

ALLEN

ALLEN DIGITAL

SCHOLARSHIP

ADMISSION TEST (ADSAT)



SYLLABUS & PATTERN CLASS-VII (MOVING TO CLASS VIII)

PHYSICS

1. Heat and Temperature
2. Motion and Time
3. Electric Current and Its Effects
4. Light

CHEMISTRY

1. Acids, Bases and Salts
2. Physical and Chemical Changes
3. Waste Water Story

MATHEMATICS

1. Algebraic Expressions
2. The Triangles and its properties
3. Data Handling
4. Symmetry
5. Rational Numbers
6. Fractions and Decimals
7. Mensuration
8. Lines and Angles
9. Exponent and Powers
10. Simple Equations

BIOLOGY

1. Nutrition in Plants
2. Nutrition in Animals
3. Respiration in Organisms
4. Transportation in Plants and Animals
5. Reproduction in Plants
6. Forests : Our Lifeline

IQ

1. Alphabet Test
2. Classification
3. Coding-Decoding
4. Direction Sense
5. Embedded Figure
6. Mathematical Operation
7. Mirror Image
8. Number Ranking
9. Series
10. Venn-Diagram
11. Water Image
12. Non-Verbal Series
13. Non-Verbal Classification

EXAM PATTERN

PAPER MODE: ONLINE

Part-1 Subject: IQ
Part-2 Subjects: Physics; Chemistry; Biology;
Mathematics

MARKING SCHEME

+4 for correct answer, -1 for wrong answer
No negative marking in Part-1

QUESTION DISTRIBUTION

IQ: 20, Physics: 20, Chemistry: 20, Biology: 20,
Mathematics: 40

QUESTION TYPE: Single Choice Questions

DURATION OF EXAM: 120 Minutes

CORPORATE OFFICE:

ALLEN DIGITAL, One Biz Square, A-12(a), Road No. 1, Indraprastha Industrial Area, Kota, Rajasthan-324005



SAMPLE QUESTIONS

ADSAT

(Allen Digital Scholarship Admission Test)

Pre-Nurture and Career Foundation Division

CLASS VII

(For Class VII moving to Class VIII)


READ THE INSTRUCTIONS CAREFULLY





Paper Instructions:

1. This paper is divided into two sections: **Section-A & Section-B**.
2. The questions appearing in **Section-A** are based on **Mental Ability**.
The questions appearing in **Section-B** are based on **Physics, Chemistry, Biology and Mathematics**.
3. In **Section-A**, there are **4 marks** for each correct answer and **no negative marking**. There are **4 marks** for each correct answer and **-1 negative marking** for each wrong answer in **Section-B**.
4. Use of Calculator is Not Allowed.

Your Hard Work Leads to Strong Foundation

ALLEN Digital

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IMPORTANT INSTRUCTIONS

A. Mandatory for the student to ensure the following for taking the test:

1. Keep your camera switched on at all times while you take the test. Failing to keep the camera on will lead to disqualification.
2. Face the camera while taking the exam and ensure your front profile, up till your shoulder at least is visible. The background should be plain with no photo frames or designs.
3. Ensure your microphone is on and there is no disturbance in the surrounding and you're sitting in a quiet room.
4. Other than one blank sheet of paper and a pen, there should not be any book or stationery in the area where exam is being attempted.

B. Ensure the following for a smooth exam taking experience

1. You have good internet speed- 521 kbps at least for a smooth network. In case of internet issues, the timer will not be paused. ADSAT is not responsible for any such issues.
2. Keep your device connected and ensure there is enough charge.
3. In case of a power outage, ensure the internet and device can still operate and not disconnect from the exam taking experience.

C. You can be disqualified if

1. Your microphone or camera is switched off.
2. The candidate appearing for the exam is not the same as the one registered.
3. Other than the candidate there are other people in the vicinity.
4. There is excessive background noise.
5. Student tries to connect a pen-drive or similar devices while taking the exam.
6. Student tries to browse other site or uses other devices.

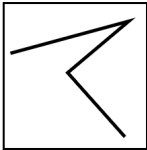
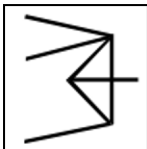
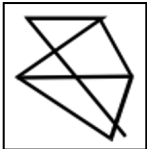
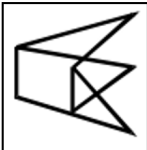

D. General Instructions

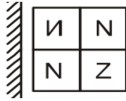
1. Join the test link 30 mins prior to the exam time to avoid any technical issues and to read the instructions. Test link will be shared via Email and SMS.
2. Remember to submit the test at the end of the exam.
3. The test will be conducted in proctored mode. Ensure that all the above rules are strictly followed.

SECTION-A

MENTAL ABILITY

This section contains 15 multiple choice questions. Each question has 4 choices (1), (2), (3) and (4) out of which ONLY ONE is correct. There are 4 marks each for correct answer and there is NO negative marking.

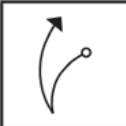
- How many meaningful English words can be formed with the letters ESRO using each letter only once in each word?
 (1) None (2) One
 (3) Two (4) Three
- If RUST is coded as 9-6-8-7 and BOARD is coded as 25-12-26-9-23, then how will you code 'BEAT' ?
 (1) 25-23-24-7 (2) 25-21-26-7
 (3) 25-22-25-7 (4) 25-22-26-7
- If South-East becomes North, North-East becomes West and so on. What will West become?
 (1) North-East (2) North-West
 (3) South-East (4) South-West
- Find out the answer figure in which the question figure is embedded.

 (1)  (2) 
 (3)  (4) 
- If P means 'division'; T means 'addition'; M means 'subtraction' and D means 'multiplication', then what will be the value of the expression $12 M 12 D 28 P 7 T 15 = ?$
 (1) -30 (2) -15 (3) -19 (4) -21

- Find the correct option for the mirror image of the following given problem figure.


- | | |
|---|---|
| N | N |
| Z | N |

| | |
|---|---|
| N | N |
| Z | N |
- | | |
|---|---|
| N | N |
| N | Z |

| | |
|---|---|
| N | N |
| Z | N |

- Find the correct option for the water image of the following given problem figure.


- | |
|---|
| ↻ |
|---|

| |
|---|
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- Study the following arrangement to answer the given question.

8 2 4 9 5 6 2 4 3 2 6 2 4 8 9 6 2 3 6 2 4 4 2 6 2 8
 If all the 6 are dropped from the above arrangement then which element will be 15th from the left end?
 (1) 3 (2) 2 (3) 8 (4) 4

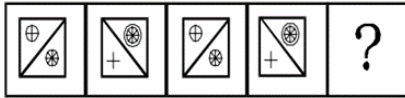
- Dilip's position from the left end in a row of students is 10th and Jagdish's position is 20th from the right end. Both of them interchange their positions and Jagdish becomes 23rd from the right end. How many students are there in the row?

(1) 33 (2) 44 (3) 42 (4) 32

- Find the next term.
 0, 3, 8, 15, 24, 35, 48, 63, ?

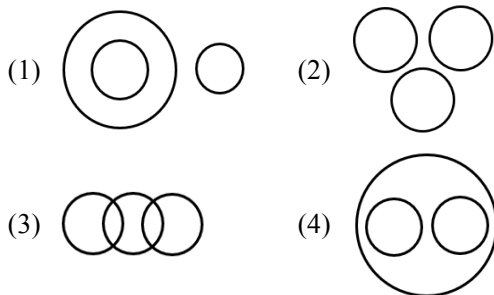
(1) 83 (2) 98 (3) 79 (4) 80

- 11 Find the next term.
J12M, L15K, N18I, P21G, ?
- (1) Q23D (2) R23D
(3) R24E (4) Q24E
- 12 Select a figure from amongst the answer figures which will continue the same series as established by the problem figures.

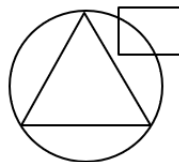


- (1) (2) (3) (4)

- 13 Which of the following venn diagrams indicates the best relation between Rabi-Crop, Paddy and Wheat ?



- 14 In an organization of pollution control board, 'engineers' are represented by a circle, 'legal experts' by a square and 'environmentalist' by a triangle. Who is most represented in the board as shown in the following figure?



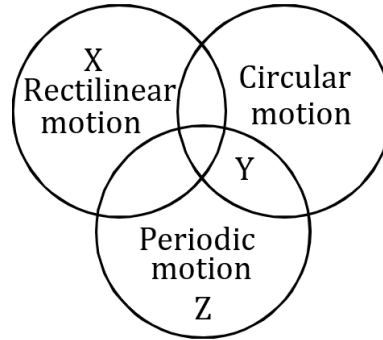
- (1) Environmentalists
(2) Legal Experts
(3) Engineers with legal background
(4) Environmentalists with Engineering background
- 15 Find the odd one out.
(1) 145 (2) 197 (3) 257 (4) 399

SECTION-B

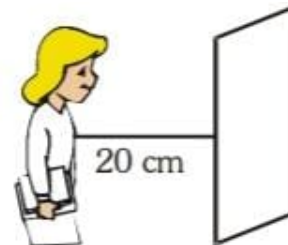
PHYSICS

This section contains 8 multiple choice questions. Each question has 4 choices (1), (2), (3) and (4) out of which ONLY ONE is correct. There are 4 marks each for correct answer and -1 for each incorrect answer.

- 16 Which of the motion described below are most likely to be in X, Y and Z.



- (1) X → Motion of piston of a syringe; Y → Planetary motion; Z → Motion of a pendulum
(2) X → Helicopter blades; Y → Motion of a swimmer; Z → A potter's wheel
(3) X → A weight hung from a spring; Y → Players in a field; Z → Movement of a cockroach
(4) X → Movement of a door catch; Y → Movement of train on straight tracks; Z → Movement of a compact disc tray in a computer
- 17 A girl is 20 cm away from the plane mirror. If she moves few steps closer to the mirror,

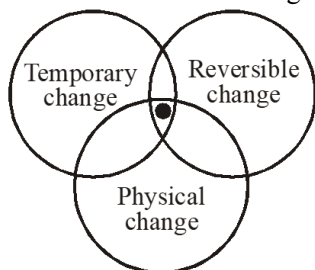


- (1) The size of image will decrease
(2) The size of image will increase
(3) The size of image will be same
(4) Cannot say

CHEMISTRY

This section contains 8 multiple choice questions. Each question has 4 choices (1), (2), (3) and (4) out of which ONLY ONE is correct. There are 4 marks each for correct answer and -1 for each incorrect answer.

- 24 Which of the following statements is/are correct?
 I. In neutralisation reaction, heat is always given out.
 II. Phenolphthalein remains colourless in a window cleaner solution.
 III. Tooth decay is caused by the presence of calcium salts.
 IV. To dilute an acid, we should always add water to the acid.
- (1) I and III only (2) III only
 (3) I only (4) I, II, III and IV
- 25 When a white cloth having turmeric stain on it and when it is washed with soap, the stain turns red in colour because
- (1) Soap solution is acidic in nature
 (2) Soap solution is neutral
 (3) Soap solution is basic in nature
 (4) Soap solution is red in colour
- 26 Which of the following combination is INCORRECT?
- (1) Boiling, Evaporation, Raining (Physical change)
 (2) Fading of colour in sunlight, Burning of paper, Rusting (Chemical change)
 (3) Formation of curd, growth of plant, blowing a balloon (Chemical change)
 (4) Breaking of glass, melting of wax, Ice formation (Physical change)
- 27 Study the venn diagram. Centre point (•) represents. Which of the following change?



- (1) Child to an adult
 (2) Wet clothes to dry clothes
 (3) Raw egg to boiled egg
 (4) Cow dung to biogas

- 28 When we add salt to water, it becomes salty. Which of the following statements is true regarding this change?
- (1) It is a chemical change because there is exchange of heat.
 (2) It is a physical change because the original substance can be recovered.
 (3) It is a chemical change because a new substance is formed.
 (4) It is a chemical change because there is only change in colour.
- 29 Discharge of liquid waste from an industry is called
- (1) fluent
 (2) prudent
 (3) effluent
 (4) none of these
- 30 Which of the following is used in the manufacture of soap?
- (1) Sodium hydroxide
 (2) Magnesium hydroxide
 (3) Sodium carbonate
 (4) Sodium chloride
- 31 Jimin made a colourful volcano by mixing baking soda, some colour and added vinegar to it. He saw bubbles with evolution of gas when he mixed them together. what type of change is this?
- (1) Physical change
 (2) Corrosion
 (3) Chemical change
 (4) Neither physical nor chemical

BIOLOGY

This section contains 8 multiple choice questions. Each question has 4 choices (1), (2), (3) and (4) out of which ONLY ONE is correct. There are 4 marks each for correct answer and -1 for each incorrect answer.

32 The diagram shows a section through the human heart.



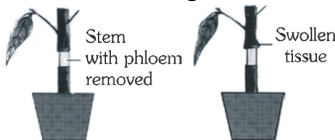
Which blood vessels carry blood to and from the lungs ?

| | Blood to lungs | Blood from lungs |
|-----|----------------|------------------|
| (1) | 1 | 3 |
| (2) | 1 | 4 |
| (3) | 2 | 3 |
| (4) | 2 | 4 |

33 Which of the following is preferably oxidised during respiration?

- (1) Vitamins (2) Fats
- (3) Glucose (4) Proteins

34 Rohan was conducting an experiment regarding food and water movement in the plants. He removed the phloem tissue as shown in the figure. He observed the stem after few days. The stem showed swelling in the upper portion. What can be the reason behind swelling ?



- (1) Upward movement of food getting blocked.
- (2) Downward movement of food getting blocked.
- (3) Upward movement of water getting blocked.
- (4) Downward movement of water getting blocked.

35 Where does the exchange of gases take place in human respiratory system ?

- (1) Lungs
- (2) Alveoli
- (3) Bronchi
- (4) Trachea

36 Enzymes in the stomach act in which type of medium?

- (1) alkaline
- (2) neutral
- (3) cold
- (4) acidic

37 Which of the following processes occur in the stomach?

- (I) Physical digestion
- (II) Breakdown of fats
- (III) Breakdown of proteins
- (IV) Killing of micro-organisms

- (1) (I), (II) & (III) only
- (2) (I), (II) & (IV) only
- (3) (I), (III) & (IV) only
- (4) (I), (II), (III) & (IV)

38 The green pigment chlorophyll in the leaves is present in

- (1) Chloroplast
- (2) Haemoglobin
- (3) Protoplast
- (4) Haemocyanin

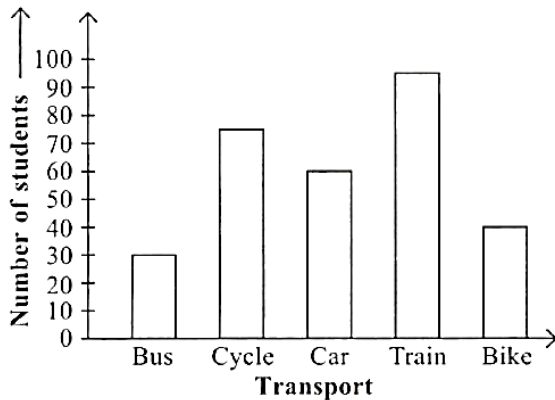
39 Saliva contains an enzyme called

- (1) Amylase
- (2) Trypsin
- (3) Pepsin
- (4) None of these

MATHEMATICS

This section contains 11 multiple choice questions. Each question has 4 choices (1), (2), (3) and (4) out of which ONLY ONE is correct. There are 4 marks each for correct answer and -1 for each incorrect answer.

- 40 The given bar graph shows the different modes of transport used by students to travel to school each day. Study the given bar graph carefully and answer the following questions.



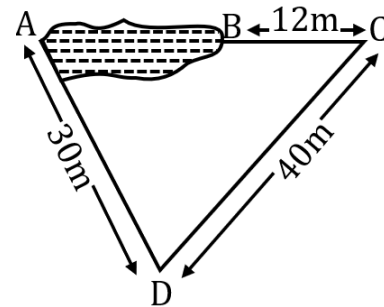
How many less students used bus to travel than cycle ?

- (1) 30 (2) 45 (3) 50 (4) 35
- 41 If $L = (3x + 10)$ m, $B = (2x + 5)$ m and Area of 4 walls = $(60x + 180)$ m², then the height of the room is
- (1) 8 m (2) 5 m
(3) 6 m (4) 9 m
- 42 The product of additive inverse and multiplicative inverse of -7, is
- (1) +1 (2) -1
(3) 0 (4) 7
- 43 Two lines in a plane are cut by a transversal. Which condition does not imply that the two lines are parallel ?
- (1) A pair of alternate interior angle are congruent.
(2) A pair of co-interior angles are supplementary.
(3) A pair of corresponding angles are congruent.
(4) A pair of alternate exterior angles are complementary.

- 44 Mr. Sharma bought some bags of sugar each weighing 2.78 kg. If the total weights of all bags is 425.34 kg, how many bags did he buy?

- (1) 153
(2) 143
(3) 152
(4) None of these

- 45 Points A and B are on the opposite edges of a pond as shown in below figure. To find the distance between the two points, Ram makes a right-angled triangle using rope connecting B with another point C at distance of 12 m, connecting C to D at a distance of 40m from point C and then connecting D to the point A which is at a distance of 30m from D such that $\angle ADC = 90^\circ$. Find AB.



- (1) 70 m (2) 50 m
(3) 45 m (4) 38 m
- 46 Sum of two numbers is 45. One is twice the other.
- (a) If smaller number is ℓ , find the other number.
(b) Find the equation formed.
(c) Find the numbers.
- (1) (a) 2ℓ
(b) $\ell + 2\ell = 45$
(c) 10, 35
- (2) (a) 2ℓ
(b) $\ell + 2\ell = 45$
(c) 15, 30
- (3) (a) $\ell + 2$
(b) $45 + \ell + 2 = \ell$
(c) 15, 30
- (4) (a) $\ell/2$
(b) $45 + \ell/2 - \ell = 0$
(c) 25, 20

**ALLEN DIGITAL
OBJECTIVE****ANSWER KEY**

| | | | | | | | | | | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Q. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| A. | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 1 | 4 | 4 | 3 | 2 | 1 | 4 | 4 | 1 | 3 | 4 | 2 | 3 |
| Q. | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| A. | 3 | 4 | 2 | 3 | 3 | 3 | 2 | 2 | 3 | 1 | 3 | 4 | 3 | 2 | 2 | 4 | 3 | 1 | 1 | 2 |
| Q. | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | | | | | | | | | | |
| A. | 3 | 2 | 4 | 1 | 4 | 2 | 1 | 3 | 2 | 2 | | | | | | | | | | |

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