The exam is made of two parts; each part is for four hours. Part I is over CS undergraduate core courses and Part II is over two main sub-areas of Computer Science.

There will be a total of 12 questions in Part I, four (4) questions from each area of Part I, and a student should answer any 9 questions with at least 2 questions from each area. Passing score for Part I exam is 70%.

Each student should select two areas of Part II at the time of registration for the exam. There will be a total of eight (8) questions in Part II, four questions from each of the selected two areas of Part II, and a student should answer only three (3) questions from each of the selected two areas of part II. Passing score for Part II exam is 70%.

The exam is closed-book, closed-notes, and any information, if necessary, will be provided as part of the exam.

**Part I**
This part tests a student’s knowledge over the three following areas:

**Hardware**
EE 354 Digital Logic
CS 458 Computer Architecture

**Software**
CS 351 Programming Languages
CS 537 Intro to Operating Systems

**Theory**
CS 317 Discrete Information Structure
CS 535 Algorithm Design and Analysis
Part II
This part tests a student’s knowledge over two of the following areas.

**Artificial Intelligence**
CS 422 Intro to Artificial Intelligence *OR* CS 710 Artificial Intelligence
CS 743 Intelligent User Interfaces

**Computer Hardware, Architecture & Performance Evaluation**
CS 458 Computer Architecture
CS 760 Computer Systems Performance Evaluation

**Computer Graphics & Visualization**
CS 459 Fundamentals of Computer Graphics
CS 718 Advanced Computer Graphics

**Computer Networks**
CS 520 Computer Networks
CS 730 Advanced Computer Networks

**Computer Security**
CS 469 Intro to Computer Security
CS 759 Data Security

**Human Computer Interaction & User Interfaces**
CS 423 Into to Natural Language Processing *OR* CS 723 Natural Language Processing
CS 747 Human Computer Interaction

**Programming Languages & Compilers**
CS 431 Programming Languages Concepts
CS 654 Intro to Compilers *OR* CS 754 Compiler Construction and Theory
CS 732 Type Systems for Programming Languages

**Theory & Algorithms**
CS 417 Introduction to the Theory of Computation
CS 535 Algorithm Design and Analysis
CS 704 Analysis of Algorithms