HU TOPS Core Skills Test (Qualifying Round Test)

The Core Skills Test is administered during the HU TOPS Qualifying Round. Students who qualify through this test will advance to the HU TOPS Final Round and become eligible to take the HU Entrance Examination (HU TOPS Final Round Test).

HU TOPS Core Skills Test has two competencies:

1. English Competency Test
2. Mathematics Competency Test

Which Test Do You Need to Take?

- All students intending to apply for the programs at the **Dhanani School of Science and Engineering** at Habib University i.e., either for BS Computer Science, BS Computer Engineering or BS Electrical Engineering are required to take both the **English Competency Test** and **Mathematics Competency Test.**

- All students intending to apply for the programs at the **School of Arts, Humanities, and Social Sciences** at Habib University i.e., either for BSc (Honors) Social Development & Policy, BA (Honors) Communication & Design, or BA (Honors) Comparative Humanities are required to take **English Competency Test** only.

Details of the Test:

1. English Competency Test

Habib University's English Competency Test is a paper-and-pencil test designed to evaluate your English reading and sentence-formation skills, as well as your ability to express thoughts in writing. The test duration is 1.45 hours. Students will be assessed in the following areas through the English Competency Test. Except for the writing section, the majority of the questions will be MCQs.

a) **Reading Comprehension**

The Reading Comprehension section will assess your ability to identify the main idea of a passage; distinguish the main idea from supporting ideas; or determine the central focus of a passage even when it is not explicitly stated. It will also assess your ability to comprehend details and ideas conveyed implicitly in a passage, and understand connections and implications.

b) **Grammar**
The questions in this section will assess your ability to recognize correct sentences in written English; avoid errors in sentence structure; and prevent errors in agreement, such as lack of subject-verb agreement, incorrect verb tense, etc. You will be assessed on your ability to use correct sentence modifiers such as adjectives, adjective clauses, adverbs, adverb clauses etc.

c) **Essay Writing**
The Essay Writing section will require you to write a five-paragraph persuasive essay (approximately 350–500 words) on a controversial issue. You will not be allowed to use a dictionary or other outside resources, but you may use blank scratch paper to plan your essay and write your rough draft(s).

2. Mathematics Competency Test

This is compulsory test for all those students who are applying for Electrical Engineering, Computer Engineering or Computer Science.

It will be a 1.45-hour paper-and-pencil test. It will assess your Mathematical Competence for understanding the Mathematical concepts covered in **SSC** and **HSSC** Mathematics Syllabi. The test will also assess your ability to apply those concepts in solving a variety of mathematical problems. The test will comprise of MCQs.

Description of the test:

The test is designed to gauge topics learned at the SSC & HSSC level with their applications in new situation. The assessment will also consist of questions related to the problem-solving section.

1. Real and Complex Numbers
2. Logarithms
3. Factorization
4. Algebraic Manipulation
5. Variation (Direct and Inverse Proportion)
6. Angle Circle Properties
7. Similar triangles
8. Sets and Functions
9. Rationalizing Surds
10. Permutation and Combination

11. Trigonometric Identities
12. Graphs of Trigonometric Functions
13. Trigonometric Equations
14. Trigonometric Ratios
15. Sine Rule/Cosine Rule/Pythagoras Theorem
16. Matrices
17. Binomial theorem
18. Series and Sequences
19. Basic Differentiation and Integration
20. Basic Statistics (Mean, Median and Mode)
21. Vectors
22. Indices
23. Coordinate Geometry (Linear Graphs)
24. Ratio and Proportion
25. Graphs of functions (Linear, Quadratic, Cubic, and Exponential)
26. Problems formulating the following equations:
    a. Linear
    b. Quadratic
    c. Simultaneous Equations

You are recommended to go through the prescribed textbooks of grades X, XI and XII to prepare yourself with topics you might not have covered in your school yet. In addition, a large number of online resources are also available to acquire the above-mentioned competencies. One excellent resource in particular is Paul's Online Math Notes (http://tutorial.math.lamar.edu/).