



AGU STANDARD ADMISSION TEST

SYLLABUS & SAMPLE TEST PAPER (WITH ANSWERS)

MS PROGRAMS

This sample test provides an opportunity to familiarize yourself with the format and types of multiple-choice questions (MCQs) you will encounter on the actual paper-based admission test, which has a duration of 2 hours, for the MS program applicants. The test covers four key areas:

- English
- Reading Comprehension
- Analytical Reasoning
- Quantitative Reasoning

Here's a breakdown of the test format:

- **English (30 points):** This section assesses your ability to use grammar, mechanics, and vocabulary effectively in written communication.
- **Reading Comprehension (10 points):** This section evaluates your skill in understanding and interpreting written information.
- **Analytical Reasoning (30 points):** This section assesses your critical thinking skills and ability to identify patterns and relationships.
- **Quantitative Reasoning (30 points):** This section measures your ability to analyze numerical data and solve problems using mathematical concepts such as percentages, matrices, basic statistics, arithmetic operations, polynomials, ratio and proportion, sets and functions, geometry, and algebra.

We encourage you to review the sample questions and practice tests available to ensure you feel prepared for the actual admission test.

ENGLISH

Note: The sample questions provided below demonstrate the format of the English section.

Complete the sentences by choosing the best option from the given lettered choices (A to D) provided below each.

1. Saima _____ she was waiting at the bus stop.

- A. has said
- B. said
- C. say
- D. says

2. The explorers wanted to go inside the cave _____ danger.

- A. although
- B. despite
- C. even though
- D. since

Each of the following questions consists of a sentence with all or part of it underlined. Following the requirements of standard written English, select (A) if the original is best; otherwise, choose the best phrase from the options.

3. We usually have lunch about two.

- A. We usually have lunch about two
- B. We usually have lunch around two
- C. We usually have lunch on two
- D. We usually have lunch two o' clock

Four lettered pairs (A to D) follow a related pair of words given in the question. Select the lettered pair that best expresses a relationship similar to that expressed in the original pair in capital letters.

4. BUILDING: BRICKS:

- A. children: home
- B. computer: monitor
- C. language: words
- D. satellite: star

5. HEN: COOP:

- A. cock: crow
- B. dog: kennel
- C. elephant: cow
- D. lion: charge

Choose the lettered word or phrase that is MOST NEARLY OPPOSITE in meaning to the word in capital letters.

6. An ARDUOUS job is not _____.

- A. beneficial
- B. dangerous
- C. easy
- D. lucrative

7. The plan remained COVERT and was not _____.

- A. changed
- B. disclosed
- C. implemented
- D. rejected

Choose the lettered word or phrase that is MOST NEARLY SIMILAR in meaning to the word in capital letters.

8. The presenter showed LEVITY and remained _____ all the time.

- A. angry
- B. confident
- C. nervous
- D. non-serious

9. If you PORE over something you _____ it _____.

- A. accept, happily
- B. create, unknowingly
- C. lend, grudgingly
- D. read, thoroughly

READING COMPREHENSION

Note: The sample question provided below demonstrates the format of the Reading Comprehension section.

Question 10 is based on the following paragraph.

John Rolfe became the father of tobacco industry and an economic savior of the Virginia colony. By 1610 he perfected methods of raising and curing the pungent weed. Tobacco-rush days began as crops were planted in the streets of Jamestown and even between the numerous graves. Colonists who once had hungered for food now hungered for ever more land on which to plant ever more tobacco. Relentlessly, they pressed the frontier of settlement up the river valleys to the west, further crowding the Indians.

Virginia's prosperity was built on tobacco. This "bewitching weed" played a vital role in putting the colony on firm foundations, and in setting an example for other successful colonizing experiments. But tobacco – King Nicotine – was something of a tyrant. It was ruinous to the soil when greedily planted in successive years, and it also enchained the prosperity of Virginia to the fluctuating price of a single crop. Tobacco also promoted the broad-acre plantation system, and with a brisk demand for slave labor.

In 1619, the year before the Plymouth Pilgrims landed in New England, what was described as a Dutch warship appeared off Jamestown and sold some twenty black Africans to the colonists. The scanty record does not reveal whether they were purchased as lifelong slaves or as servants committed to limited years of servitude. Yet blacks were too costly for most of the hard-pinched farmers to acquire, and for decades they were imported only in dribbles. Virginia counted but 300 blacks in 1650, although by the end of the century blacks – most of them enslaved – made up approximately 14 percent of the colony's population.

Representative self-government was also born in primitive Virginia, in the same cradle with slavery in the same year – 1619. The London Company authorized the settlers to summon an assembly, known as the House of Burgesses. A momentous precedent was thus feebly established, for this assemblage was the first of the many miniature parliaments to mushroom in the soil of America.

As time passed, the English king James I grew increasingly hostile to Virginia. He detested tobacco and he distrusted the representative House of Burgesses, which he branded as "seminary of sedition". In 1624 he revoked the charter of the bankrupt Virginia Company, thus making Virginia a royal colony under his control.

10. Tobacco was a _____ plant before the British colonists began to grow it for selling.

- A. aquatic
- B. poisonous
- C. unknown
- D. wild

ANALYTICAL REASONING

Note: The sample question provided below demonstrates the format of the Analytical Reasoning section.

Only in a social milieu in which many parties are scheduled for the same time do party hosts buy visually striking invitations in order to attract the invited guests to the parties. A business that produces visually striking party invitations is currently located in Los Angeles. Thus, it can be concluded that the schedule of parties in Los Angeles must be very crowded.

11. The argument above is properly drawn if the truth of which of the following is assumed?
- A. At most parties, there are uninvited guests who add to the number of people in attendance
 - B. Many of the visually striking party invitations produced in Los Angeles are bought for parties in Los Angeles
 - C. Party guests can attend no more than one party per evening
 - D. There is also a business in Los Angeles that produces ordinary party invitations

An oil company conducted an investigation of the environmental effects of oil spills and concluded that waterfowl exposed to oil spills have a 95 percent survival rate. The investigation, based on the examination of waterfowl admitted to a veterinary clinic near the site of a recent oil spill, noted that only one in twenty affected waterfowl died.

12. Which of the following, if true, would cast the most serious doubt on the investigation's conclusion about the survival rate of the waterfowl?
- A. Each affected waterfowl that died was larger than average for its species
 - B. Many of the affected waterfowl that survived the spill had suffered serious injuries
 - C. Most of the affected waterfowl were exposed to oil floating on the surface of the water
 - D. Only those affected waterfowl that appeared to stand a good chance of survival were brought to the veterinary clinic

In a recent study on the connection between brain abnormalities and violent behavior, the researcher examined more than three hundred people who had engaged in unusually violent behavior toward friends and family members. In most of the people studied, the researcher found clues of brain abnormalities, including evidence of past brain injury and physical abnormality. The researcher concluded that evidence of brain abnormalities could be used to predict violent behavior.

13. Which of the following, if true, would most seriously weaken the researcher's conclusion?
- A. A wide variety of violent actions were exhibited by those studied
 - B. The brain abnormalities discovered in those studied are of two distinct kinds
 - C. The incidence of brain abnormalities in the general population is as high as that in the group examined
 - D. Those studied in the experiment acted violently toward strangers as well as toward people they knew.

The owner of a computer store is planning a window display of five products. Three are to be hardware items selected from K, L, M, N, and O, and two are to be software manuals selected from R, S, T, and U. The display items are to be selected according to the following conditions:

If K is displayed, U must be displayed. M cannot be displayed unless both L and R are also displayed. If N is displayed, O must be displayed, and if O is displayed, N must be displayed. If S is displayed, neither T nor U can be displayed.

14. If N and O are not displayed, all of the following must be displayed EXCEPT:
- A. K
 - B. M
 - C. R
 - D. T

15. If T and U are displayed, which of the following must also be displayed?

- A. K
- B. L
- C. M
- D. N

16. Which of the following is an acceptable display?

- A. K, L, M, R, U
- B. K, M, N, O, R
- C. L, M, O, R, S
- D. M, N, O, T, U

17. If K and T are the first two display items to be selected, how many acceptable groups of items are there that would complete the display?

- A. 1
- B. 2
- C. 3
- D. 4

Figures issued by the government of a certain country show that in 1980 the public sector and the private sector each employed the same number of people. Between 1980 and 1984, according to the government, total employment decreased in the public sector more than it increased in the private sector.

18. If, according to governmental figures, the unemployment rate in this country was the same in both 1980 and 1984, which of the following statements must be true about this country?

- A. Fewer people were in the labor force, as counted by the government, in 1984 than in 1980
- B. The competition for the available work increased between 1980 and 1984
- C. The government's figures for total employment increased between 1980 and 1984
- D. The number of people counted by the government as unemployed was the same in 1980 and 1984

Luis has just seen two ravens; therefore, the next bird Luis sees will be a raven.

19. Which of the following, if true, most strengthens the argument above?

- A. Luis has seen ravens in other places than the place where he is now
- B. Luis is in California, and ravens are occasionally seen in California
- C. Ravens generally build their nests at a considerable distance from the nests of other ravens
- D. Ravens tend to move in flocks

It is impossible to believe scientific predictions that a long "nuclear winter" would envelop the Earth as a result of nuclear war. Atmospheric scientists and weather experts cannot reliably and accurately predict tomorrow's weather. Yet the effect of nuclear explosions on local and worldwide atmospheric conditions must follow the same laws that control everyday weather changes. If the weather cannot be predicted with present knowledge, neither can a nuclear- winter scenario.

20. Which of the following, if true, would most seriously weaken the argument made above that if scientists cannot reliably predict the daily weather, their predictions of a "nuclear winter" cannot be believed?

- A. Scientists' predictions about a nuclear winter are necessarily speculative, since they cannot be verified by harmless experimentation
- B. The scientific theory of a nuclear winter is concerned with drastic climatic changes rather than day-to-day fluctuations in the weather
- C. The scientific theory of a nuclear winter uses data that is available to those who forecast the daily weather
- D. Weather forecasters usually do not insist that their predictions are infallible.

QUANTITATIVE REASONING

Note: The sample question provided below demonstrates the format of the Quantitative Reasoning section.

21. The worth of a car is Rs: 5,00,000. Rashid ordered that car and was given some discount. If he paid Rs: 4,65,500 as the final after-discount price, calculate the percentage discount he enjoyed in this deal.

- A. 9.31%
- B. 6.9%
- C. 7.4%
- D. 5.93%

22. Ahsan spent 84% of his income on purchasing household items during June 2024. If he is left with Rs: 5,250 after household expenditures, find his total income.

- A. 32,812.5
- B. 4,410
- C. 6,250
- D. 10,000

23. Determinant of a matrix $Z = \begin{bmatrix} 4 & -6 \\ 2 & 0 \end{bmatrix}$ is _____?

- A. 48
- B. -4
- C. 0
- D. 12

24. If matrix $A = \begin{bmatrix} 1 & 0 & 1 \\ 2 & 3 & -2 \end{bmatrix}$ & matrix $B = \begin{bmatrix} 2 & -2 \\ 0 & 1 \end{bmatrix}$ then $A \times B =$ _____?

- A. $\begin{bmatrix} 2 & 0 & 2 \\ 0 & 3 & 0 \end{bmatrix}$
- B. $\begin{bmatrix} 2 & 0 \\ 0 & 3 \end{bmatrix}$
- C. $\begin{bmatrix} 3 & -2 \\ 2 & 4 \end{bmatrix}$
- D. Cannot be solved

25. The price of one dozen eggs rose by Rs. 15 on Monday, by Rs. 4 on Tuesday and by Rs. 6 on Wednesday. What should be the rise in price on Thursday for the average rise (over these four consecutive days) to be Rs. 10?

- A. 10
 B. 8
 C. 15
 D. 6.4

26. The mean(average) and median of the data (-3, 0, 5, 6, 3, 8, 9) are:

- A. Mean (4.67) & Median (3)
 B. Mean (4) & Median (5)
 C. Mean (4) & Median (6)
 D. Mean (7) & Median (9)

27. The answer of the following expression is: $32 \div [2 + 6]^2 - 4^2$

- A. -15.2
 B. 48
 C. -15.5
 D. 32
 E. $\overline{48}$

28. $-2 \times [(3 - 5 \times 4) \div 3] - 2 \times 12 \div 6 =$

- A. 2.67
 B. -11.34
 C. -5.34
 D. 7.34

29. Majid's salary is 40,000 per month while his monthly expenditures are 32000 per month on average. Find the ratio of his average savings per month to his monthly salary.

- A. 4 : 5
 B. 5 : 4
 C. 1 : 5
 D. 4 : 1

30. A group of 900 students was formed for a project and they were given a food stock for 30 days. Later on, 300 students left this group before the start of the project. For how many days would the given food last for the remaining group of students?

- A. 40
- B. 45
- C. 25
- D. 50

31. If $A = \{2, 3, 0, -3, 4\}$ & $B = \{1, 2, 3, 4\}$ Then $A \cup B =$ _____?

- A. $\{2, 3, 0, -3, 4, 1, 2, 3, 4\}$
- B. $\{-3, 0, 1, 2, 2, 3, 3, 4\}$
- C. $\{1, 2, 3, 4\}$
- D. $\{-3, 0, 1, 2, 3, 4\}$

32. If "U" is a universal set and "A" is a sub-set of U, then $(A)'$ is equal to

- A. ϕ
- B. A
- C. $U - A$
- D. U

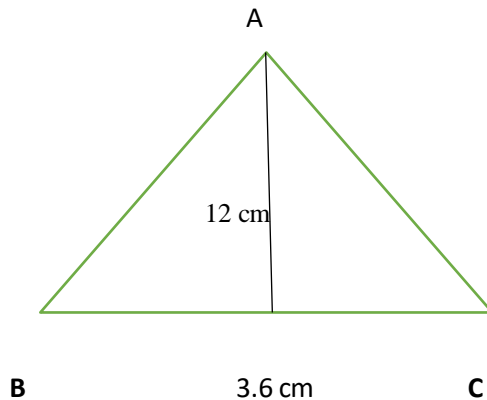
33. If $f(x) = x - 3$ then find the value of $f(3) - f(1)$

- A. $\frac{1}{3}$
- B. $\frac{1}{9}$
- C. -2
- D. 2

34. Find the value of x in the equation: $5x - 6x - 4x = 91 - 12x$

- A. 5
- B. 13
- C. 21
- D. None of the above

35. Figure ABC given below is a triangle. The height of the triangle is 12 cm while its base is 3.6 cm. What is the area of the triangle ABC?



- A. 43.2 cm^2
- B. 13 cm^2
- C. 21 cm
- D. 21.6 cm^2

36. The diameter of a circular playground is 14 m. What is its area?

- A. $14u\ m^2$
- B. $49u\ m^2$
- C. $196u\ m^2$
- D. Area cannot be computed with the given information

37. If $x+y=12$ & $xy=27$. Find the value of x^3+y^3

- A. 756
- B. 39
- C. 1245
- D. None of the above

38. Simplify the following expression to its lowest form:

$$\frac{(6a^4b^3) \times (3a^{-2}b)}{9ab^{-2}}$$

- A. $2ab^6$
- B. $2a^6b$
- C. $2a^7b$
- D. $2a^5b$

39. If $K = \frac{6hg}{3mn}$, then solving it for $\frac{n}{g}$ gives:

- A. $\frac{h}{mn} k$
- B. $\frac{6km}{3h}$
- C. $\frac{h}{km}$
- D. $\frac{h}{m} + k$

40. Subtracting $13ab - 15b + 16a$ from $3a(b + 2) - 3a + 2b$ gives:

- A. $-25a - 21b + 16ab$
- B. $17b - 13a - 10ab$
- C. $9b - 25a - 10ab$
- D. None of the above

41. X, Y, and Z are partners in a business with a profit-sharing ratio of 1:2:3, respectively. If the total profit for the year is Rs. 42,000, how much does partner Y receive?

- A. Rs. 7,000
- B. Rs. 21,000
- C. Rs. 14,000
- D. Rs. 42,00

42. Solve the following equation for "x": $5 - 3x = 2x + 4$

- A. $-\frac{1}{5}$
- B. $\frac{9}{5}$
- C. 5
- D. $\frac{1}{5}$

43. Find the perimeter of a right-angled triangle with legs measuring 3 cm and 4 cm, and the hypotenuse measuring $\sqrt{25}$ cm.

- A. 32 cm
- B. 12 cm
- C. 7 cm
- D. 7u cm

44. If $E = \begin{bmatrix} 2 & 5 & 0.7 \\ 0 & -1 & -1.3 \end{bmatrix}$ and $F = \begin{bmatrix} 1 & -0.2 & 9 \\ -1.2 & 2 & -1.3 \end{bmatrix}$, find the value of $E - F$.

- A. $\begin{bmatrix} -1 & 5.2 & -8.3 \\ -1.2 & 3 & 0 \end{bmatrix}$
- B. $\begin{bmatrix} 1 & 5.2 & -8.3 \\ 0 & -3 & 1.3 \end{bmatrix}$
- C. $\begin{bmatrix} 1 & -5.2 & 8.3 \\ 1.2 & -3 & -2.6 \end{bmatrix}$
- D. $\begin{bmatrix} 1 & 5.2 & -8.3 \\ 1.2 & -3 & 0 \end{bmatrix}$

45. Expanding $(-2m + 3n)^2$ gives:

- A. $4m^2 - 12mn + 9n^2$
- B. $4m^2 - 12mn - 9n^2$
- C. $4m^2 - 12mn + 9$
- D. $4m^2 - 6mn + 9n$

ANSWER KEY

ENGLISH

- 1. B
- 2. B
- 3. B
- 4. C
- 5. B
- 6. C
- 7. B
- 8. D
- 9. D
- 10. D

ANALYTICAL REASONING

- 11. B
- 12. D
- 13. C
- 14. D
- 15. D
- 16. A
- 17. A
- 18. A
- 19. B
- 20. B

QUANTITATIVE REASONING

- 21. B
- 22. A
- 23. D
- 24. D
- 25. C
- 26. B
- 27. C
- 28. D
- 29. C
- 30. B
- 31. D
- 32. B
- 33. D
- 34. B
- 35. D

- 36. B
 - 37. A
 - 38. A
 - 39. C
 - 40. B
 - 41. C
 - 42. D
 - 43. B
 - 44. D
 - 45. A
-