (ii) and (iii)

(c) (i) and (iii) only   (d) (i) and (iv) only

48.   When did Bhagat Singh and B. K Dutt throw a bomb in the central legislative assembly.

      (a) 9 April 1929   (b) 8 April 1929   (c) 7 April 1929   (d) 10 April 1929

49.   Permeability of soil is determined by

      (a) Relief   (b) Parent Rock   (c) Climate   (d) Time

50   Which one of the following statement is correct ?

      (a) Northern hemisphere is less populated

      (b) Capital is the major resource of the nation

      (c) Population density is high in rural areas

      (d) Distribution of population is uneven in the world.

51.   The original name of Swami Vivekanand was -

      (a) Surendranath   (b) Narendranath Dutt

      (c) Satyendranath Tagore   (d) None of these

52.   When did Bahadur Shah Zafar die ?

      (a) 1862   (b) 1852   (c) 1850   (d) 1854

53.   Who wrote the account named sepoy to Subedar ?

      (a) Mangal Pandey   (b) Ramtanu Pandey   (c) Sitaram Pande   (d) Vishnudatt

54.   Who said that English education had enslaved us ?

      (a) Aurbindo ghose   (b) Rabindranath Tagore

      (c) Mahatma Gandhi   (d) Jawaharlal Nehru

55.   Sakchi is the old name of –

      (a) Jamshedpur   (b) Kalmati   (c) Subarnarekha   (d) Bastar

56.   Which one is beverage crop ?

      (a) Rice   (b) Wheat   (c) Banana   (d) Tea

57.   Which natural factor is responsible for soil erosion?

      (a) Deforestation   (b) Floods   (c) Mining   (d) Over use of fertilizers

58.   The Presiding officer of the Rajya Sabha is

      (a) The President of India   (b) The Vice President of India

      (c) Speaker of the Lok Sabha   (d) The prime Minister of India

59.   Sachar committee was set up to

      (a) examine the social and economic condition of Hindu Community

      (b) Examine the poor condition of lower caste

      (c) Examine the social and economic condition of Muslim Community

      (d) None of these

60. Which state of India is home to more than 60 different tribal groups ?

(a) West Bengal   (b) Nagaland   (c) Odisha   (d) Assam

English (20 Marks)

61. Of Raghav and Ayushmaan, the .... is a better cricket player.

(a) Later   (b) latest   (c) latter   (d) both a and c

62. Mr. Gautam is nearly .... person in the city.

(a) eldest   (b) oldest   (c) the oldest   (d) both 'a' and 'b'

63. This is my room and this is **its** key. The underlined word is a

(a) Possessive adjective   (b) Possessive pronoun

(c) Reflexive pronoun   (d) None of these

64. You must avail **yourself** of this opportunity. The underlined word is a/an

(a) Reflexive pronoun   (b) Emphatic pronoun

(c) Relative pronoun   (d) Reciprocal pronoun

65. The heavy load was .... easily by the mules.

(a) bear   (b) borne   (c) born   (d) bore

66. Had we practiced more, we .... the competition.

(a) won   (b) will win   (c) would have won   (d) had won

67. The police .... running after the thief.

(a) is   (b) were   (c) has   (d) have

68. Choose the correct sentence from the options given below.

(a) No sooner she entered the office than her boss summoned her.

(b) No sooner did she enter the office than her boss summoned her.

(c) No sooner did she enter the office when her boss summoned her.

(d) None of these

69. **How he amassed so much wealth so fast** is a mystery. The underlined is a/an

(a) Adverb clause   (b) Adjective clause

(c) Noun clause   (d) Principal clause

70. Choose the correct Indirect speech from the options given below.

"Have a deep respect for every living creature," The saint said to the audience.

(a) The saint urged the audience to have a deep respect for every living creature.

(b) The saint exhorted the audience to had a deep respect for every living creature.

(c) The saint advised the audience had a deep respect for every living creature.

(d) None of these

71. Choose passive voice of the sentence given below.

    No one can do it.

    (a) It cannot be done by no one.   (b) It cannot be done by anyone.

    (c) It can be done by anyone.   (d) None of these

72. _____ more you earn _____ more you spent.

    (a) X, X   (b) the, a   (c) a, a   (d) the, the

73. Do you know the place **where you were born** ? The underlined is a/ an

    (a) Adjective clause   (b) Adverb clause

    (c) Noun clause   (d) None of these

74. She does not mind .... late.

    (a) to come   (b) came   (c) coming   (d) None of these

75. The postman was heard .... at the door.

    (a) knock   (b) to knock   (c) knocked   (d) both 'b' and 'c'

76. She and not you .... at fault.

    (a) is   (b) are   (c) have   (d) has

77. I refrain .... doing harm to anybody.

    (a) for   (b) of   (c) from   (d) to

78. Raghav is endowed .... many talents

    (a) to   (b) with   (c) on   (d) in

79 Can you tell me .... she has gone ?

    (a) whatever   (b) whither   (c) lest   (d) none of these

80. I .... rather starve than steal.

    (a) should   (b) shall   (c) will   (d) would

(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

99.8% IN CLASS XII
CBSE BOARD EXAMINATION 2022

SANYAM BANSAL

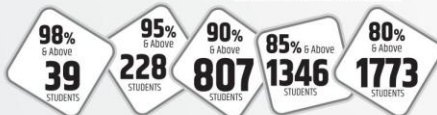**1ST RANK**
- 1ST RANK, INTERNATIONAL COMMERCE OLYMPIAD, CTF, DELHI
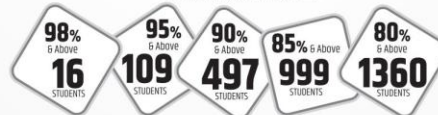- 1ST RANK– ICAI, COMMERCE WIZARD (REWARDED WITH RS. 1 LAC BY THE GOVT. OF INDIA)
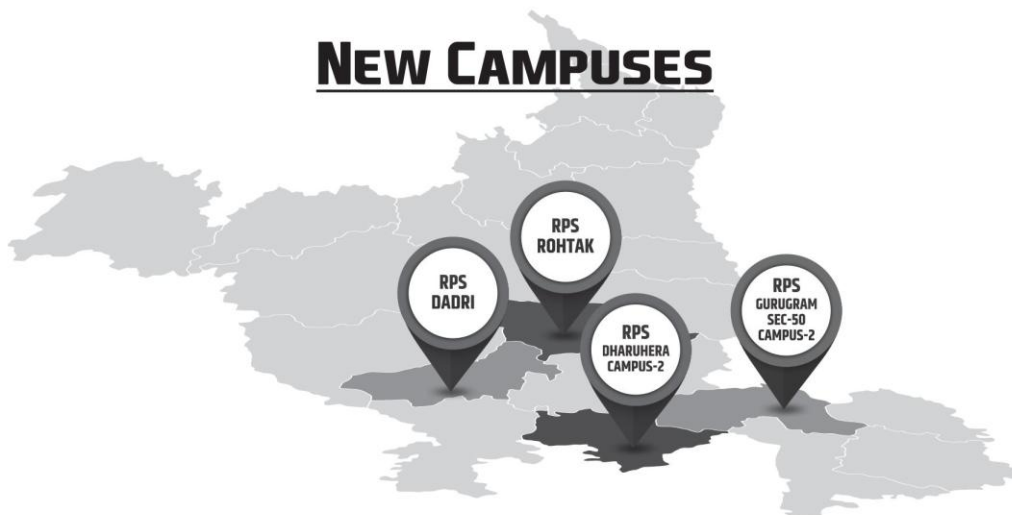- 1ST RANK (STATE)–STSE, RAJASTHAN

Class X-2022

98% & Above	95% & Above	90% & Above	85% & Above	80% & Above	TOTAL MERITS
39 STUDENTS	228 STUDENTS	807 STUDENTS	1346 STUDENTS	1773 STUDENTS	2151

Class XII-2022

98% & Above	95% & Above	90% & Above	85% & Above	80% & Above	TOTAL MERITS
16 STUDENTS	109 STUDENTS	497 STUDENTS	999 STUDENTS	1360 STUDENTS	1887

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