ASAT
(ALLEN Scholarship Cum Admission Test)
For
PRE-NURTURE & CAREER FOUNDATION : CLASS-VIII
(For VII to VIII Moving Students)
SAMPLE TEST PAPER

Time : 2 Hrs.  Maximum Marks : 300

Please read the instructions carefully. You are allotted 5 minutes specifically for this purpose.

INSTRUCTIONS

1. The booklet is your Question Paper. Do not break the seal of this booklet before being instructed to do so by the invigilator.

2. Blank spaces and blank pages are provided in the question paper for your rough work. No additional sheets will be provided for rough work.

3. Blank papers, clipboards, log tables, slide rules, calculators, cameras, cellular phones, pagers and electronic gadgets are NOT allowed inside the examination hall.

4. The answer sheet, a machine-readable Optical Response Sheet (ORS), is provided separately.

5. On breaking the seal of the booklet check that it contains 14 pages and all the 75 questions.

6. A candidate has to write his / her answers in the ORS sheet by darkening the appropriate bubble with the help of Black ball point pen as the correct answer of the question attempted.

7. Question Paper Format :
The question paper consists of 2 parts. Part-I : IQ (Mental Ability) & Part-II : Physics, Chemistry, Biology & Mathematics

8. Marking Scheme :
Part-I : For each question of Part-I, you will be awarded 4 marks if you darken the bubble corresponding to the correct answer and zero mark if no bubbles are darkened. No negative marks will be awarded for incorrect answers in this part.

Part-II : For each question of Part-II, you will be awarded 4 marks if you darken the bubble corresponding to the correct answer and zero mark if no bubbles are darkened. No negative marks will be awarded for incorrect answers in this part.
PART - I
IQ (MENTAL ABILITY)

This section contains **20 multiple choice questions**. Each question has four choices (1), (2), (3) and (4) out of which **ONLY ONE** is correct.

1. In the following questions, arrange the given words in a meaningful sequence.
   - 1. Family
   - 2. Locality
   - 3. Member
   - 4. Community
   - 5. Country
   (1) 3, 1, 4, 5, 2
   (2) 3, 2, 1, 4, 5
   (3) 3, 1, 4, 2, 5
   (4) 3, 1, 2, 5, 4

2. If ‘field’ is called ‘barn’, ‘barn’ is called ‘computer’, ‘computer’ is called ‘ox’, ‘ox’ is called ‘plough’, ‘plough’ is called ‘pipe’ and ‘pipe’ is called ‘fruit’, then with which is the calculation with high speed is done?
   (1) barn
   (2) computer
   (3) ox
   (4) plough

3. If \( Z = 52 \) and \( ACT = 48 \) then \( BAT = ? \)
   (1) 39
   (2) 41
   (3) 44
   (4) 46

4. If ‘\( \rightarrow \)’ stands for ‘addition’; ‘\( \leftarrow \)’ stands for ‘subtraction’; ‘\( \uparrow \)’ stands for ‘division’; ‘\( \downarrow \)’ stands for ‘multiplication’ and ‘\( \downarrow \)’ stands for ‘equal to’, then which of the following options is correct?
   (1) \( 2 \downarrow 5 \leftarrow 6 \rightarrow 2 \downarrow 6 \)
   (2) \( 5 \rightarrow 7 \leftarrow 3 \uparrow 2 \downarrow 4 \)
   (3) \( 3 \downarrow 6 \rightarrow 2 \rightarrow 3 \leftarrow 6 \downarrow 5 \)
   (4) \( 7 \rightarrow 42 \uparrow 6 \rightarrow 5 \)

5. Introducing a woman, Sohan said, “She is the mother of the only daughter of my son”. How that woman is related to Sohan?
   (1) Daughter
   (2) Sister-in-law
   (3) Wife
   (4) Daughter-in-law
6. (i) P, Q, R, S and T are sitting in a closed circle facing the centre.
(ii) R is just left of T.
(iii) P is between S and T.
Then who is just left to R?
(1) T (2) P (3) Q (4) R

7. A man is facing towards West and turns through 45° clockwise, again 180° clockwise and then turns through 270° anti-clockwise. In which direction is he facing now?
(1) West (2) North-West (3) North (4) South-West

8. Which letter in the word CYBERNETICS occupies the same position as it does in the English alphabet?
(1) B (2) I (3) C (4) T

9. In the given arrangement, how many such symbols are there, each of which is preceded by a letter which is from the first half of the English alphabet and followed by a digit?
9 V @ S 2 G R A □ 3 Q £ B Z 7 C Y △ T 4 8 P F 6 @ $ 5 E H B K δ
(1) 2 (2) 4 (3) 3 (4) 1

10. In a row of girls, Beena is eighth from the left and Priya is seventeenth from the right. If they interchange their positions, Beena becomes twelfth from the left. How many girls are there in the row?
(1) 25 (2) 24 (3) 29 (4) 28

11. Select a figure from amongst the options which will continue the series established by the given problem figures (?)

Problem Figures

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

SPACE FOR ROUGH WORK
12. There is a certain relationship between the pair of figures on the either side of ::. Identify the relationship and finding the missing figure.

![Figure](image)

(1) ![Figure](image) (2) ![Figure](image) (3) ![Figure](image) (4) ![Figure](image)

13. In this question, there are four figures as given in options (1), (2), (3) and (4). Out of these four figures, three are similar in a certain way. However, one figure is not like the other three. Choose the figure which is different from the rest.

![Figure](image)

(1) ![Figure](image) (2) ![Figure](image) (3) ![Figure](image) (4) ![Figure](image)

14. In the following questions, choose the correct mirror image of the given Fig. (X) from amongst the four alternatives (1), (2), (3) and (4), if mirror is placed right of each figure.

![Figure](image) Fig.(X)

(1) ![Figure](image) (2) ![Figure](image) (3) ![Figure](image) (4) ![Figure](image)
15. In the following questions, choose the correct water image of the given Fig. (X) from amongst the four alternatives (1), (2), (3) and (4).

![Fig.(X)](image)

(1) ![Alternative 1](image)
(2) ![Alternative 2](image)
(3) ![Alternative 3](image)
(4) ![Alternative 4](image)

16. How many rectangles are there in the given figure?

![Rectangle Figure](image)

(1) 13  
(2) 14  
(3) 15  
(4) None of these

17. In the following questions, Fig. (X) is embedded in any one of the options and find the option which contain Fig. (X) as its part.

![Fig.X](image)

(1) ![Option 1](image)  
(2) ![Option 2](image)  
(3) ![Option 3](image)  
(4) ![Option 4](image)

**Direction (Q.18 to Q.20) :** These questions are based on the given alphabet series.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

18. ST is to RU as WX is to_________.

(1) YV  
(2) VY  
(3) PH  
(4) HP

19. QN is to TK as TQ is to_________.

(1) QN  
(2) NQ  
(3) WN  
(4) NW

20. DK is to IH as KR is to_________.

(1) PO  
(2) OP  
(3) MP  
(4) PM

---

SPACE FOR ROUGH WORK
21. When a steel rod is heated, it becomes
   (1) lighter  (2) heavier  (3) a little longer  (4) a little shorter

22. The factor(s) which contribute(s) to the development of cyclones is/are
   (i) Wind speed  (ii) Temperature  (iii) Humidity
   (1) (i) only  (2) (ii) and (iii) only  (3) (i) and (iii) only  (4) All of these

23. Action-reaction forces
   (1) act on same body  (2) act on different bodies
   (3) act along different lines  (4) act in same direction

24. Rana’s teacher asked him to connect 3 cells in different ways to form a battery. Identify the correct way he must apply to form a battery.

25. In a __________ wave, matter in the medium moves forward and backward in the same direction as the wave.
   (1) transverse  (2) longitudinal  (3) refracted  (4) reflected

26. The motion exhibited by the ball rolling down on inclined plane is
   (1) Rotational and circular  (2) Rotational and periodic
   (3) Rectilinear and rotational  (4) Uniform motion
27. In S.I. system,
   (1) All derived units are obtained by multiplying or dividing the fundamental units.
   (2) All derived units are obtained by adding the fundamental units.
   (3) All derived units are obtained by subtracting the fundamental units.
   (4) Derived units can not be obtained from fundamental units.

28. If you want to demonstrate that like charges repel, it would be best to
   (1) place two positively charged objects near each other.
   (2) place two neutral objects near each other.
   (3) place one positive and one negative object near each other.
   (4) place one negative and one neutral object near each other.

29. If the angle of incidence of a light ray is 60°, then the angle between the mirror and the reflected ray
   will be
   (1) 30° (2) 60° (3) 90° (4) 120°

30. A body of mass 1 kg is lifted through a height of 1 m, then its work done is
   (1) 8.9 J (2) 9.8 J (3) 98 J (4) 89 J

31. The pressure exerted by a woman wearing shoes with pointed heels is ______ than that by a man
   exerting same force with one foot on ground.
   (1) Much lesser (2) Much greater (3) Both equal (4) None of these

32. Which one of the following can be attracted by a magnet?
   (1) Nickel rod (2) Copper wire
   (3) Aluminium can (4) Silver ring
SECTION-B : CHEMISTRY

This section contains 12 multiple choice questions. Each question has four choices (1), (2), (3) and (4) out of which ONLY ONE is correct.

33. ‘Milk of magnesia’ is used to make
   (1) Health drinks
   (2) Antacids
   (3) Acids
   (4) Alkalis & bases

34. Which of the following is thermosetting plastic ?
   (1) Polyethylene
   (2) Nylon
   (3) Terelyne
   (4) Bakelite

35. Based on the above figure, which of these is the most accurate description of air ?
   (1) Two-third part is nitrogen, one-third oxygen and one-tenth other gases
   (2) Three-quarter part is oxygen and one-third nitrogen and other gases
   (3) One-half part is nitrogen and one-half part oxygen and other gases
   (4) One-fifth part is oxygen and four-fifth part contains nitrogen and other gases

36. Study the venn diagram.

Centre point represents
   (1) Melting of ice
   (2) Boiling of water
   (3) Rusting
   (4) Condensation
37. Kanav took two test tubes marked as I and II. In test tube I, he put calcium carbonate and hydrochloric acid while in test tube II, he put zinc granules and hydrochloric acid. He passed the gas coming out from both the test tubes in lime water. What are his observations?

(1) The gas coming out from test tube I turns lime water milky.
(2) The gas coming out from test tube II turns lime water milky.
(3) The gases coming out from both the test tubes turn lime water milky.
(4) None of these

38. Riya described a fabric as following:
- It absorbs water quickly.
- It is soft to touch.
- It creases easily.
- It can be washed and ironed easily.
- It is obtained from plant sources.
Which of the following fibre can form such fabric?
(1) Cotton  (2) Silk  (3) Wool  (4) Nylon

39. Metals react with water to form
(1) oxides and hydroxides  (2) oxides and chlorides
(3) hydroxides and carbonates  (4) oxides and sulphides

40. Rahul had a mixture, he separated the constituents of the mixture in the following way:

The mixture could be
(1) water + sand + iron fillings  (2) stone + rice + water
(3) oxygen + hydrogen + salt  (4) sand + sugar + water
41. Which portion of a ship will rust the fastest?

(1) A
(2) B and C
(3) C
(4) A, B and C will get rust equally

42. Twisting of silk is called

(1) throwing
(2) shedding
(3) shearing
(4) none of these

43. If the formulae of respective chlorides of X and Y are $XCl_3$ and $YCl_4$ respectively, then the valencies of X and Y are

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

44. The four diagrams below represents the results of mixing atoms of different substances. Each atom is represented by a different symbol. Which diagram correctly shows a chemical change?

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

SPACE FOR ROUGH WORK
SECTION-C : BIOLOGY

This section contains **12 multiple choice questions**. Each question has four choices (1), (2), (3) and (4) out of which **ONLY ONE** is correct.

45. Many plants like eucalyptus, pine and rubber tree produce substances such as rubber and resin. These products are ________ for these plants.
   (1) Stored food (2) Toxic wastes (3) Water reserve (4) Nutrients

46. Each stoma is guard by
   (1) Guard cell (2) Palisade cell (3) Mesophyll cell (4) Parenchyma cell

47. In the given figure, identify X and select the correct answer from the following.
   (1) Helps in digestion of cellulose
   (2) Helps in digestion of fat
   (3) Helps in digestion of protein
   (4) All of these

48. Identify a, b and c in the given figure.
   (1) Pollen grains, ovum, zygote
   (2) Male gamete, female gamete, fertilized egg
   (3) Microspore, megaspore, develops into an embryo
   (4) All of these

49. Identify W, X, Y and Z in the given figure.
   (1) W = Incisor, X = Canine, Y = Molar, Z = Premolar
   (2) X = Canine, W = Incisor, Z = Molar, Y = Premolar
   (3) X = Premolar, Z = Canine, Y = Premolar, W = Incisor
   (4) W = Incisor, X = Premolar, Y = Canine, Z = Molar

50. Loamy soil is a mixture of A, B and C. It takes 40 minutes for 800 ml of water to percolate. Calculate the rate of percolation and also identify A, B and C.
   (1) 10 ml/min, sand, clay and silt (2) 10 ml/min, sand, humus and rock
   (3) 20 ml/min, sand, humus and rock (4) 20 ml/min, sand, clay and silt
51. A process to filter the blood is carried out by the blood capillaries in
   (1) The urinary bladder (2) The organ containing atria
   (3) The kidneys (4) The trachea

52. Alveoli are structures present in
   (1) Lungs (2) Bronchi (3) Gills (4) All of these

53. A food chain includes
   (1) producers and herbivores (2) producers and carnivores
   (3) producers and decomposers (4) producers, herbivores and carnivores

54. The diagram shows a destarched, variegated leaf partly covered
   by black paper. The plant is placed in bright light for several hours.
   Four discs are then cut from the leaf in the positions shown and are
   tested for starch. Which disc(s) contain starch?
   (1) Only 1 (2) 1 and 2
   (3) Only 2 (4) 3 and 4

55. The given figure represents the human excretory system. In which labelled part the urine is stored?
   (1) W (2) X (3) Y (4) Z

56. The given figures show few modifications for vegetative reproduction. They all are ______
   (1) Modified roots
   (2) Modified underground stems
   (3) Modified underground leaves
   (4) All of these
SECTION-D: MATHEMATICS

This section contains 19 multiple choice questions. Each question has four choices (1), (2), (3) and (4) out of which ONLY ONE is correct.

57. The ratio of speeds of two vehicles is 2 : 3. If the first vehicle covers 50 km in 3 hours, then the distance covered by second vehicle in 2 hours is
   (1) 30 km  (2) 40 km  (3) 50 km  (4) None of these.

58. Keshav walked 3 km towards North then 8 km towards South. His position at the end of the walk from starting point is
   (1) 5 km towards east  (2) 3 km towards south (3) 8 km towards north (4) 5 km towards south

59. A boy saves Rs 4.65 daily then the least number of days in which he will be able to save an exact number of rupees is
   (1) 15  (2) 20  (3) 12  (4) 10

60. The adjoining pictograph represents the number of fish each child has in the family’s fish tank. If there is a total of 30 fish in the tank, then how many fish does each fish symbol represent?

   ![Number of fish in the tank]

   (1) 3  (2) 4  (3) 5  (4) 6

61. Raju has a metal bar that is 140 cm long. He needs smaller pieces that are 2.5 cm long. What is the greatest number of smaller pieces he can cut from the bar?
   (1) 30  (2) 47  (3) 56  (4) 350

62. Mrs. Sudha is filling snack bags. She always puts 3 cookies into each snack bag. She wants to find the number of snack bags she can fill using 36 cookies. The box below shows one way to solve the problem.

   ![Count how many times 3 can be subtracted from 36 until 0 is obtained.]

   What is another way to solve the problem?
   (1) Divide 36 by 3  (2) Multiply 36 by 3
   (3) Divide the total number of students by 3  (4) Multiply the total number of students by 3

SPACE FOR ROUGH WORK
63. Sneha bisects an angle to form two new angles. If the original angle had a measure of $8^\circ$, what is the measure of each new angle?

\[ \begin{align*} \angle 8^\circ \end{align*} \]

(1) $8^\circ$  (2) $20^\circ$  (3) $4^\circ$  (4) $16^\circ$

64. $QS$ and $TV$ are parallel lines. Which angles are supplementary angles?

\[ \begin{align*} \angle W, \angle VUW, \angle QR, \angle QRP, \angle U, \angle V, \angle T, \angle RU \end{align*} \]

(1) $\angle VUW$ and $\angle QRP$  (2) $\angle VUW$ and $\angle SRU$
(3) $\angle VUW$ and $\angle VUR$  (4) $\angle VUW$ and $\angle TUR$

65. Which relationship between units of time is correct?

(1) One hour is $\frac{1}{365}$ of one year
(2) One hour is $\frac{1}{365}$ of one hour
(3) One second is $\frac{1}{60}$ of one minute
(4) One minute is $\frac{1}{60}$ of one second

66. There were 180 members in the club last year. The membership decreased by 15% this year. How many members are there this year?

(1) 27  (2) 135  (3) 153  (4) 207

67. The sum of the prime factors of 63 is _____.

(1) 4  (2) 8  (3) 10  (4) 14

68. The number of edges in the given figure is _____.

(1) 8  (2) 9  (3) 10  (4) 11

SPACE FOR ROUGH WORK
69. Which of the following numbers is divisible by 9?
   (1) 9076185  (2) 92106345  (3) 10349576  (4) 95103476

70. Find the value of \(-12 - (-48) - [(-13) + (-8) - (-3) + 4].
   (1) -48  (2) 50  (3) -12  (4) 62

71. Count the number of line segments.
   ![Diagram of line segments AB, BC, CD, DE]
   (1) 8  (2) 12  (3) 10  (4) 13

72. The names of three students and their scores on their last science test are shown in the table below.

<table>
<thead>
<tr>
<th>Student</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gretchen</td>
<td>(\frac{21}{25})</td>
</tr>
<tr>
<td>Hector</td>
<td>(\frac{23}{25})</td>
</tr>
<tr>
<td>Isabella</td>
<td>(\frac{22}{25})</td>
</tr>
</tbody>
</table>

Which student earned a score of 92%?
   (1) Gretchen  (2) Hector  (3) Isabella  (4) None of these

73. Mr. Franklin asked each of his 30 students to select their favorite radio station.
   • \(\frac{1}{3}\) of the students chose Station K.
   • The remaining students chose Station M.

   How many students chose Station M as their favorite radio station?
   (1) 10  (2) 20  (3) 27  (4) None of these

74. A generator can run for 10 hours on 4 gallons of gasoline. If the gasoline costs Rs. 3 per gallon, which of these is closest to the cost per hour to run the generator?
   (1) Rs. 12.00  (2) Rs. 1.20  (3) Rs. 0.83  (4) None of these

75. A 24,000-gallon pool is being filled at a rate of 40 gallons per minute. At this rate, how many minutes will it take to fill this pool \(\frac{1}{2}\) full?
   (1) 300 minutes  (2) 560 minutes  (3) 600 minutes  (4) None of these

SPACE FOR ROUGH WORK