Sample Questions

for

ASAT

(ALLEN Scholarship Admission Test)

CLASSROOM CONTACT PROGRAMME

PRE-NURTURE & CAREER FOUNDATION : CLASS-IX

(FOR VIII to IX MOVING STUDENTS)

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KOTA (RAJASTHAN)

ALLEN Corporate Office: "SANKALP" CP-6, Indra Vihar, Kota (Rajasthan) INDIA 324005
Call : +91-744-2757575 | Mail : info@allen.ac.in | Website : www.allen.ac.in

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MENTAL ABILITY

1. 'A + B' means that A is the father of B, 'A – B' means that A is the wife of B; 'A × B' means that A is the brother of B, 'A ÷ B' means that A is the mother of B and 'A = B' means that A is the sister of B. On the basis of this information,what does P × Q ÷ R means:

(1) P is the sister of Q (2) P is the father of R

(3) P is the maternal-uncle of R (4) P is the nephew of R

2. If A means '–', B means '+', C means '×', and D means '÷', then 32 D 4 B 7 C 2 A 6

(1) 18 (2) 24 (3) 36 (4) 16

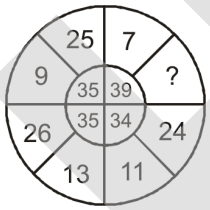
3. Raj went 15 kms to the west from my house, then turned left and walked 20 kms. He then turned East and walked 25 kms. Finally, turning left covered 20 kms. How far was he from his house ?

(1) 5 kms (2) 10 kms (3) 40 kms (4) 80 kms

4. In a certain code language, if the number 1 is assigned to all the letters at odd places in the alphabet and the remaining letters are assigned the number 2 then what is the code for the word INDIAN?

(1) 2121212 (2) 211211 (3) 122122 (4) 122112

5. Insert a missing number in place of question mark in the given figure.



(1) 28 (2) 36 (3) 81 (4) 49

6. A cube is painted red on two adjacent surfaces and black on the surfaces opposite to red surfaces and green on the remaining faces. Now the cube is cut into sixty four smaller cubes of equal size. How many smaller cubes only two surfaces painted ?

(1) 8 (2) 16 (3) 24 (4) 28

7. If Atul finds that he is twelfth from the right in a line of boys and fourth from the left, how many boys should be added to the line such that there are 28 boys in the line ?

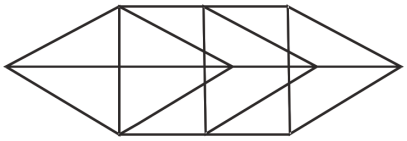
(1) 12 (2) 13 (3) 14 (4) 20

8. Which of the answer figures is exactly the mirror image of the given figure?

Question figure

(1) 
(2) 
(3) 
(4) 

9. Count the number of triangles in the figure given below.



(1) 15 (2) 19

(3) 22 (4) 24

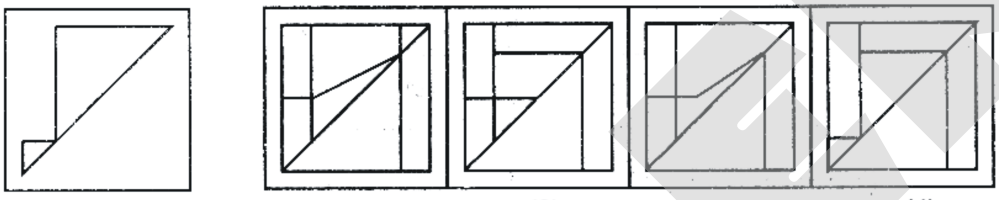
10. In the given letter series, some of the letters are missing, which are given in that order as one of the alternatives below it. Choose the correct alternative.

aab _ aa _ bbb _ aaa _ bbb

(1) abba (2) baab

(3) aaab (4) abab

11. In the given question below, you are given a figure (X) followed by four figures (1), (2), (3) and (4) such that (X) is embedded in one of them. Trace out the correct alternative.



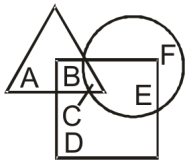
12. In the left hand column are given problem figures and in the right hand column the answer figures. Pick up from the answer figures, one which will continue the series to the problem figures.

13. A boy goes to see a film and finds a man who is his relative. The man is the husband of the sister of his mother. How is the man related to the boy?

(1) Brother (2) Nephew

(3) Uncle (4) None of these

14. In the given figure, the triangle represents girls, square represents sports-persons and circle represents coaches. Which portion of the figure represents girls who are sports persons but not coaches ?



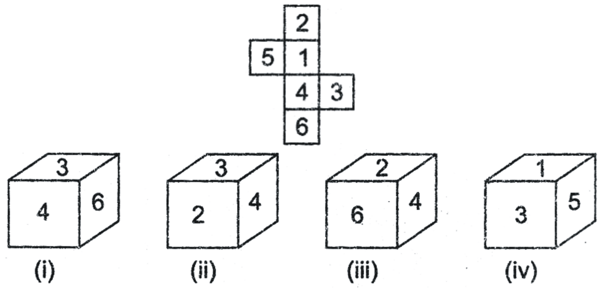
(1) A (2) B (3) C (4) D

15. Find the next term of the series : 4, 10, 22, 46, ?

(1) 56 (2) 76

(3) 66 (4) 94

16. Which of the following dice is identical to the unfolded figure as shown below ?



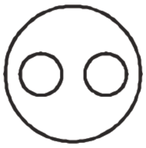
(1) iii

(2) ii

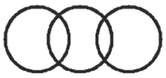
(3) i

(4) iv

17. Find the venn diagram which best illustrates the relationship between-
English: novels : Hindi

(1) 

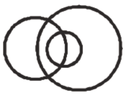
A

(2) 

B

(3) 

C

(4) 

D

18. In South-East direction becomes North-West direction. Then what direction south becomes

(1) East (2) North

(3) South West (4) West

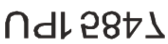
19. In a certain code, EXPLAINING is written as PXEALNIGNI. How is PRODUCED written in that code ?

(1) ORPBUDEC (2) ROPUDECD

(3) ORPDUECD (4) ORPUDDEC

20. Choose the alternative which shows the correct water-image of the word.
UP15847

(1)  (2) 

(3)  (4) 

PHYSICS

21. Which of the following is a non-electrolyte?

(1) Salt solution (2) Lemon juice

(3) Distilled water (4) Tap water

22. Which of the following is not a characteristic of image formed by a plane mirror ?

(1) Size of image = size of object

(2) Distance of image from mirror = distance of object from mirror

(3) We cannot obtain the image on the screen

(4) Image is formed on the same side as that of object

23. Which of the following has least magnitude ?

(1) Kinetic friction (2) Limiting friction

(3) Rolling friction (4) Sliding friction

24. Which of the following is a non-electrolyte?

(1) NaOH (2) HCl (3) $CuSO_4$ (4) CCl_4

25. When a medium is set to vibrate it produces :

(1) Sound (2) Heat (3) Electricity (4) Light

26. When an object undergoes acceleration :

(1) Its speed always remains constant (2) Its velocity always remains constant

(3) Both (1) and (2) (4) A force always acts on it

27. Choose correct statement :

(1) A force can change speed of a body

(2) A force can change direction of motion of a body

(3) A force can change shape of a body

(4) All of these are correct

28. 9.8 N is equal to :

(1) 1 kgf (2) 1 kgwt

(3) Both (1) and (2) (4) Neither (1) nor (2)

29. The shrilness (pitch) of a sound wave depends upon its :

(1) Amplitude (2) Frequency (3) Wavelength (4) Velocity

30. Light is _____ in nature.

(1) Mechanical (2) Electromagnetic

(3) Transparent fluid (4) None of these

31. A conducting material offers :

(1) Very high resistance to passage of electrons

(2) Infinite resistance to passage of electrons

(3) Very less resistance to passage of electrons

(4) None of above

32. Speed of light in vacuum is :

(1) 3×10^{8}m/sec. (2) 3×10^{7}m/sec. (3) 3×10^{5}m/sec. (4) 3×10^{9}m/sec.

33. Friction can be reduced by :

(1) The use of lubricants (2) The use of ball bearings

(3) Polishing (4) All of the above

34. Which of the following is a contact force ?

(1) Frictional force (2) Magnetic force

(3) Electric force (4) Can't say

35. When a sound wave travels through air, then at some particular instants the particles of air come closer to one another. These regions of air are called :

(1) Crests

(2) Troughs

(3) Compressions

(4) Rarefactions

36. Which of the following is the unit of weight ?

(1) Kg (2) Quintal

(3) Newton (4) Ton

37. Which of the following is false ?

(1) Friction of air burns meteors

(2) Friction between two surfaces can be reduced by polishing the surface

(3) Friction is always disadvantageous.

(4) None of these

38. A boy of 50 kg mass will be attracted by earth with a force of : (Take, g = 10 m/s^2)

(1) 50 N

(2) 500 N

(3) 5 N

(4) 100 N

39. The S.I. unit of the frequency of a sound wave is :

(1) Metre (2) Second (3) Metre/sec. (4) Hertz

40. The process of electrolysis is used in

(1) extraction of metals (2) electroplating

(3) refining of metals (4) all of the above

41. Choose the wrong statement :

(1) Light does not need medium to travel

(2) Speed of light is same in air, water and glass

(3) Light travels in a straight line

(4) Speed of light depends upon the nature of medium

42. It is difficult to walk on ice because of :

(1) Absence of friction

(2) Absence of inertia

(3) More friction

(4) More inertia

43. Calculate the resultant force in the given figure :

(1) 5 N towards right

(2) 5 N towards left

(3) Zero

(4) 15 N towards right

44. The maximum displacement of the medium particle from its equilibrium state during the propagation of a wave is called Its :

(1) Wavelength

(2) Frequency

(3) Amplitude

(4) Pitch

45. Light travels in a straight line. This phenomenon is known as :

(1) Dispersion

(2) Reflection

(3) Refraction

(4) Rectilinear propagation of light

CHEMISTRY

46. Which among the following is inflammable substance?

(1) Wood (2) Coal (3) Petrol (4) Charcoal

47. When huge amount of sewage is dumped into a river, the BOD will :

(1) Decrease (2) Increase

(3) Remain unchanged (4) None of the above

48. Sodium metal can be stored under :

(1) Benzene (2) Kerosene (3) Alcohol (4) Water

49. Choose the correct option :

(i)	Rayon	(p)	Terrycot Fabric
(ii)	Nylon	(q)	Artificial silk
(iii)	Polyester	(r)	Ball bearing/Machine parts

(1) (i)-q, (ii)-p, (iii)-r (2) (i)-q, (ii)-r, (iii)-p

(3) (i)-p, (ii)-r, (iii)-q (4) None of these

50. The world environment day is celebrated on :

(1) 7^{th} August (2) 5^{th} June (3) 10^{th} April (4) 28^{th} Feb.

51. Which one of the following is the least dense :

(1) Silver (2) Gold (3) Copper (4) Aluminium

52. Thermosetting plastic is

(1) Bakelite (2) PVC (3) Polyethene (4) Both (1) and (2)

53. Silicon is an example of :–

(1) Metal (2) Non-metal (3) Metalloid (4) None of these

54. Plastics are generally _____ resistant :

(1) Heat (2) Decay

(3) Corrosion (4) Both (2) and (3)

55. One of the first man-made fibre is :

(1) Rayon (2) Nylon (3) Polyester (4) None of these

56. Metal which can be cut with a knife :

(1) Copper (2) Sodium (3) Iron (4) Aluminium

57. What term is used to describe plastic materials which can be given a new shape by softening on gentle heating

(1) Thermoplastic (2) Thermosetting (3) Both (1) and (2) (4) None of these

58. What is COD :

(1) Chemical oxygen deficiency (2) Chemical oxygen demand

(3) Chemical ozone demand (4) Chemical oxygen difference

59. The full form of PET is :-

(1) Polyethyne Terephthol (2) Polyethylene Terephthalate

(3) Polyethene Terephthal (4) Polyethyne Terepthol

60. Which of the following is regarded as the best variety of coal ?

(1) Bituminous (2) Lignite (3) Anthracite (4) Peat

61. Which of the following nutrients cause eutrophication of fresh water lakes?

(1) Phosphorus (2) Calcium

(3) Sulphur (4) None of these

62. To become stable, metals :

(1) Lose or gain electrons (2) Neither lose nor gain electrons

(3) Lose electrons (4) Gain electrons

63. Polycot is :

(1) Natural fibre (2) Blended fibre (3) Synthetic fibre (4) Not a fibre

64. Full form of DDT :

(1) Dichloro diphenyl trichloroethene (2) Dichloro diphenyl trichloroethane

(3) Dichloro diphenyl trichloroethyne (4) None of these

65. Petroleum is _____ natural resource.

(1) Inexhaustible (2) Exhaustible (3) Both (1) and (2) (4) None of these

66. Which of these is a water-borne disease :

(1) Cholera (2) Amoebic dysentery

(3) Typhoid (4) All of the above

67. The following metal reacts with dilute HCl to liberate hydrogen gas :

(1) Copper (2) Silver (3) Gold (4) Zinc

68. 4-R principle is used for

(1) Environment (2) Industry (3) Oceans (4) Space

69. Which of these is a method of waste disposal :

(1) Landfills (2) Recycling of wastes

(3) Incineration (4) All of these

70. Which of the following is considered to be the future fuel?

(1) Petrol (2) Coal

(3) Hydrogen (4) None of these

BIOLOGY

71. The jelly like substance present between the nucleus and cell membrane is called–

(1) Protoplasm (2) Cytoplasm (3) Nucleoplasm (4) Nucleolus

72. The bacterium which helps in the formation of curd is–

(1) Lactobacillus (2) Rhizobium

(3) Azotobacter (4) None of these

73. The stage when the reproductive organs reach sexual maturity is called–

(1) Puberty (2) Menstruation (3) Gestation (4) Fertilization

74. The outer most layer of onion cell is–

(1) Cell wall (2) Cell membrane

(3) Nuclear membrane (4) None of these

75. Which of the following organism reproduces through binary fission?

(1) Hydra (2) sperm (3) Amoeba (4) Frog

76. Which of the following is not a rabi crop?

(1) Wheat (2) Gram (3) Soyabean (4) Pea

77. Who discovered the vaccine for small pox?

(1) Louis Pasteur (2) Alexander Fleming

(3) Edward Jenner (4) Robert Hooke

78. The process of changing of tadpole into an adult frog is–

(1) Fertilization (2) Metamorphosis

(3) Budding (4) Cloning

79. Thread like structures present inside the nucleus of dividing cell are called–

(1) Fibres (2) Chromosomes (3) Nucleolus (4) Nucleoplasm

80. Which of the following is not a part of the female reproductive system?

(1) Ovary (2) Fallopian tube (3) Testis (4) Uterus

81. Yellow vein mosaic of bhindi (okra) is caused by–

(1) Bacteria (2) Fungi (3) Virus (4) Protozoa

82. The large scale storage of food grains are done in–

(1) Jute bags and metallic bins (2) Silos and granaries

(3) metallic bins and silos (4) Granaries and jute bags

83. In a frog the process of metamorphosis is regulated by–

(1) Insulin (2) Testosterone

(3) Growth hormone (4) Thyroxine

84. Disease causing microorganisms are called–

(1) Pathogens (2) Antibodies (3) Carriers (4) None of these

85. Green coloured plastids are called–

(1) Leucoplast (2) Amyloplast (3) Chloroplast (4) Tonoplast

86. Sodium benzoate is an example of–

(1) Antibiotic (2) Preservative (3) Fertilizer (4) Weedicide

87. Which of the following constitutes the right meal for adolescents?

(1) Chips, noodles, coke

(2) Chapatti, dal, vegetables

(3) Rice, noodles and burger

(4) Vegetable cutlets, chips and lemon drink

88. Which one of the following organism is not an example of eukaryotic cell?

(1) Amoeba (2) Blue green algae

(3) Paramecium (4) Mango plant

89. Which of the following is/are example(s) of viviparous animal?

(1) Hen (2) Cat

(3) Lizard (4) Both (2) and (3)

90. The process of loosening and turning of the soil is called–

(1) harvesting (2) Threshing

(3) Tilling (4) None of these

91. Which of the following is a nitrogen fixing bacterium?

(1) Lactobacillus (2) Rhizobium (3) Yeast (4) Acetobacter

92. Which of the following is not an endocrine gland?

(1) Adrenal (2) Thyroid (3) Pituitary (4) Sweat gland

93. Irregular shaped cell/s is/are :

(1) RBC (2) WBC

(3) Amoeba (4) Both (2) and (3)

94. Which of following is involved in sexual reproduction ?

(1) Vegetative propagation (2) Fertilization

(3) Binary fission (4) Multiple fission

95. Malaria disease is caused by–

(1) Paramecium (2) Plasmodium (3) Amoeba (4) Leishmania

MATHEMATICS

96. If x = 1, y = – 1 and z = – 1, then the value of $\frac{x^2yz^2}{3}$ is :

(1) $\frac{1}{3}$ (2) $-\frac{1}{3}$ (3) 1 (4) – 1

97. If $12\frac{1}{2}$ m of rope is to be divided into $1\frac{1}{4}$ m pieces, how many pieces will be there :

(1) 12 (2) 10 (3) 8 (4) 15

98. The average marks obtained by 40 candidates in a certain examination is 50. Find the total marks.

(1) 1900 (2) 2000 (3) 2200 (4) 2500

99. Value of $\left(\frac{4}{3}\right)^{-3}$ in positive exponent form is :

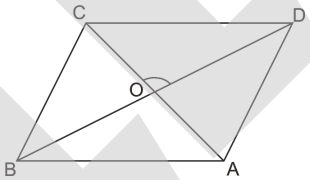
(1) $\left(\frac{3}{2}\right)^3$ (2) $\left(\frac{3}{8}\right)^3$ (3) $\left(\frac{3}{4}\right)^2$ (4) $\left(\frac{3}{4}\right)^3$

100. Find the value of A.

If $\begin{array}{r} 6\ A \\ +\ 3\ B \\ \hline 1\ C\ 7 \end{array}$ and A > B.

(1) 8 (2) 7 (3) 6 (4) 9

101. ABCD is a rhombus with ∠ABC=56°. Then ∠ACD equals.



(1) 28° (2) 56° (3) 62° (4) 68°

102. Factors of $x^2 + ax + b$ are (x – 7) and (x + 9) then the value of a and b is :

(1) a = 2, b = – 63 (2) a = – 2, b = 63

(3) a = – 2, b = – 63 (4) a = 2, b = 63

103. The smallest number by which 396 must be multiplied so that the product becomes a perfect square is

(1) 5 (2) 11 (3) 3 (4) 2

104. Solve for x, if $\frac{2x+1}{3x+2} = 1$

(1) 1 (2) 2 (3) –1 (4) –2

105. The value of $(1^2 + 1^3 + 1^4 + 1^5 + 1^6)$ is :

(1) 4 (2) 11111 (3) 1111 (4) 5

106. How many edges does a cuboid have.

(1) 6 (2) 8 (3) 12 (4) 16

107. The product of two rational numbers is $\frac{-8}{9}$. If one of the number is $\frac{-4}{15}$, then the other is :

(1) $\frac{32}{135}$ (2) $\frac{10}{3}$

(3) $\frac{3}{10}$ (4) None of these

108. If a number is doubled then how many times it's cube will be:

(1) 5 times (2) 6 times

(3) 7 times (4) 8 times

109. Simplify and express as a rational number $\left(\frac{1}{2}\right)^3 \times \left(\frac{-3}{5}\right)^2 \times \left(-\frac{4}{9}\right)^2$:

(1) $\frac{4}{225}$ (2) $\frac{2}{675}$

(3) $\frac{4}{675}$ (4) $\frac{2}{225}$

110. The perimeter of a rhombus is 160 cm and one diagonal is 10 cm long, then the length of the other diagonal is

(1) $\sqrt{10}$ cm (2) $\sqrt{37}$ cm

(3) $30\sqrt{7}$ cm (4) $\sqrt{41}$ cm

111. The factors of $\frac{x^2}{4} - \frac{y^2}{9}$ are :

(1) $\left(\frac{x}{9} + \frac{y}{9}\right), \left(\frac{x}{4} - \frac{y}{9}\right)$

(2) $\left(\frac{x}{2} + \frac{y}{9}\right), \left(\frac{x}{2} - \frac{y}{9}\right)$

(3) $\left(\frac{x}{2} + \frac{y}{3}\right), \left(\frac{x}{2} - \frac{y}{3}\right)$

(4) None of these

112. Which of the following is rational ?

(1) $\sqrt{3}$ (2) π (3) $\frac{4}{0}$ (4) $\frac{0}{4}$

113. Following marks were obtained by 12 students in a mathematics test :
21, 20, 25, 5, 10, 15, 30, 12, 7, 16, 9, 22
The range of the marks is :

(1) 20 (2) 25

(3) 21 (4) 7

114. $x^{3/2} = 8$, then x is equal to :

(1) 2 (2) 4

(3) 16 (4) 8

115. What is the place value of 7 in 8735:

(1) 7 (2) 700

(3) both 1 and 2 (4) None of these

116. Which of the following is true :

(1) Any three line - segments make up a triangle.

(2) The interior of a triangle includes its vertices

(3) An equilateral triangle is isosceles also

(4) No isosceles triangle is obtuse

117. Which of the following is a two dimensional figure ?

(1) Rectangular prism

(2) Rectangle

(3) Square prism

(4) Square pyramid

118. To make 432 a perfect square. It should be multiplied by

(1) 2

(2) 3

(3) 4

(4) 5

119. Solve : $3(x-1) = 2x - 11$.

(1) –8

(2) 8

(3) –10

(4) 10

120. The expression $x^{a(b-c)} \cdot x^{b(c-a)} \cdot x^{c(a-b)}$ simplifies to :

(1) –1

(2) 0

(3) 1

(4) 2

ASAT : CLASS-IX SAMPLE TEST PAPER

ANSWER KEY

Q.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A.	**3**	**4**	**2**	**4**	**1**	**3**	**2**	**4**	**4**	**2**	**4**	**3**	**3**	**2**	**4**	**3**	**2**	**2**	**4**	**1**
Q.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
A.	**3**	**4**	**3**	**4**	**1**	**4**	**4**	**3**	**2**	**2**	**3**	**1**	**4**	**1**	**3**	**3**	**3**	**2**	**4**	**4**
Q.	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
A.	**2**	**1**	**1**	**3**	**4**	**3**	**2**	**2**	**2**	**2**	**4**	**1**	**3**	**4**	**2**	**2**	**1**	**2**	**2**	**3**
Q.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
A.	**1**	**3**	**2**	**2**	**2**	**4**	**4**	**1**	**4**	**3**	**2**	**1**	**1**	**1**	**3**	**3**	**3**	**2**	**2**	**3**
Q.	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
A.	**3**	**2**	**4**	**1**	**3**	**2**	**2**	**2**	**2**	**3**	**2**	**4**	**4**	**2**	**2**	**2**	**2**	**2**	**4**	**4**
Q.	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
A.	**3**	**1**	**2**	**3**	**4**	**3**	**2**	**4**	**4**	**3**	**3**	**4**	**2**	**2**	**2**	**3**	**2**	**2**	**1**	**3**