Ministry of Science and Technology

The Department of Advanced Science and Technology

University of Computer Studies, Yangon

Entrance Exam Structure of the Ph.D. in Information Technology

Part I: English Proficiency Test	Total Marks: 100	Time: 3 hrs
Part II: The General Test	Total Marks: 100	Time: 3 hrs

Part I: Structure of the English Proficiency Test

I. **Reading Comprehension** (30 marks)

Question Type: (Matching Paragraphs with the Suitable Heading, Sentence Completion, Expressing the statements True, False, Not Given, Summary Completion, etc.)

II. **Reading Comprehension** (30 marks)

Question Type: (Matching Paragraphs with the Suitable Heading, Sentence Completion, Expressing the statements True, False, Not Given, Summary Completion, etc.)

III. **Grammar/Vocabulary/Usages** (20 marks)

IV. **Essay** (20 marks)

Part II: Structure of the General Test

The General Test will comprise a test of multiple choice questions on analytical ability, quantitative ability and general aptitude. The Analytical Ability test involves reasoning that helps in analyzing and synthesizing information, applying broad analysis to arrive at conclusions, understanding complex relationships, using systems perspectives while handling a problem or a situation. The Quantitative Ability tests a candidate on his/her numerical capability. The General Aptitude test assesses the candidate's essentials fundamentals in Computer Science & Technology. The topics covered in the General Aptitude test are Data Structure, Operating Systems, Data Communication and Computer Networks, Computer Programming Techniques, Computer Architecture and Organization, Digital Logic Design, Artificial Intelligence, DBMS and Software Engineering.

Sample Questions of the Analytical Ability Test

1. There are six houses constructed in a row. Each house is having a different color. Red house is to the left of Yellow house. Black colored house is immediate left to White house but is not next to Yellow colored house. Blue colored house is between Red house and Green house. Blue color house is in the second position from extreme left. Green, Yellow and Orange colored houses are not in the extreme left or extreme right. Identify the position of Red house from extreme left?

   (a) First position (b) Second position (c) Third position (d) Fourth position

2. If in a certain code, COMPUTER is written as DNNOVSFQ, which word would be written as CQBHO?

   (a) BROD (b) BRAIN (c) BRADN (d) BLADE

3. Which of the following time with hours and minutes clock produces 60 degree angle between 6am to 7am.

   (a) 6:27 am (b) 6:22am (c) 6:38 am (d) 6:45am

4. There are 100 employees in a conference room in New York City. You note that 99% of them are managers. How many managers would need to leave the conference in order to reduce the percentage of managers in the hall to 98%?

   (a) 1 (b) 2 (c) 50 (d) 98

Sample Questions of the Quantitative Ability Test

1. In a group of 6 boys and 4 girls, four children are to be selected. In how many different ways can they be selected such that at least one boy should be there?

   (a) 159 (b) 209 (c) 201 (d) 212

2. When two dice are tossed, what is the probability that the total score is a prime number?

(a) 1/4 (b) 1/3 (c) 2/3 (d) 5/12

3. What is tightest upper bound of 2T(n/2)+logn

(a) O(n) (b) $O(n^2)$ (c) O(nlogn) (d) $O(logn)^2$

4. Three balls are drawn randomly from a bag contains 3 black, 5 red and 4 blue balls. What is the probability that the balls drawn contain balls of different colors?

(a) 311 (b) 13 (c) 12 (d) 211

Sample Questions for Fundamental in Computer Science and Technology

1. In C, which of the following variables are created at the time of a function call and destroyed when the function returns?

(a) integer variables (b) parameters to the function

(c) static variables declared within the function (d) extern variable

2. Which of the following algorithm design technique is used in the quick sort algorithm?

(a) Dynamic programming (b) Backtracking

(c) Divide and conquer (d) Greedy method

3. Which of the following is the correct order of the OSI model from bottom to top?

(a) Application, Presentation, Session, Transport, Network, Data Link, Physical
(b) Physical, Network, Data Link, Session, Transport, Application, Presentation
(c) Physical, Data Link, Network, Transport, Session, Presentation, Application
(d) Application, Session, Presentation, Transport, Network, Data Link, Physical

4. A Database Management System (DBMS) is

(a) Collection of interrelated data

(b) Collection of programs to access data

(c) Collection of data describing one particular enterprise

(d) All of the above

5. What are attributes of good software?

(a) Software maintainability (b) Software functionality
(c) Software development (d) a,b
(e) a,b and c

6. _____ is the concept in which a process is copied into main memory from the secondary memory according to the requirement.

(a) Paging (b) Demand paging (c) Segmentation (d) Swapping