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Jawahar Navodaya Vidyalaya

Entrance Exam (Class-IXth)

Solved Paper 2025

Exam Date : 08-02-2025

General Science

1. During winters aome people sleep in a closed room with burning or smouldering coal fire which results in their death. The cause of their death is due to the formation of a very poisonous gas, which is :
(A) Carbon dioxide
(B) Nitrogen dioxide
(C) Carbon monoxide
(D) Sulphur dioxide

2. Which of the following fuels has maximum calorific value ?
(A) Wood (B) Coal
(C) Hydrogen (D) Petrol

3. Select from the following a group of products obtained by refining of petroleum :
(A) Petrol, diesel, coaltar
(B) Bitumen, detergents, polyester
(C) Lubricating oil, paraffin wax, diesel
(D) Acrylic, nylon, coke

4. The substance that does not produce flame on burning is :
(A) LPG (B) Molten wax
(C) Dry grass (D) Charcoal

5. The correct sequence of events during reproduction in human females is :
(A) Ovulation → Fertilization → Zygote → Embryo → Foetus
(B) Ovulation → Zygote → Fertilization → Embryo → Foetus
(C) Fertilization → Zygote → Ovulation → Embryo → Foetus
(D) Zygote → Embryo → Foetus → Ovulation → Fertilization

6. Metamorphosis in frogs is controlled by a hormone called :
(A) Thyroxine
(B) Adrenalin
(C) Growth hormone
(D) Insulin

7. Which of the following statement(s) is/are true reason(s) to explain the production of a large number of eggs and sperms in fishes ?
1. Eggs and sperms are exposed to movement of water, rainfall and wind.
2. Production of more eggs and sperms ensures better chances of fertilization.
3. Large number of eggs are produced by aquatic animals due to plenty of food available in water.
4. Eggs may also be eaten by other animals in the pond.
(A) 1 only (B) 1, 2 and 4
(C) 2 and 3 (D) 3 and 4

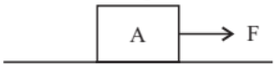
8. Which one of the following can be treated as a contact force ?
(A) Muscular force
(B) Gravitational force
(C) Electrostatic force
(D) Magnetic force

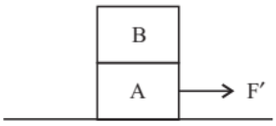
9. Srijana rolls a ball on dry marble floor, wet marble floor, newspaper and mat spread on the floor. The force of friction, acting on the rolling ball on different surfaces,in decreasing order will be :
(A) Mat, newspaper, dry marble floor, wet marble floor
(B) Wet marble floor, dry marble floor, newspaper, mat
(C) Dry marble floor, wet marble floor, newspaper, mat
(D) Mat, wet marble floor, newspaper, dry marble floor

10. Vineeta was driving a car and passing by a ploughed field in a rural area. Suddenly she felt that the brakes failed to work. The level of road was just above the level of the ploughed field. Which of the following actions would be scientifically correct for her to stop or slow down the car instantly ?
(A) Keep on honking while driving
(B) Search for a tree by the side of road so that the car can go and hit it
(C) Turning her car towards the ploughed field
(D) Screaming and shouting from the car to raise an alarm

11. The necessary condition for a force to come into play is that we must have :
(A) one object which must pull.
(B) two objects to maintain a distance.
(C) two objects to interact with each other.
(D) one object which must push.

12. When a force F is applied on a block A placed on a surface, it just tends to slide in the direction of the force. When another identical block B is placed on the top of A, the force F′ required to achieve the same condition sliding will be :



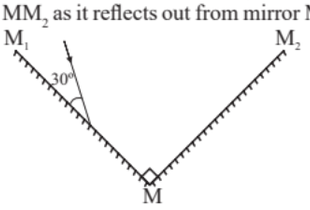


(A) F (B) $\frac{F}{2}$
(C) 2F (D) 4F

13. Sound cannot travel through :
(A) solids (B) liquids
(C) gases (D) vacuum

14. The sound produced in a jal-tarang is due to the vibrations of the :
(A) striking stick.
(B) bowl or tumbler.
(C) water in the bowl or tumbler.
(D) air column above water in the bowl or tumbler.

15. Mirror MM_1 and MM_2 are arranged as shown in the figure. A ray of light is incident on mirror MM_1, as shown. What angle does the reflected ray make from MM_2 as it reflects out from mirror MM_2 ?



(A) 60° (B) 45°
(C) 0° (D) 30°

16. In making a kaleidoscope :
(A) two identical rectangular strips of plane mirrors are kept inclined at an angle of 90° with each other.
(B) three identical rectangular strips of plane mirrors are kept inclined at angles of 60° with each other.
(C) two identical rectangular strips of plane mirrors are kept parallel to each other.

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(D) three identical rectangular strips of plane mirrors of different widths are used.

17. If in a classroom, large, same-sized plane mirrors are fixed on two adjacent walls, then a student will be able to see how many images of himself/herself ?

(A) 2 (B) 12

(C) 6 (D) 3

18. Which one of the following options is an incorrect statement towards endemic species becoming endangered ?

(A) Destruction of their habitat

(B) Increase in population of that species in the area

(C) Introduction of new species in that area

(D) Increased habitat protection for that species in the area

19. Which of the following is not true for a wildlife sanctuary ?

(A) Wildlife sanctuaries provide protection and suitable living conditions to wild animals.

(B) People living in wildlife sanctuaries are allowed to collect medicinal plants, firewood, etc.

(C) Poaching or capturing animals is allowed only to the people living in the wildlife sanctuary.

(D) An area where animals are protected from any disturbance to them and their habitat.

20. An ecosystem is made of :

(A) only the plants, animals and microorganisms found in an area.

(B) only the plants of an area and their interaction with non-living the components of that area.

(C) only the animals of an area along with the decomposers present around them in the soil.

(D) all the plants, animals and microorganisms in an area along with the non-living components like air, soil etc.

21. When a plastic straw is rubbed with polythene the :

(A) straw and polythene both acquire negative charge.

(B) straw becomes negatively charged and the polythene becomes positively charged.

(C) straw and polythene both acquire positive charge.

(D) straw becomes positively charged and the polythene becomes negatively charged.

22. Identify the solution which does not conduct electricity.

(A) Sugar solution

(B) Vinegar solution

(C) Lemon juice solution

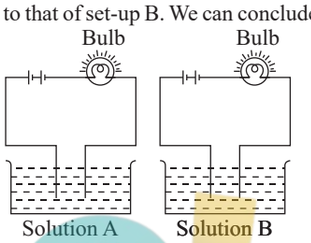
(D) Caustic soda solution

23. Which one of the following metals is used in electroplating an iron object to make it shiny and rust free ?

(A) Aluminium (B) Copper

(C) Zinc (D) Chromium

24. Two experiments are performed taking similar electric bulbs and cells but two different solutions A and B as shown in the figure. It was found that the bulb in the set-up A glows more brightly as compared to that of set-up B. We can conclude that :



(A) equal current is flowing through both the circuits.

(B) set-up B may have some loose contacts.

(C) solution A is a better conductor of electricity than solution B.

(D) higher current is flowing through the circuit in set-up B.

25. Which of the following statements is true ?

(A) An earthquake of intensity 4 on the Richter scale is twice more devastating than an earthquake of intensity 2.

(B) An earthquake of intensity 6 on the Richter scale is half as devastating as an earthquake of intensity 3.

(C) An earthquake of intensity 4 on the Richter scale is 1000 times more devastating than an earthquake of intensity 3.

(D) An earthquake of intensity 7 on the Richter scale is 1000 times more - devastating than an earthquake of intensity 5.

26. Lightning strikes could destroy life and property. We can protect ourselves from lightning by :

(A) avoiding bathing during a thunderstorm.

(B) taking shelter under a tall tree.

(C) watching TV programmes.

(D) carrying an umbrella during a thunderstorm.

27. By which one of the following ways can HIV virus not be transmitted from an infected person to a healthy person ?

(A) Sharing needles and syringes for injecting drugs

(B) From a mother to an infant through her milk

(C) Through sexual contact

(D) By shaking hands or sharing food

28. The organism which reproduces a sexually in the same way as yeast is :

(A) Amoeba (B) Hydra

(C) Starfish (D) Silkworm

29. Put some seeds of wheat in a beaker containing water and stir well. Wait for some time. Which one of the following inferences is correct for this activity ?

(A) Healthy seeds being lighter, float on the surface of water.

(B) Damaged seeds being lighter, float on the surface of water.

(C) Damaged seeds being heavier , settle down at the bottom of the beaker.

(D) All seeds, healthy as well as damaged, float on the surface of water.

30. Micro-organisms which can convert the nitrogenous wastes found in dead plants and animals into nitrogenous compounds, to be used by plants again are :

(A) Bacteria and Blue-green algae

(B) Protozoa and Fungi

(C) Bacteria and Fungi

(D) Bacteria and Protozoa

31. The method of irrigation in which water falls on the crop from rotating nozzles like a rainfall is called :

(A) Pulley system (B) Drip system

(C) Dhekli system (D) Sprinklersystem

32. It is important to remove weeds from the cultivated fields because they :

(A) help the plants to grow.

(B) attract animal pests to the fields.

(C) compete with plants for essential requirements of water, nutrients, space and light.

(D) secrete toxic substances which cau diseases in plants.

33. Consider the following statements :

1. Human beings have 22 pairs of chromosomes in the nuclei of their body cells.
2. The unfertilised egg has one X chromosome only.
3. The zygote would develop into a male child if the sperm contributes a 'Y chromosome to the ovum at the time of fertilization.

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4. Sex in all the living organisms is genetically determined.

The incorrect statements are :

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

34. Aspergillus and Penicillium belong to the group :

(A) Bacteria (B) Fungi
(C) Algae (D) Protozoa

35. Select the option having correct matching of the food items given in Column I with their method of preservation given in Column II.

Column I	Column II
P. Amla	(i) Sodium Metabisulphite
Q. Fish	(ii) Pasteurisation
R. Squashes	(iii) Salt
S. Milk	(iv) Oil and Vinegar

(A) P - (iv), Q - (ii), R - (i), S - (iii)
(B) P - (ii), Q - (iv), R - (i), S - (iii)
(C) P - (iii), Q - (iv), R - (i), S - (ii)
(D) P - (iv), Q - (i), R - (iii), S - (ii)

Mathematics

36. The sum of the digits of a 2 – digit number is 11. The digits are reversed and the new number is subtracted from the original number, to get 27. The original number is :

(A) 65 (B) 92
(C) 47 (D) 74

37. Which one of the following numbers ends with the digit 1 ?

(A) 123^2 (B) 149^2
(C) 82^2 (D) 117^2

38. A 2-digit number is less than 20. The sum of the digits is double that of their product. The number is :

(A) 12 (B) 15
(C) 11 (D) 13

39. Which of the following is true ?

(A) $\frac{13}{16}+\frac{17}{18}=\frac{17}{18}+\frac{13}{16}$

(B) $\frac{13}{16}\times\frac{17}{18}=\frac{16}{13}\times\frac{18}{17}$

(C) $\frac{13}{16}-\frac{17}{18}=\frac{17}{18}-\frac{13}{16}$

(D) $\frac{13}{16}\div\frac{17}{18}=\frac{17}{18}\div\frac{13}{16}$

40. Which of the following is not true ?

(A) $\left(\frac{2}{3}+\frac{3}{4}\right)+\frac{5}{7}=\frac{2}{3}+\left(\frac{3}{4}+\frac{5}{7}\right)$

(B) $\left(\frac{2}{3}\times\frac{3}{4}\right)\times\frac{5}{7}=\frac{2}{3}\times\left(\frac{3}{4}\times\frac{5}{7}\right)$

(C) $\left(\frac{2}{3}-\frac{3}{4}\right)-\frac{5}{7}=\frac{2}{3}-\left(\frac{3}{4}-\frac{5}{7}\right)$

(D) $\left(\frac{2}{3}-\frac{3}{4}\right)-\frac{5}{7}=\frac{2}{3}-\left(\frac{3}{4}+\frac{5}{7}\right)$

41. A man insures 90% of his property and pays $1\frac{2}{3}\%$ premium amounting to ₹360.

The total value of the property is :

(A) ₹ 18,000 (B) ₹ 24,000
(C) ₹ 30,000 (D) ₹ 28,000

42. $\left(\frac{3}{11}\times\frac{5}{6}\right)-\left(\frac{9}{12}\times\frac{4}{3}\right)+\left(\frac{5}{13}\times\frac{6}{15}\right)$, on simplification, becomes :

(A) $-\frac{177}{286}$ (B) $-\frac{303}{40}$
(C) $\frac{289}{492}$ (D) $\frac{17}{24}$

43. $(507)^2-(497)^2=?$

(A) 10040 (B) 1004
(C) 10140 (D) 1014

44. The cube root of $-3\frac{3}{8}$ is :

(A) $\frac{3}{2}$ (B) $\frac{2}{3}$
(C) $-\frac{2}{3}$ (D) $-\frac{3}{2}$

45. Which of the following is the cube root of 0.027 ?

(A) 0.003 (B) 0.03
(C) 0.3 (D) 3

46. The square root of 218 lies between :

(A) 12 and 13 (B) 13 and 14
(C) 14 and 15 (D) 15 and 16

47. The value of

$$\sqrt{10+\sqrt{25+\sqrt{108+\sqrt{154+\sqrt{225}}}}}+\left(\sqrt{\frac{225}{729}}-\sqrt{\frac{25}{144}}\right)\div\sqrt{\frac{16}{81}}$$ is :

(A) $\frac{69}{16}$ (B) $\frac{31}{3}$
(C) $\frac{54}{7}$ (D) $\frac{108}{13}$

48. Which of the following values are equal ?

P : 1^4; Q : 4^0; R : 0^4; S : 4^1

(A) P and Q (B) Q and R
(C) P and R (D) P and S

49. When the price of a cycle was reduced by 20 %, the number of cycles sold increased by 20 %. The effect on the total sale of the shop is :

(A) 4 % decrease (B) 4 % increase
(C) 10 % increase (D) 10 % decrease

50. The compound interest on ₹800 at 5% p.a. for 2 years is :

(A) ₹82 (B) ₹882
(C) ₹820 (D) ₹28

51. The speed 30 m/s when converted into km/hr is :

(A) 30 km/hr (B) 60 km/hr
(C) 108 km/hr (D) 144 km/hr

52. $(x+y)^2-4xy$ is equal to :

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

53. Which is the like term to $32ab^2c$?

(A) $8\times2\times2\times a\times b\times c\times b$
(B) $16\times2\times a\times b\times c$
(C) $4\times4\times2\times a\times b\times c\times c$
(D) $4\times8\times a\times b\times c\times a$

54. Five years hence, a father's age will be three times the age of his son. Five years ago, the father was 7 times as old as his son then. The present age of the father (in years) is :

(A) 10 (B) 40
(C) 35 (D) 45

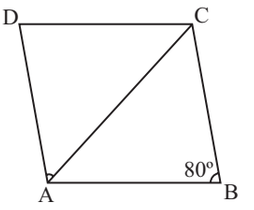
55. Factors of $4a^2+9b^2-16c^2-12ab$ are :

(A) $(2a-3b-4c)(2a+3b+4c)$
(B) $(2a+3b-4c)(2a+3b+4c)$
(C) $(2a-3b-4c)(2a-3b+4c)$
(D) $(a+b+c)(4a-9b+4c)$

56. If $3x+4y=18$ and $xy=6$, then the value of $9x^2+16y^2$ is :

(A) 324 (B) 180
(C) 170 (D) 144

57. ABCD is a rhombus in which $\angle ABC=80°$ The measure of $\angle CAD$ is :



(A) 45° (B) 50°
(C) 80° (D) 100°

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58. The area of a square is $4x^2 + 4x + 1$. The perimeter of the square is :

(A) $4(x + 1)$ (B) $4(x - 1)$

(C) $4(2x + 1)$ (D) $4(2x - 1)$

59. The area of an equilateral triangle is $24\sqrt{3}$ sq. cm. The perimeter of this triangle (in cm) is :

(A) $6\sqrt{6}$ (B) $12\sqrt{6}$

(C) $15\sqrt{6}$ (D) $15\sqrt{3}$

60. Hari wants to buy a rectangular field whose area is $(3a^2 + 5ab + 2b^2)$ sq. units. If one of its sides is $(a + b)$ units, then the length of the fence around the field is :

(A) $(10a + 20b)$ units

(B) $(4a + 3b)$ units

(C) $(2a + 2b)$ units

(D) $(8a + 6b)$ units

61. How many cubic meters of earth must be dug out to construct a well of depth 28 m and diameter 3 m ?

(A) 198 m^3 (B) 128 m^3

(C) 60 m^3 (D) 72 m^3

62. The length of a side of a cubical box whose volume is 1.331 cm^3 is :

(A) 0.13 cm (C) 0.11 cm

(B) 1.1 cm (D) 11 cm

63. A regular polygon has 18 sides. The measure of an exterior angle of this polygon is :

(A) 160° (B) 18°

(C) 36° (D) 20°

64. The volume of a cube whose surface area is 600 m^2, is :

(A) 100 m^3 (B) 200 m^3

(C) 500 m^3 (D) 1000 m^3

65. The number of sides of a regular polygon whose each exterior angle has a measure of 30 ° is :

(A) 12 (B) 6

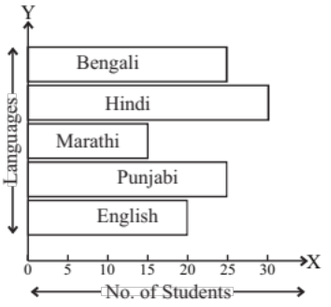
(C) 8 (D) 10

66. The radii of the bases of two cylinders are in the ratio of 1 : 2 respectively and their heights are in the ratio 2 : 1 respectively. The ratio of their volumes is :

(A) 1 : 2 (B) 1 : 4

(C) 2 : 1 (D) 4 : 1

67. The given bar graph shows the number of students in a hostel speaking different languages. The total number of students in the hostel is :



(A) 120 (B) 110

(C) 105 (D) 115

68. A bag has 4 red balls and 2 yellow balls. (The balls are identical in all respects other than colour). A ball is drawn from the bag without looking into the bag. The probability of getting a red ball is :

(A) $\frac{1}{2}$ (B) $\frac{2}{3}$

(C) $\frac{1}{4}$ (D) $\frac{1}{5}$

69. The probability of selecting a black queen from a well-shuffled pack of 52 cards is :

(A) $\frac{1}{26}$ (B) $\frac{1}{13}$

(C) $\frac{1}{4}$ (D) $\frac{1}{8}$

70. $[(2)^8 \div (2)^5]^3 \div 2^5$ on simplification, becomes :

(A) 2^{14} (B) 2^4

(C) 2^{22} (D) 2^{32}

English

Direction (Q. No. 71 to 73)

Read the following passage carefully and answer given questions.

The boat approached the tree. There was a boy in the boat who held on to one of the branches to steady himself, giving his free hand to Sita. She grasped it and slipped into the boat beside him. The boy placed his bare foot against the tree trunk and pushed it away. The little boat moved swiftly down the river. The big tree was left far behind.

71. How was Sita helped ?

(i) The boy caught hold of a branch.

(ii) He gave his hand to Sita.

(A) (i) is right and (ii) is wrong

(B) (i) is wrong and (ii) is right

(C) Both (i) and (ii) are right

(D) Both (i) and (ii) are wrong

72. What did the boy do with the tree ?

(A) He pushed it away with his foot.

(B) Both Sita and the boy pushed the tree away.

(C) The boy cut down the tree.

(D) He hit the tree with his boat.

73. Who helped Sita ?

(A) The boat (B) The branches

(C) A boy (D) The tree

Direction (Q. No. 74 to 76)

Which options fit best to fill in the blanks in given questions.

74. I think Chinese and Japanese are two of the_____ languages to learn.

(A) very difficult (B) most difficult

(C) more difficult (D) difficult

75. Rashmi is_____ than any other girl in the class.

(A) tall (B) taller

(C) tallest (D) most tall

76. He as well as his friend _____ going to win the medal today.

(A) is (B) are

(C) was (D) were

77. Which of the following options correctly changes the sentence into passive voice ?

If you want to enhance the taste of your cold coffee, add a scoop of vanilla ice cream to it.

(A) If a scoop of vanilla ice cream is added to cold coffee, its taste is enhanced.

(B) By adding a scoop of vanilla ice cream, you can enhance the taste of cold coffee.

(C) To enhance the taste of cold coffee, add a scoop of vanilla ice cream to it.

(D) Cold coffee taste is enhanced by adding a scoop of vanilla ice cream.

78. Select the alternative which best expresses the following sentence in indirect speech .

In his address to the nation, Prime Minister Modi said, "Do not forget to wear your mask and observe social distancing when you go out for any work."

(A) In his address to the nation, Prime Minister Modi told his people not to forget wearing your masks and observe social distancing when you went out for any work.

(B) In his address to the nation, Prime Minister Modi said to people they should not forget to wear their masks and observe social distancing when they go for any work.

(C) In his address to the nation, Prime Minister Modi reminded people not to forget to wear masks and observe social distance when they goes out for any work.

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(D) In his address to the nation, Prime Minister Modi advised people not to forget to wear their masks and observe social distancing when they went out for any work.

79. Choose the word most similar in meaning to the word "stubborn".

(A) obstinate (B) proud
(C) arrogant (D) docile

80. Choose the word opposite in meaning to the underlined word.

He dropped the letter into the mailbox.

(A) sank (B) struck
(C) lifted (D) uncovered

81. Choose the one–word substitute for the following expression.

'One who is all powerful'

(A) Omnipresent (B) Omniscient
(C) Omnipotent (D) Omnivorous

Direction (Q. No. 82 to 85)

Answer questions by choosing the most appropriate options to complete the paragraph by filling in the blanks.

After Ram had saved (97) money for the rail ticket, his next problem was (98) to leave home (99) his parents' knowledge. He did not have the courage (100) ask them.

82. (A) much (B) few
(C) little (D) enough

83. (A) how (B) where
(C) which (D) who

84. (A) for (B) without
(C) on (D) into

85. (A) but (B) and
(C) to (D) too