# VIDARBHA TALENT SEARCH EXAMINATION

ICAD Foundation

*Standard :* **VIII (Eight)** *Time Allowed* : **2 Hrs.**

*Date of Test:* *Maximum Marks* : **450**

*Student's Name:* _____ *Roll No.:* | | | | | | |

**NOTE :**
1. There are 5 Sections (1) **Physics** (2) **Chemistry** (3) **Mathematics** (4) **Biology** (5) **Mental Ability**
2. Each section has 30 questions.
3. There is negative marking scheme (3R-1W). Which means that for correct answer 3 mark will be awarded & for wrong answer 1 mark will be deducted.
4. Use black ball point pen only.
5. Darken only one bubble completely, corresponding to the correct option.
6. Do not cancel the filled bubble or darken more than one bubble. It will be treated as wrong answer.
7. You may do rough work on the last blank page.

## PHYSICS

**CHOOSE THE CORRECT OPTION :**

01. Light year is a unit of :
**(a)** Time **(b)** Distance
**(c)** Velocity **(d)** Acceleration

02. It is easier to draw up wooden block along an inclined plane than hang it up vertically principally because _____.
**(a)** The friction is reduced
**(b)** Only a part of the weight has to be overcome
**(c)** The mass becomes smaller
**(d)** **g** becomes smaller

03. If a piece of ice floating on the surface of water in a beaker melts completely, the level of water ____.
**(a)** Rises
**(b)** Remains the same
**(c)** Falls
**(d)** Initially rises and then falls

04. A Kelvin thermometer and Fahrenheit thermometer used to record temperature of melting metal, read the same. What will a cicelies thermometer read at that temperature ?
**(a)** 301.25° **(b)** 273° **(c)** 457° **(d)** 760°

05. A hydrogen-filled balloon expands as it rises and may even burst after rising very high in the atmosphere. This happens because _____.
**(a)** The temperature increases with height
**(b)** The temperature decreases with height
**(c)** The atmospheric pressure increases with height
**(d)** The atmospheric pressure decreases with height

06. If the surface of water in a lake is just going to Freeze, then the temperature of water at the bottom is :
**(a)** 0°C **(b)** 4°C
**(c)** 3°C **(d)** None of these

07. A black body emits _____.
**(a)** Radiations of all wavelengths
**(b)** No radiations
**(c)** Radiations of only one wavelengths
**(d)** radiations of selected wavelength

08. Size of a nucleus is of the order of _____.
**(a)** $10^{-18}$ m **(b)** $10^{-14}$ m **(c)** $10^{-10}$ m **(d)** $10^{-6}$ m

09. In isothermal expansion of an ideal gas _____.
**(a)** Heat content remains constant
**(b)** Temperature remains constant
**(c)** Both heat content and temperature remains constant
**(d)** Pressure and temperature of the gas remain constant

10. Two thin blankets piled together are warmer than a single one of the same total thickness as the two because _____.
**(a)** Air is enclosed
**(b)** The distance of the heat transmission increases
**(c)** Total surface increases
**(d)** It is a wrong statement

11. Cooking is done fast in pressure cooker because _____.
**(a)** The boiling point of water is lowered.
**(b)** The boiling point of water is increased
**(c)** More pressure in the cooker cooks the food at 100°C
**(d)** The boiling point remains the same but more steam cooks the food

12. Two students ordered tea in a restaurant and waited for a friend who was to join them shortly one of them poured hot tea in his cup and mixed cold milk in it and the other poured hot tea but mixed the cold milk only after the friend came after five minutes. Now the temperature of the cup of tea of the _____.
**(a)** Second student is higher
**(b)** First student is higher
**(c)** Both student is the same
**(d)** First student is less by 20°C that of the second student

13. The door of a running refrigerator inside a closed room was left open. Then _____.
**(a)** The room will be cooled slightly
**(b)** The temperature of the room will be lowered
**(c)** The temperature of the room will not be affected
**(d)** The room will be warmed up gradually

14. In which one of the following the velocity of sound is maximum.
**(a)** Steel **(b)** Air **(c)** Water **(d)** Wood

15. The following one is not a primary colour
**(a)** Yellow **(b)** Red **(c)** Green **(d)** Blue

16. Microphone is used to convert
**(a)** Electrical energy into sound energy
**(b)** Sound energy into electrical energy
**(c)** Sound energy into mechanical energy
**(d)** Sound energy into chemical energy

17. Which of the following is a non-luminous body ?
**(a)** Sun **(b)** Moon
**(c)** Candle flame **(d)** Electric lamp

18. Which one of the following is bad conductor of electricity ?
**(a)** Acid **(b)** Coal
**(c)** Distilled water **(d)** Human body

19. When a glass rod is rubbed with silk
**(a)** Negative charge is produced on silk but no charge on the glass rod
**(b)** Equal but opposite charge are produced on the both
**(c)** Equal and similar charges are produced on the both
**(d)** Positive charge is produced on the glass rod but no charge on the silk

20. On electrolysis of water, Oxygen is collected at ____.
**(a)** Anode **(b)** Cathode
**(c)** both electrodes **(d)** None of these

21. Cathode rays _____.
**(a)** Are the currents of electrons
**(b)** Are the currents of protons
**(c)** Are the rays of light
**(d)** Can be seen by the eyes

22. Photo-electric cell is used in _____.
**(a)** Television
**(b)** Photography
**(c)** Reproduction of sound in cinema
**(d)** Automatic switching of street lightening circuits

23. Which one of the following solutions can be electrolysed ?
**(a)** Mercury
**(b)** Distilled water
**(c)** Solution of common salt
**(d)** Milk

24. Which one of the following substances is the magnetic substance ?
**(a)** Mercury **(b)** Iron **(c)** Gold **(d)** Silver

25. The magnetism in a magnet is mainly due to ____.
**(a)** The orbital motion of the electrons
**(b)** The spin motion of the electrons
**(c)** The nuclear charge
**(d)** None of these

26. A magnet can be demagnestised by _____.
**(a)** Hammering the magnet
**(b)** Putting it in the water
**(c)** Cooling it
**(d)** Putting it in contact with iron

27. The effective length of the magnet is _____.
**(a)** The complete length of the magnet
**(b)** The distance between the two poles of the magnet
**(c)** The half of the length of the magnet
**(d)** The square of the length of the magnet

28. Two bars of soft iron exactly alike are given. One of them is a magnet. Without using any thing more, how would you find which is a magnet ?
**(a)** By bringing the two bars near and noting which one attracting the other. The one which is getting attracted is magnet.
**(b)** By bringing the two bars near and noting which one is repelling one which repels is an ordinary iron
**(c)** By rubbing one bar with the other and noting which becomes magnet. The bar which is magnetised is an ordinary iron.
**(d)** One bar is placed flat horizontal on the table and the other bar is held vertical with its one end on the middle of first bar. If there is attraction between the two, the vertical bar is magnet otherwise ordinary iron.

29. When a small magnetic needle is placed below a horizontal conductor carrying a strong current from west to east the north pole will point
**(a)**North **(b)** South **(c)** East **(d)** West

30. At which temperature do the reading the celsius & the fahrenheit scale coincide
**(a)** 0° **(b)** 100° **(c)** – 40°C **(d)** 40°C

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# CHEMISTRY

**CHOOSE THE CORRECT OPTION :**

31. Which of the following is whole number?
    **(a)** Atomic mass **(b)** Atomic number
    **(c)** Atomic volume **(d)** Atomic radius
32. An example of covalent compound is _____
    **(a)** $CaCl_2$ **(b)** KCl **(c)** BaO **(d)** $CHCl_3$
33. Which one of the following solution will conduct electricity?
    **(a)** sugar in water
    **(b)** sugar in ethyl alcohol
    **(c)** Iodine in ethyl alcohol
    **(d)** Magnesium chloride in water
34. Ethane is _____
    **(a)** Paraffin
    **(b)** Unsaturated hydrocarbon
    **(c)** Saturated cyclic hydrocarbon
    **(d)** carbohydrate
35. In photosynthesis in plants, $H_2O$ and $CO_2$ react in presence of light and chlorophyll to give carbohydrate and oxygen. When carbohydrates are burnt in air, the gases produced are _____.
    **(a)** $CO_2+H_2$ **(b)** $CO_2+CO$
    **(c)** $CO_2+H_2O$ **(d)** $CO_2+O_2$
36. The chemical formula of a particular compound represents?
    **(a)** The size of molecule
    **(b)** The shape of its molecule
    **(c)** The total number of atoms in its molecule
    **(d)** The number of different types of atoms in its molecule.
37. Which one of the following is used to prepare polythene plastic?
    **(a)** Ethane **(b)** Methane
    **(c)** Acetylene **(d)** Ethylene
38. The chemical properties of an atom depend upon the_____.
    **(a)** valency **(b)** Atomic number
    **(c)** Number of isotopes **(d)** Atomic weight
39. The number of electrons in the outermost orbit of the chlorine is _____.
    **(a)** 1 **(b)** 7 **(c)** 5 **(d)** 17
40. The three elements most usually contained in fertilizers are_____.
    **(a)** potassium, phosphorus and carbon
    **(b)** sodium, nitrogen and phosphorus
    **(c)** silica, nitrogen and phosphorus
    **(d)** potassium, phosphorus and nitrogen
41. Which one of the following gases does not form part of the atmosphere?
    **(a)** Nitrogen **(b)** Chlorine
    **(c)** Carbon dioxide **(d)** oxygen
42. Metallurgy is the process of _____.
    **(a)** Roasting the ore
    **(b)** concentrating the ore
    **(c)** Adding carbon to the ore in blast furnace
    **(d)** Extracting metal from the ore
43. The reactions favoured by light are called ____
    **(a)** Endothermic reactions
    **(b)** Exothermic reactions
    **(c)** Photochemical reactions
    **(d)** None of the above
44. The substance capable of being drawn into a wire is called _____.
    **(a)** Pliable **(b)** Ductile
    **(c)** Malleable **(d)** Flexible
45. Which one of the following substances increase in weight by burning in air?
    **(a)** wood **(b)** magnesium
    **(c)** paper **(d)** candle
46. Which one of the following is non-metal?
    **(a)** Borax **(b)** Washing soda
    **(c)** Common salt **(d)** Phosphorus
47. The inert gases are
    **(a)** Monoatomic **(b)** Diatomic
    **(c)** Triatomic **(d)** Polyatomic
48. Which one of the following is an alloy?
    **(a)** Calcium **(b)** Quick lime
    **(c)** Bronze **(d)** Gypsum
49. Sodium carbonate is the chemical name for ____
    **(a)** soda lime **(b)** caustic potash
    **(c)** Baking soda **(d)** Washing soda
50. In the isotope ${}_6C^{13}$ the number of neutrons is ___
    **(a)** 6 **(b)** 7 **(c)** 19 **(d)** 13
51. At constant temperature, the pressure of a gas to its volume is ____
    **(a)** inversely proportional
    **(b)** Directly proportional
    **(c)** Not proportional
    **(d)** none of the above
52. The only non-metallic element, which is liquid at room temperature, is ____
    **(a)** Bromine **(b)** Methane
    **(c)** Chloride **(d)** Carbon monoxide
53. The 'lead of lead pencils is not Pb but is _____.'
    **(a)** calcium carbonate **(b)** Iron
    **(c)** Calcium sulphate **(d)** Graphite

54. $Cl^{35}$ and $Cl^{37}$ are _____
**(a)** Isomers **(b)** Isotopes
**(c)** Isomorphous **(d)** Isobars

55. A mineral is known as the ore of a metal if metal
**(a)** cannot be produced from it
**(b)** can be produced from it
**(c)** can be produced from it profitably
**(d)** present in it, is very costly

56. Among the following elements the one that forms the strongest acid is _____
**(a)** chlorine **(b)** sulphur
**(c)** Aluminium **(d)** Phosphorus

57. Which one of the following is neither an element nor a compound?
**(a)** Air **(b)** Glucose **(c)** Gold **(d)** Water

58. The most abundant element in the earth's crust is _____.
**(a)** Al **(b)** oxygen **(c)** Si **(d)** Fe

59. A chemical reaction that takes place with the evolution of heat is called a/an ____
**(a)** Reversible reaction **(b)** Endothermic reaction
**(c)** Thermal reaction **(d)** Exothermic reaction

60. Which of the following is amorphous?
**(a)** Glass **(b)** Sodium chloride
**(c)** powdered marble **(d)** cane sugar

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## MATHEMATICS

**CHOOSE THE CORRECT OPTION :**

61. The number of solutions of the equations $3x-5y=9$ and $24x-72=40y$ is
**(a)** Nil **(b)** 1 **(c)** 2 **(d)** Unlimited

62. Two circles of radii $x$ and $y$ touch each other externally ($x > y$). If $AB$ is the common tangent, then $AB^2$ is equal to
**(a)** $4xy$ **(b)** $(x-y)^2$ **(c)** $4(x+y)$ **(d)** $(x+y)^2$

63. $B$ is 10% heavier than $A$ and $C$ is 10% lighter than $B$. What can you say about the relative weights of $A$ and $C$ ?
**(a)** $C$ is heavier than $A$ by 1%
**(b)** $C$ is lighter than $A$ by 1 %
**(c)** They are equal in weight
**(d)** $C$ is lighter than $A$ by 99%

64. The radii of two circular cylinders are in the ratio 2 : 3 and their heights are respectively in the ratio 5 : 7 what is the ratio of their volumes ?
**(a)** 5 : 7 **(b)** 2 : 3 **(c)** 10 : 21 **(d)** 20 : 63

65. If $(a^2+b^2)^3=(a^3+b^3)^2$ and $ab\neq 0$, then $\left[\frac{a}{b}+\frac{b}{a}\right]^6$ is equal to
**(a)** $\frac{a^6+b^6}{a^3b^3}$ **(b)** $\frac{64}{729}$
**(c)** 1 **(d)** $\frac{a^6+a^3b^3+b^6}{a^2b^4+a^4b^2}$

66. The difference between compound interest and simple interest on a certain sum for one year at 5% per 6 months is Rs. 3 then the sum is
**(a)** Rs. 1,200 **(b)** Rs. 1,250
**(c)** Rs. 1,100 **(d)** Rs. 1,150

67. If the product of three consecutive integers is 210, then sum of the two smaller integers is
**(a)** 11 **(b)** 5 **(c)** 12 **(d)** 13

68. The H.C.F. of two expressions is $x$ and their L.C.M. is $x^3-9x$. If one of the expressions is $x^2+3x$, then the other expression is
**(a)** $x^2-3x$ **(b)** $x^3-3x$ **(c)** $x^2+9x$ **(d)** $x^2-9x$

69. If the circumference of a circle is 80 cm, then the side of a square inscribed in the circle is
**(a)** $\frac{40}{\pi}\cdot\frac{1}{\sqrt{2}}$cm **(b)** $\frac{80}{\pi}\cdot\frac{1}{\sqrt{2}}$cm
**(c)** $40\sqrt{2}$ cm **(d)** $80\sqrt{2}$ cm

70. The smallest integral value of $x$, for which $\frac{5}{x}$ is an integer is
**(a)** –1 **(b)** 1 **(c)** –5 **(d)** 5

71. A man's age is six times that of his son's age. In six year's the father's age will be three times of the son's age. The age of the father and the son are respectively
**(a)** 24, 4 **(b)** 18, 3 **(c)** 30, 5 **(d)** 42, 7

72. The value of $\frac{x^{a+b}\times x^{b+c}\times x^{c+a}}{(x^a\times x^b\times x^c)^2}$ is
**(a)** 1 **(b)** $x^2$ **(c)** $x^{a+b+c}$ **(d)** $x^{abc}$

73. The H.C.F. of 608, 544 : 638, 783; and 425, 476 respectively is
**(a)** 32, 29, 17 **(b)** 17, 32, 29
**(c)** 29, 32, 17 **(d)** 32, 17, 29

74. If the value of a car depreciates each year by 20 % of its value at the beginning of the year and the present value of the car is Rs. 30,000 what was the car's value a year ago ?
**(a)** Rs. 37,500 **(b)** Rs. 34,000
**(c)** Rs. 36,000 **(d)** None of these

75. A student walks from his house at 4 km per hour and reaches his school 5 minutes late. If his speed has been 5 km per hour he would have reached 10 minutes early. The distance of the school from his house is

**(a)** 5/3 km **(b)** 5 km **(c)** 6 km **(d)** 4 km

76. If one root of the equation $3x^2 - 9x = kx - k$ is 2, then the value of $k$ is

**(a)** 4 **(b)** 3 **(c)** –6 **(d)** –8

77. In a triangle $ABC$, $AD$ is perpendicular on $BC$ and $AB = 3\sqrt{2}$ cm, $BC = 5$ cm and $AD = 3$ cm. Then, what is the length of $AC$ ?

**(a)** 3 cm **(b)** $2\sqrt{10}$ cm **(c)** $\sqrt{13}$ cm **(d)** 6 cm

78. If $(125 - x^3) = (5 - x)(x^2 + abx + b^2)$. Then find the value of $a$ :

**(a)** 4 **(b)** 2 **(c) –7** **(d)** 5

79. There is a cone of height 6 cm. It is cut into 2 parts by an axis parallel to the base. Height and volume of one part are 3 cm and $25\text{cm}^3$ respectively. What will the volume of the second part ?

**(a)** $175\text{cm}^3$ **(b)** $125\text{cm}^3$ **(c)** $75\text{cm}^3$ **(d)** $110\text{cm}^3$

80. 'A' takes one hour to dig a pit of meter dimension, while 'B' takes one and a quarter hour. 72 pits are required to be dug, then 'A' and 'B' together will complete the work in–days.(if they work 8 hours a day)

**(a)** $4\frac{1}{2}$ days **(b)** 5 days **(c)** $5\frac{1}{2}$ days **(d)** 6 days

81. A part has half of its length in mud 1/3 of its length in water and $3\frac{1}{3}$ m above the water the whole length of the part is

**(a)** 15 m **(b)** 20 m **(c)** 25 m **(d)** 27 m

82. If $x + y = a$ and $xy = b$, then the value of $\frac{1}{x^3} + \frac{1}{y^3}$ is

**(a)** $a^3 - 3ab$ **(b)** $\frac{a^3 - 3ab}{b^3}$

**(c)** $\frac{a^3 + 3ab}{b^3}$ **(d)** $a^3 + 3ab$

83. The number $10^N - 1$ is divisible by 11 for

**(a)** Odd values of $N$ **(b)** All value of $N$
**(c)** Even values of $N$ **(d)** No multiples of 11

84. A heap of coconuts is divided into groups of 2, 3 and 5, and each time one coconut is left over. The least number of coconuts in the heap is

**(a)** 41 **(b)** 31 **(c)** 51 **(d)** 61

85. 16 men or 24 women can do a piece of work in 20 days. The number of days needed to complete the job, if 20 men and 30 women are employed to do the same piece of work, is

**(a)** 16 **(b)** 12 **(c)** 10 **(d)** 8

86. If a shopkeeper sells an item for Rs. 141 his loss is 6%. To earn a profit of 10% he should sell it for

**(a)** Rs. 155 **(b)** Rs. 160 **(c)** Rs. 165 **(d)** Rs. 170

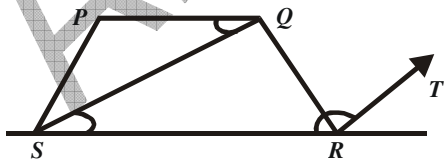
87. The current population of a town is 10,000. If the population increases by 10% every year, then the population of the town after three year will be

**(a)** 13,000 **(b)** 13,300 **(c)** 13,310 **(d)** 13,330

88. If selling price of 16 items is same as the cost price of 20 items, then there is a

**(a)** loss of 20 % **(b)** loss of 25 %
**(c)** gain of 20 % **(d)** gain of 25 %

89. In the given figure, line RT is drawn parallel to SQ. If $\angle QPS = 100°$, $\angle PQS = 40°$; $\angle PSR = 85°$ and $\angle QRS = 70°$ then $\angle QRT$ is




**(a)** 45° **(b)** 65° **(c)** 85° **(d)** 90°

90. A water tank is hemispherical at the bottom and cylindrical on top of it. The radius is 12 cm. If the total capacity is $3{,}312\pi\text{m}^3$, then the capacities of the portions are in the ratio

**(a)** 8 : 9 **(b)** 8 : 11 **(c)** 8 : 13 **(d)** 8 : 15

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## BIOLOGY

**CHOOSE THE CORRECT OPTION :**

91. Major requirement of protein in the body is for

**(a)** energy **(b)** growth **(c)** repair **(d)** proper nourishment

92. Which of the following sets includes the bacterial disease ?

**(a)** Diphtheria, leprosy, plague
**(b)** Malaria, leprosy, plague
**(c)** Tetanus, tuberculosis, measles
**(d)** Malaria, mumps, polimyelitis

93. Which of the following diseases is caused by a virus ?

**(a)** Typhoid **(b)** Cholera
**(c)** Influenza **(d)** Diptheria

94. Jaundice is a disease of

**(a)** kidney **(b)** pancreas
**(c)** liver **(d)** duodenum

95. How many species are believed to exist on Earth at present time ?
**(a)** 5,000 to 10,000
**(b)** Approximately 100,000
**(c)** Approximately 500,000
**(d)** Between 5 million and 30 million

96. Good soil is
**(a)** Which allows the limited amount of water into it
**(b)** Which allows to per collate the water slowly from it
**(c)** Which allows to pass water very quickly from it
**(d)** Which holds whole of water into it

97. Soil is composed of
**(a)** Mineral + Water + Air
**(b)** Mineral + organic matter + Air
**(c)** Mineral + organic matter + Air + water
**(d)** Organic matter + water

98. Best source of renewable energy is
**(a)** Cattle **(b)** Petroleum
**(c)** Coal **(d)** Trees

99. Soil erosion can be prevented by
**(a)** restricted human activity
**(b)** good plant cover
**(c)** checking movement of animals
**(d)** wind screen alone

100. $CO_2$ and $O_2$ balance in atmosphere is due to
**(a)** photorespiration **(b)** photosynthesis
**(c)** respiration **(d)** leaf anatomy

101. Young fruits are green but develop brilliant shade of colour towards ripening because
**(a)** amount of sugar increases in them
**(b)** amount of organic acids decreases in them
**(c)** chloroplasts are degraded to carotenes and xanthophylls
**(d)** of ageing

102. Which would do maximum harm to a tree?
**(a)** The loss of all of its leaves
**(b)** The loss of half of its branches
**(c)** The loss of its bark
**(d)** The loss of half of its leaves

103. If all the tissues except xylem of main stem of a plant are removed in a ring
**(a)** the root dies first
**(b)** the shoot dies first
**(c)** the root and shoot will die at the same time
**(d)** neither the root nor the shoot will die

104. Excertion means :
**(a)** removal of substances present in excess
**(b)** formation of those substances that have some role in the body
**(c)** removal of such substances that have never been part of the body
**(d)** All of these

105. In which of the following plants vegetative reproduction takes places with the help of bulbils ?
**(a)** Colocasia **(b)** Zingiber
**(c)** Agave **(d)** Vallisneria

106. Which of the following is propagated by means of cuttings ?
**(a)** Sugarcane **(b)** coffee
**(c)** citrus **(d)** All of these

107. Stem cuttings are commonly used for propagation in
**(a)** rubber **(b)** mangoes
**(c)** sugarcane **(d)** jasmine

108. Prokaryotic cell is one, which does not have
**(a)** proper nucleus
**(b)** endoplasmic reticulum & mitochondria
**(c)** proper nucleus and most of cell organelles
**(d)** cell wall

109. The smallest organelles in a cell are
**(a)** Lysosomes **(b)** Spherosomes
**(c)** Peroxysomes **(d)** Ribosomes

110. The Golgi complex plays a major role
**(a)** in digesting proteins and carbohydrates
**(b)** in trapping light quanta an transforming them into chemical energy
**(c)** in glycosidation of lipids and proteins of produce glycolipids and glycoproteins
**(d)** as energy transferring organelles

111. Lysosomes are known as "Suicidal bags" because of
**(a)** Catalytic activity **(b)** Hydrolytic activity
**(c)** Parasitic activity **(d)** Saprophytic activity

112. Collenchyma differs from parenchyma in having
**(a)** cellulose walls
**(b)** vacuoles
**(c)** pectin deposits at corners
**(d)** living protoplasm

113. The first effect of adding fertiliser to a pond would most likely be to
**(a)** decrease the amount of phytoplankton
**(b)** kill most bacteria
**(c)** lower the compensation point
**(d)** increase the amount of phytoplankton

114. The science of improving crop varieties is called
**(a)** hybridisation **(b)** selection
**(c)** introduction **(d)** plant breeding

115. Growing two or more crops but in definite row pattern is known as
**(a)** intercropping **(b)** crop rotation
**(c)** mixed farming **(d)** mixed cropping

116. Green revolution refers to
**(a)** maintaining soil fertility
**(b)** use of green plants for covering the earth
**(c)** development of new crop varieties which helped to overcome hunger
**(d)** growing green plants to establish balance of nature

117. Which of the following is an example of kharif crop ?
**(a)** Rice **(b)** Wheat **(c)** Gram **(d)** Mustard

118. High milk yielding varieties of cows are obtained by
**(a)** hybridisation **(b)** giving termented folder
**(c)** giving medicine **(d)** cloning

119. Formation of ozone hole is maximum over
**(a)** India **(b)** Africa **(c)** Antarctica **(d)** Europe

120. Which pigment protects plants from UV damage ?
**(a)** Chlorophyll **(b)** Xanthophyll
**(c)** Phycocyanin **(d)** Carotenoids

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# MENTAL ABILITY

**CHOOSE THE CORRECT OPTION :**

Q.121 to 122 : Find the odd one out.

121. **(a)** Rstww **(b)** Abccdd **(c)** Fghhkk **(d)** Klmmpp

122. **(a)** RIH **(b)** XCB **(c)** LQN **(d)** MNM

Q.123 to 124 : Choose the correct alternative in place of question mark.

123. 24 : 26 : : 15 : ?
**(a)** 18 **(b)** 20 **(c)** 35 **(d)** 45

124. 16 : 63 : : ? : 48
**(a)** 10 **(b)** 12 **(c)** 14 **(d)** 18

Q. In which of the following alternative figures, the question figure is embedded ?

125. 

**(a)**  **(b)** 

**(c)**  **(d)** 

Q.126 to 129 : According to a code language, words in the sentences given in column I are coded in column II. The code numbers in Column II are not necessarily according to the order of words in column I. Study both the columns. Identify the code numbers for those words, from the given alternatives.

| Column I | Column II |
|---|---|
| Girish is my son. | 8 2 4 3 |
| My son is a teacher | 3 5 2 9 8 |
| Girish likes busy friend | 12 7 1 4 |
| Friend is a good helper | 8 13 6 1 9 |
| The teacher is busy | 10 7 8 5 |
| Girish is a son of the teacher | 3 10 14 5 4 8 9 |

126. The code number used for Teacher.
**(a)** 5 **(b)** 8 **(c)** 9 **(d)** 3

127. The code number for 'a' :
**(a)** 5 **(b)** 8 **(c)** 9 **(d)** 3

128. My friend:
**(a)** 2, 1 **(b)** 1,3 **(c)** 4, 2 **(d)** 3, 1

129. The son is busy:
**(a)** 8, 10, 5, 7 **(b)** 10,5,8,9
**(c)** 10,3,8,7 **(d)** 4,10,8,2

130. If we write 1234567891011121314 ... and so on then the 51$^{th}$ digits of the number so formed will bc:
**(a)** 0 **(b)** 1 **(c)** 3 **(d)** 5

131. Rohit is older than his sister by 641 days his sister was born on Monday, then on what day was Rohit born?
**(a)** Sunday **(b)** Saturday **(c)** Friday **(d)** Thursday

Q.132 To 136 : What will come serially in place of question mark?

132. 97, 61, 36, 20, 11, 7, ?
**(a)** 3 **(b)** 4 **(c)** 5 **(d)** 6

133. 1, 5, 13, 25, ?, 61
**(a)** 47 **(b)** 41 **(c)** 37 **(d)** 43

134. Z, Y, W, T, ?, K, E
**(a)** M **(b)** P **(c)** R **(d)** N

135. 8, 9, 17, 8, 25, 17, ? , 25, 67
**(a)** 19 **(b)** 22 **(c)** 30 **(d)** 42

136. 87, 77, 58, 66, ?, 46, 90
**(a)** 57 **(b)** 56 **(c)** 55 **(d)** 54

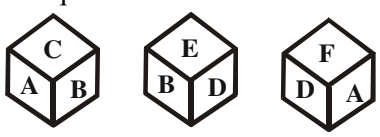
Q. Which figure will fit in place of question mark?

137. 

**(a)**  **(b)** 

**(c)**  **(d)** 

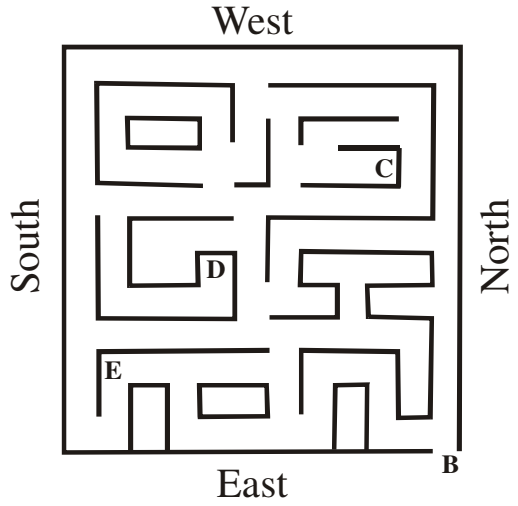
Q.138 to 139 : Observe the cubes given below & answer the question.




138. Which letter will be opposite to 'C'?
**(a)** A **(b)** B **(c)** D **(d)** E

139. Which will be the letter opposite to 'B'?
**(a)** C **(b)** D **(c)** E **(d)** F

Q.140 to 142 : These questions are based on laby rinth given below. Note the directions as shown in the figure. With the help of the figure answer the questions

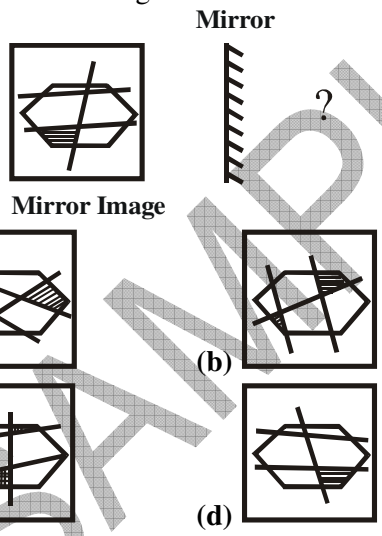



140. In going from B to D how many minimum turns shall you have take
**(a)** 6 **(b)** 5 **(c)** 8 **(d)** 9

141. In going from B to E, how many minimum turns shall you have to take
**(a)** 3 **(b)** 6 **(c)** 5 **(d)** 4

142. In going from C to E, how many minimum turns shall you have to take
**(a)** 5 **(b)** 4 **(c)** 7 **(d)** 8

143. If mirror is kept infront of the question figure, What will be its image?




144. If P + Q means P is the husband of Q. P ÷ Q means P is the sister of Q and P × Q means P is the son of Q. Then which of the following alternative shows that A is the daughter of B?
**(a)** D×B+C ÷ A **(b)** B+C×A
**(c)** A ÷ D×B **(d)** C×B ÷ A

Q.145 to 147 : Find the odd one.

145. **(a)** 341 **(b)** 176 **(c)** 165 **(d)** 112

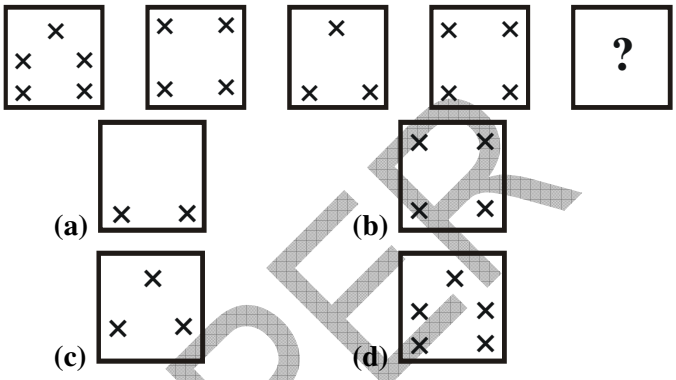
146. **(a)** 001011 **(b)** 1101011
**(c)** 101101 **(d)** 10010

147. **(a)** 312 **(b)** 756 **(c)** 978 **(d)** 354

148. A typist has to type, 1 to 107 number one a typewriter. Then how many times he has to press the buttons of the typewriter?
**(a)** 213 **(b)** 214 **(c)** 116 **(d)** 107

149. If ELEPHANT = 73, TIGER = 54 then CAMEL = ?
**(a)** 36 **(b)** 32 **(c)** 29 **(d)** 27

Q.150. Which figure will replace the question mark?

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