



DUBLIN CITY UNIVERSITY

SEMESTER 1 SAMPLE - EXAMINATIONS 2015/2016

MODULE: CA4009 - Search Technologies

PROGRAMME(S):

CASE - BSc in Computer Applications (Sft.Eng.)
DME - B.Eng. in Digital Media Engineering
ECSAO - Study Abroad (Engineering and Computing)

YEAR OF STUDY: 4,O

EXAMINERS: Prof. Gareth Jones (Ph:5559)
Dr. Ian Pitt
Prof. Gerard Parr

TIME ALLOWED: 3 hours

INSTRUCTIONS: Candidates should answer Question 1 in Section A and any 3 questions from the 5 questions in Section B.

All questions are worth a maximum of 25 marks.

PLEASE DO NOT TURN OVER THIS PAGE UNTIL INSTRUCTED TO DO SO

The use of programmable or text storing calculators is expressly forbidden.
Please note that where a candidate answers more than the required number of questions, the examiner will mark all questions attempted and then select the highest scoring ones.

Requirements for this paper (Please mark (X) as appropriate)

<input type="checkbox"/>	Log Tables
<input type="checkbox"/>	Graph Paper
<input type="checkbox"/>	Dictionaries
<input type="checkbox"/>	Statistical Tables

<input type="checkbox"/>	Thermodynamic Tables
<input type="checkbox"/>	Actuarial Tables
<input type="checkbox"/>	MCQ Only - Do not publish
<input type="checkbox"/>	Attached Answer Sheet

Section A

Question 1 is COMPULSORY.

QUESTION 1

[Total marks: 25]

[25 Marks]

Question Overview This question requires you to analyse a scenario for which a new search application and propose a design for new the application based on material studied in CA4009.

To answer this question you could address the following issues:

- search requirements the users
- texpertise of the end users
- types of queries
- available search technologies
- selection of components and their combination in the application
- evaluation of the application

You are free to follow these suggestions or answer the question as you wish.

Scenarios Answer this question by selecting one of the following scenarios requiring a new search application.

1. Users are gathering increasing amounts of diverse content on their computing devices, e.g. desktop computers, laptops, tablets and smartphones. Search applications to enable the effective location of relevant content on these devices is often referred to as “desktop search”. While working for a large corporation which designs and manufactures a range of these types of devices you are asked to choose one of them and develop a new search application to improve the ability of users to find items stored on their device. If your search application for your chosen device is successful. the company plans to ask you to develop similar applications for their other types of device.
2. Finding a recipe for a favourite meal or one which allows the ingredients found in the kitchen to be used to make a tasty evening meal is a common problem in many households. You have decided to help them by developing an app to enable them to search for the recipe for a particular meal or a recipe which combines the ingredients which you have available to cook with.

3. While studying a particular subject you often find yourself wishing that you could find resources which help you understand a new topic or answer a specific question about something which you are currently trying to master. You decide that since this is a common situation for many students, that you will try to develop a prototype system which will help students with their studies. The application should enable the student to enter a query or question to search a variety of resources including books, lecture notes, recordings of lectures, and other relevant resources which might be available online. The application will run on laptop or tablet computing device.

[End Question 1]

Section B

Answer any 3 of the 5 questions in this section.

QUESTION 2

[Total marks: 25]

2(a)

[4 Marks]

What is a recommender system?

2(b)

[10 Marks]

- i. Discuss the cold start problem in recommender systems?
- ii. How can hybrid methods be used to reduce the cold start problem in recommender systems?

2(c)

[11 Marks]

Further structured questions to the value of 11 marks.

[End Question 2]

QUESTION 3

[Total marks: 25]

3(a)

[25 Marks]

This will be a structured question of the form found in examinations for CA437.

[End Question 3]

QUESTION 4

[Total marks: 25]

4(a)

[25 Marks]

This will be a structured question of the form found in examinations for CA437.

[End Question 4]

QUESTION 5

[Total marks: 25]

5(a)

[25 Marks]

This will be a structured question of the form found in examinations for CA437.

[End Question 5]

QUESTION 6

[Total marks: 25]

6(a)

[25 Marks]

This will be a structured question of the form found in examinations for CA437.

[End Question 6]

[END OF EXAM]