



AGU STANDARD ADMISSION TEST

Syllabus and Sample Test Paper with Answers

BS Programs

This course outline and sample admission test are designed to give you an understanding of what to expect during the actual Admission Test. The test will consist of the following sections:

1. English
2. Mathematics (Quantitative Ability)

The content and difficulty level of the test are based on Intermediate-level textbooks for English and Matriculation-level textbooks for Mathematics.

1. English Course Outline:

a. Vocabulary:

- Basic vocabulary, commonly used words, and idiomatic expressions.

b. Grammar:

Tenses: Identify and use the correct verb forms.

Adjectives: Choose the correct form of adjectives in sentences.

Articles: Correct usage of 'a', 'an', and 'the'.

Conditional Sentences: Form and identify conditional sentences.

Prepositions: Identify correct prepositions in sentence structures.

c. Reading Comprehension:

- Read short passages and answer multiple-choice questions (MCQs) based on the text.

2. Mathematics Course Outline

a. Arithmetic and Mental Mathematics:

- Basic operations: Addition, subtraction, multiplication, and division (with and without decimals).
- Types of numbers (natural, whole, integers, etc.).
- Decimal numbers and percentages.
- Lowest Common Multiple (LCM) and Highest Common Factor (HCF).
- Laws of indices.
- Standard form (scientific notation).
- Number sequences and patterns.

b. Algebra and Functions:

- Basic operations (addition, subtraction, multiplication) involving algebraic expressions and brackets.
- Simplification of algebraic expressions.
- Solving linear equations.
- Plotting straight line graphs.
- Factorizing and solving quadratic equations (including graphically solving for different roots).
- Laws of exponents.
- Domain, range, and relations.
- Operations on functions (composition, inverse functions).

c. Geometry:

- Types of angles (acute, obtuse, right, etc.).
- Parallel lines and angles are formed by transversals.
- Properties of polygons (triangles, quadrilaterals, etc.).
- Pythagoras' Theorem.
- Sine rule and Cosine rule.

d. Statistics:

- Mean, median, and mode.
- Types of graphs: Histogram, pie chart, and frequency polygons.

Model Paper for BS Program Admission Test

ENGLISH SECTION:

Note: The English section of the actual paper will contain 50 test items and you will be assigned 60 minutes to take the test.

1. Select the sentence with the correct use of articles:

- A. He is an useful member of the community centre.
- B. Eiffel Tower is tallest structure in Paris.
- C. She needs an haircut before the wedding next week.
- D. An honest person always tells the truth.

2. Choose the appropriate article to complete the sentence:

_____ United Nations works to maintain international peace and security.

- A. A
- B. An
- C. The
- D. No article needed

3. Identify the sentence with proper adjective usage:

- A. I need to buy a newer computer for my online classes.
- B. She is a hard-work school teacher in a small town.
- C. A more big apple is what you need.
- D. We went to cinema lasting weekend.

4. Choose the correct verb form to complete the sentence:

After _____ the exam, many students plan to celebrate with their friends.

- A. Take
- B. Took
- C. Taking
- D. Takes

5. Select the sentence with the correct use of verb forms:

- A. The company have announced new policies for remote work.
- B. Many employees is choosing to work from home this year.
- C. The new office building has been designed by a famous architect.
- D. The team meeting are be held next Tuesday.

6. Which sentence demonstrates the proper use of verb tenses?

- A. The sun will rise in the east every morning.
- B. They had been travelled to Japan last summer.
- C. I am living in this city since 2010.
- D. Next month, she will complete her degree.

7. Which sentence is correct?

- A. He don't enjoys spicy food.
- B. He doesn't enjoys spicy food.
- C. He doesn't enjoy spicy food.
- D. He does not enjoys spicy food.

8. Choose the correct option to complete the sentence:

"If I _____ more time, I will learn a new language."

- A. had
- B. have
- C. has
- D. having

9. Which word is a synonym for "beautiful"?

- A. Smart
- B. Plain
- C. Attractive
- D. Amazing

10. Choose the correct option to complete the sentence:

"She has been studying French _____ three years."

- A. since
- B. for
- C. during
- D. while

Read the passage below and circle the best option in each question:

Urban gardening has gained popularity in the last decade as city residents seek to bring nature into their lives. Rooftop gardens, vertical plantings, and community allotments are common examples. These gardens serve practical purposes beyond aesthetics: they reduce urban heat, improve air quality, provide wildlife habitats, and offer fresh, local produce. Community gardens foster neighbourhood interaction and education, with many schools incorporating gardening into their curricula. Despite challenges like limited space and poor soil quality, innovative solutions such as hydroponics are emerging. As awareness grows, urban gardening's future looks promising. ~

11. What does the growing popularity of urban gardening suggest about modern city dwellers?

- a) They are becoming more environmentally conscious
- b) They are losing interest in technology
- c) They prefer artificial environments to natural ones
- d) They are primarily concerned with property values

12. How might the trend of urban gardening impact future city planning?

- a) Cities may incorporate more green spaces in their designs
- b) Urban expansion will likely slow down
- c) Traditional parks will probably be eliminated
- d) City centres may become less populated

13. What can we infer about the relationship between urban gardening and community development?

- a) Urban gardening might lead to increased social isolation
- b) It could foster stronger community bonds and shared knowledge
- c) It will likely have no impact on social interactions
- d) It may increase competition between neighbours

14. Based on the passage, how might urban gardening affect food systems in cities?

- a) It could reduce dependence on long-distance food transportation
- b) It will likely eliminate the need for traditional grocery stores
- c) It may lead to overproduction of certain types of food
- d) It will probably have no significant impact on food supply

15. What do solutions like hydroponics suggest about the future of urban gardening?

- a) Traditional soil-based gardening will become out-of-date
- b) Technology may help overcome current limitations in urban gardening
- c) Urban gardening will likely remain a niche hobby
- d) The practice will probably decline due to its complexity

MATHEMATICS (QUANTITATIVE ABILITY) SECTION:

Note: The Quantitative section of the actual paper will contain 25 test items and you will be assigned 60 minutes to take the test.

1. The LCM of 22, 54, 108, 135 and 198 is

- a) 330
- b) 1980
- c) 5940
- d) 1260

2. Factors of $x^3 + y^3$:

- a) $(x - y)(x^2 + xy + y^2)$
- b) $(x + y)(x^2 + xy + y^2)$
- c) $(x + y)(x^2 + xy - y^2)$
- d) $(x + y)(x^2 - xy + y^2)$

3. Factors of $a^2 + 2a - 24$ are:

- a) $(a + 4)(a - 6)$
- b) $(a - 4)(a + 6)$
- c) $(a + 3)(a - 8)$
- d) $(a + 8)(a - 3)$

4. Find m, so that $x^2 + 4x + m$ is a complete square

- a) 8
- b) -8
- c) 4
- d) -4

5. Find the Additive Inverse of $(5, -3)$

- a) $(5, -3)$
- b) $(-5, 3)$
- c) $(25, -9)$
- d) $(-25, -9)$

6. Solve $100 - (5 \times 0.05)^2 \times 1.009$

- a) 99.936
- b) 100.098
- c) 100.946
- d) 100.980

7. If, ΔABC , $\angle A = 60^\circ$, $\angle B = 80^\circ$, $\angle C = 40^\circ$, which of the following is the largest side.

- a) AB
- b) AC
- c) BC
- d) Cannot be determined

8. If hypotenuse of an isosceles right-angled triangle is $3\sqrt{2}$ cm, then each of other side is of length
a) 2cm b) 5cm c) 3cm d) 1cm
9. If $f(x) = x^2 + 2$, $x \in \mathbb{R}$, then the range of $f(x)$ is
a) $\{2, \infty\}$ b) $\{-\infty, 2\}$ c) $\{-2, \infty\}$ d) $(-\infty, -2)$
10. The function $f = \{(x, y) \mid y = ax^2 + bx + c, a \neq 0\}$ is
a) Linear b) Quadratic c) A Circle d) A Point
11. Find Mode 12, 3, 5, 6.3, 5, 6, 5
a) 5 b) 6 and 3 c) No mode d) 5.5
12. Which type of graph does a company use to show its sales or production over a period of year.
a) Bar graph b) Polygons c) Histogram d) Pie chart

ANSWER KEYS

ENGLISH SECTION

1. D
2. C
3. A
4. C
5. C
6. D
7. C
8. B
9. C
10. B
11. A
12. A
13. B
14. A
15. B

MATHEMATICS SECTION

1. C
 2. D
 3. B
 4. C
 5. B
 6. A
 7. B
 8. C
 9. A
 10. B
 11. A
 12. C
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