FIT2001 Workshop 11 - SAMPLE Exam questions

Exam Structure:

Once your exam finishes, you will be given time to scan a QR code and upload your answers using your smartphone and laptop.
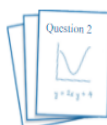
Here's how to do it.

How to upload your answer sheets?   ×

When you are ready, click **"Upload answer sheets"** to start the process

STEP 1
Arrange your answer sheets in the correct order

STEP 2
Scan QR code and take photos as instructed

STEP 3
Confirm photo clarity

Please <u>answer ALL questions.</u>

There are 3 sections in the Exam:

Section A Question 1 - 15	15 Multiple Choice Questions	15 marks
Section B Question 16 - 21	6 Discussion and Evaluation Questions	59 marks
Section C Question 22 - 24	3 Practical Questions	26 marks

Exam Structure
In Week 12, we will show you an exam structure. All questions are covered in this document.

Practice Quiz Questions:
In the exam section of Moodle, we will put together all the quiz questions from Weeks 2-12. This will help with practising for Section A of the exam. You will be able to practise unlimited times. Reviewing the feedback is important not only for the quiz part of the exam, but also for your general understanding of the content.

Answers to sample questions:
We will not be providing written answers to sample questions, as that encourages memorising rather than learning. Our goal in this unit is that you learn so that it helps you in

your career. Memorising answers to pass an exam is not going to help you at all. We will have a video discussion of each sample question to help with your understanding and learning of the content.

Staff will be available throughout Swot Vac and the exam period for zoom consultations. While we will not mark questions or give you sample answers, we are more than happy to have detailed discussions for any of the questions, providing you have really tried to give it a go yourself first.

SAMPLE QUESTIONS

Question 1. (Seminar 1)
Briefly discuss why the Student Enrolment system is an information system and, describe its key components.

Question 2. (Seminar 1)
You are chatting with a friend about your job as an IT Developer, and they ask for a brief description on how IT systems are developed. Briefly describe the key phases of IT systems development, and the importance of each phase in the development process. (Seminar 1)

Question 3. (Seminar 1)
You are attending a job interview as a System Developer. What skills are you going to showcase in your interview? (Seminar 1)

Question 4. (Seminar 2)
You have just started at a new job, and are a bit surprised to discover that the IT department is using the Waterfall model of development, especially since you have come from an organisation that successfully adopted the Agile approach. The IT manager has called you in for a chat to welcome you, and you decide to tell him about why you think the Agile approach is better. *(Seminar 2)*

   A. Briefly discuss the reasons you would use to convince your manager of the suitability of an Agile approach when compared to a waterfall approach?
   B. The manager has decided to adopt the Agile approach. Please provide a brief description of the approach, the main activities and the main artifacts to the team.

Question 5. (Seminar 2)
Software development often leads to unhappy users who do not believe that the system built for them meets their requirements. What type of systems development approach would you recommend for developing a software system that involves a high level of uncertainty? Describe this approach, detailing how it helps meet the client's requirements.

Question 6. (Seminar 2)
ABC Etron, an electronics manufacturing company have approved the development an e-purchasing system. The system will link the Purchasing Department employees of the organisation with 20 suppliers, who supply a wide range of components ABC Etron. The project was initiated at the request of the Purchasing Director who thinks the system is going to be a key improvement for his department. It was approved by the Chief Executive Officer of ABC Etron, who has just been through the process of reviewing and approving 40 projects for the organisation. The purchasing staff are not keen to cooperate because they are concerned that the new system may lead to job losses, and the suppliers are not keen either, because they think the system will be an extra administrative and financial burden for them, and force them to change the way they work. The IT Manager of ABC Etron supports the development of the e-purchasing system, as he expects that the successful implementation of the system will help improve his IT department's credibility and improve his chances of promotion.

Based on the description above:
   A. Identify the key stakeholders and place them on the quadrants in the matrix below, by considering their influence/power and interest in the development of the electronic purchasing system.
   B. For each stakeholder, discuss why you have placed them in a particular quadrant.

Question 7. (Seminar 3)

The key to successfully developing information systems is understanding the requirements of the system.

A. Case Study: Your client, APEX Hardware, specialises in Do It Yourself (DIY) supplies and products. They work with over 10,500 supplier companies and now require a new Supplier Management System. They would like to find out what impact the new system's functional requirements would have on their suppliers, particularly, the impact of the new "flexible stock level management" functionality. APEX Hardware is keen to get input from the majority of their 10,500 suppliers, as to whether, they would prefer to continue as it, or if they can comply with a new dynamic (changing) supply system, where they need to change the level of supply based on APEX Hardware's changing demand.

   Name the data gathering technique most suitable to get this data. Briefly describe 2 reasons why you would choose this technique.

B. Case Study: You are the system analyst at a motorcycle manufacturing organisation, and have been called in to review work practices because there are constant problems on the factory floor. You have started by reviewing the process documentation, and from the documentation the work processes appear well structured and should not be causing any problems.

   Name the data gathering technique most suitable to discover the cause of the problems. Briefly describe 2 reasons why you would choose this technique.

C. Interviews are often used to investigate the requirements of a system. Briefly describe 2 problems and 2 benefits that you need to consider when using interviews as a requirements gathering technique.

Question 8. (Seminar 3)

When you ask your user to describe their non-functional requirements, they are quite confused. Explain to them the difference between functional and non-functional requirements, and give them 3 examples of non-functional requirements to help them understand what it means.
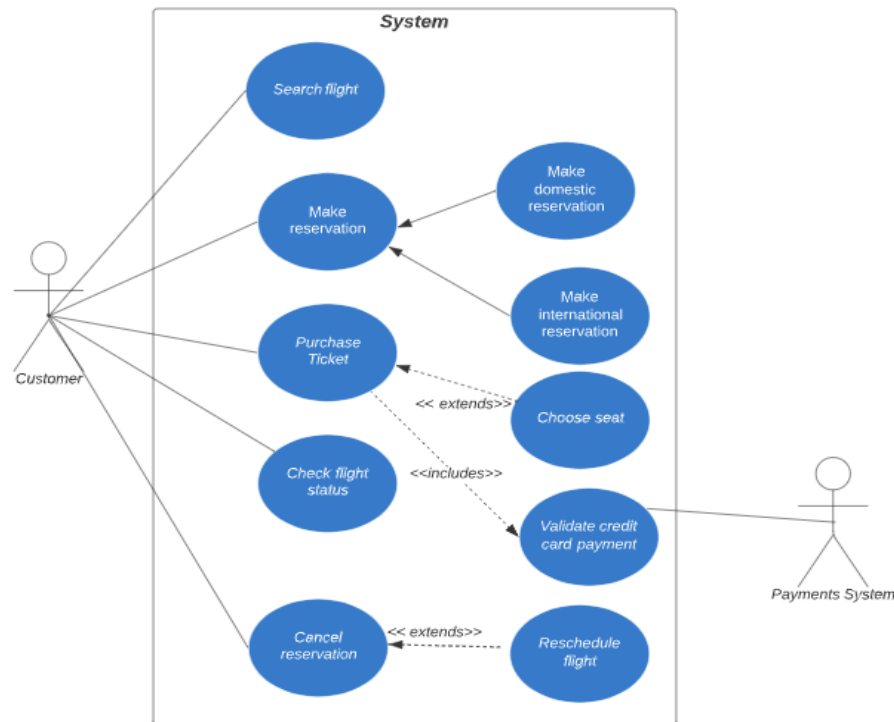
Question 9. (Seminar 4)

Briefly describe what this Activity diagram is telling you. Please use bullet points for your description.
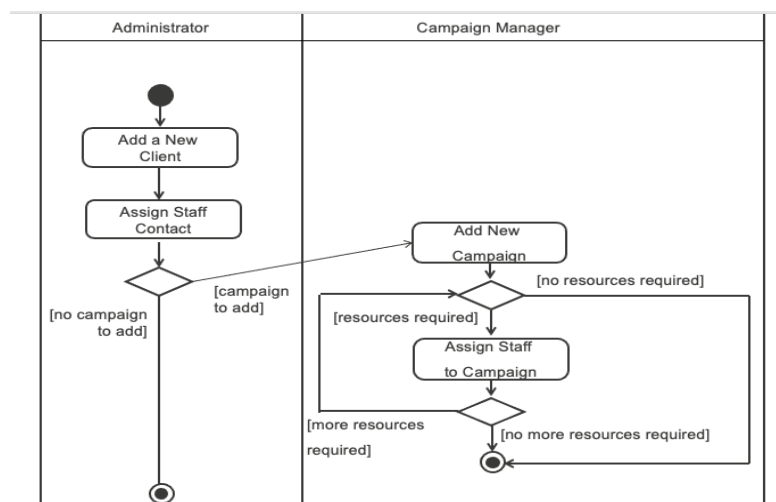
Question 10. (Seminar 5)
Briefly describe what this Use Case diagram is telling you. Please use bullet points for your description.

Question 11. (Seminar 9)
 How are coupling and cohesion used to assess the quality of design models?

Question 12. (Seminar 7.1)
You are about to proceed with an Agile iteration for developing the appointment system for the Makeuwell Medical clinic, and would like to develop some prototypes to help with understanding requirements and to help the developers. Your boss is keen for you to just get on with it using the system description you already have as they have a very tight schedule. Briefly discuss with your boss the key advantages and disadvantages of prototyping, so that they make an informed decision.

FOR Questions 13 & Questions 14

Makeuwell Medical Clinic - Description of partial functionality of the system used by Makeuwell medical clinic. Please use this description for the specified questions.

The Makeuwell medical clinic registers new patients by getting their name, address, email, phone and medicare no. Before registering the patient, the clinic checks that the patient is not already on the system by checking their medicare number. The patient is listed as either a private patient or a government patient. If the patient is a government patient, the government benefit type e.g. pensioner and the benefit number is noted. If they are a private patient, their health fund name and number are noted. The patient is emailed a welcome pack with information about the clinic and doctors at the end of registration, and they have to enter a password to confirm registration. Their email and password gives them access to the appointment system.

Question 13. (Seminar 4)

Using the Makeuwell Medical Clinic description:

    A. Make a list of all the features of the 'Register New Patient' epic.
    B. Write complete, detailed user stories using the format specified in FIT2001 for any 2 of the features you have identified in the 'Register New Patient' epic.
    C. Briefly discuss 3 issues that a developer may experience when trying to write user stories?
    D. When understanding the business requirements of a user, is it better to just write the user stories individually, or is user story mapping useful? Discuss.

Question 14. (Seminar 7.1 and Seminar 8)

Using the Makeuwell Medical Clinic description:
- Draw the interface for Registering the patient.
- Discuss the interface guidelines you used while designing the interfaces – for each guideline you discuss, support your discussion using examples of the guideline using your interface design.

Question 15. (Seminar 7.1 and Seminar 8)

The following interfaces are for the Appointment Request system for the Makeuwell Medical Clinic.
- Discuss any 6 guidelines for designing user interfaces – for each guideline you discuss, support your discussion with either a good or bad example of the guideline from the interfaces and description given below:

Screen 1 - Makeuwell Sign in Screen

When a patient goes to the Makeuwell website. They see the Sign In screen which is also the Home screen of the system. The welcome signs are flashing, and the images are of the doctors and they keep changing so that you see pictures of all the doctors.

The registered patient has to enter their email and password, and then click the 'Sign In' button.

The following validation is carried out:
1. email format must be valid
2. Patient must be registered
3. Password must be correct
   If there are any errors the following error message is displayed:
   "Email or password invalid"

Screen 2- Makeuwell Appointment Request Screen·

When a registered patient has signed in they are taken to the 'Make an Appointment' Screen 2

The have to select one of the following options:

1. Choose my Doctor … the name doctor they have seen most frequently is displayed a the top of the drop down list, then it is alphabetical
2. Choose a specialist Doctor … they choose a specialty - there are 40 specialties in the drop down list in the order they were entered into the database
3. Choose a doctor for me … the clinic will choose a doctor for them

If they choose all 3 options, then the system will base the appointment on Choose my Doctor.

The requested appointment date is then entered. The patient can either enter the date directly into the input field or use the date picker. The patient can only book appointments 2 days from today's date. The date picker will only start from 2 days from today's date and will block out weekends. No validation is done on the date selection using the date picker.

If the patient enters a date directly into the input field
- and it is in the wrong format - the following error message is displayed: "Please re-enter the date in the following format - DD/MM/YYYY
- And it is either the weekend or not 2 days from today's date - the following error message is displayed: "Invalid date entered, please re-enter"

The time period is selected from the time period drop down box. No validation is done.

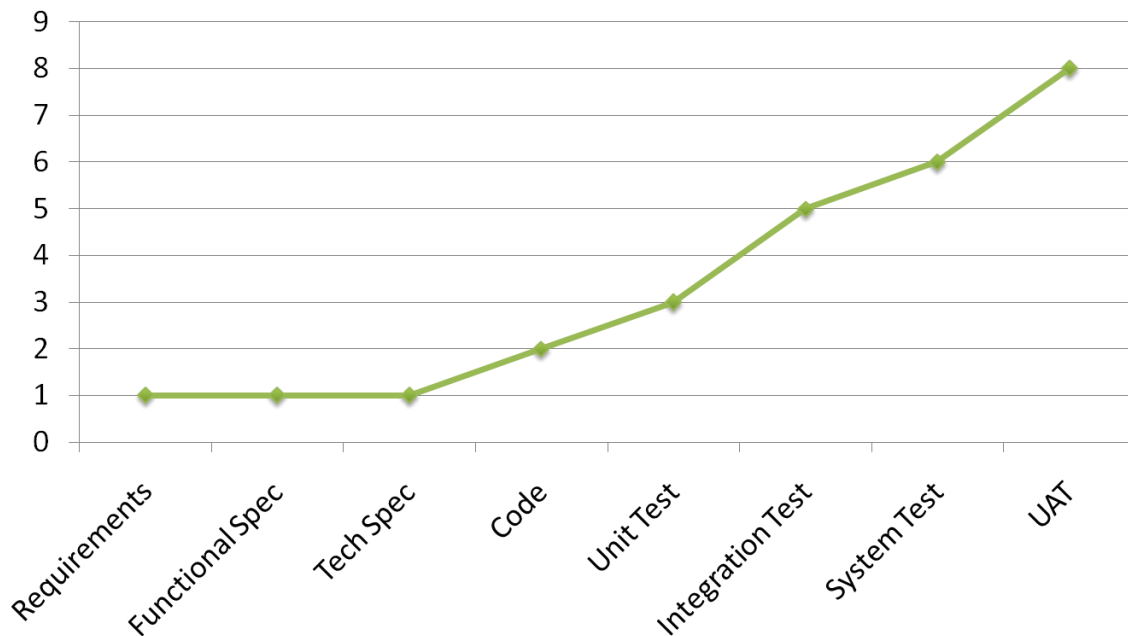When they have entered all the data they have to click on the 'Submit request' button.
When they do Confirmation Screen 3 is displayed. They can then either click OK to confirm their request of Cancel to not proceed with the request.

When they click either OK or Cancel it returns to Makeuwell Home - Sign In Screen

Question 16. (Seminar 10)

A. Briefly discuss what this graph tells us about Testing?

B. Why are there many different types of Testing? Discuss.

Question 17. (Seminar 11)

The Monash Bank is developing a new Customer Relationship Management (CRM) system for implementation across all its branches. This is an important initiative for the bank so they have a big budget for the project.   The IT team have completed the first phase - the 'Manage new customer' functionality, while other CRM functionality will be developed in the coming months. Bank staff are very excited about the 'Manage new customer' functionality, because they have been heavily involved in requirements gathering and usability testing, and they feel that they know the system well. They can see that even though the 'Manage new customer' functionality is simple, it is a huge improvement on what they have currently, and will improve their productivity.

- A. What deployment strategy would you use for this scenario? *Why?*
- B. Once the system is deployed it will need to be maintained to ensure that it continues to perform as expected. Briefly describe 4 types of maintenance that may need to be carried out.
- C. The development of the system is running over time, and the bank wants to have very limited training. What are the consequences of this?
- D. Briefly describe 3 reasons why a post-implementation review needs to be conducted.

Question 18. (Seminars 5, 6 and 9)

Makeuwell Medical Clinic - Description of partial functionality of the system used by Makeuwell medical clinic. Please use this description for the specified questions.

The Makeuwell medical clinic registers new patients by getting their name, address, email, phone and medicare no. Before registering the patient, the clinic checks that the patient is not already on the system by checking their medicare number. The patient is listed as either a private patient or a government patient. If the patient is a government patient, the government benefit type e.g. pensioner and the benefit number is noted. If they are a private patient, their health fund name and number are noted. The patient is emailed a welcome pack with information about the clinic and doctors at the end of registration, and they have to enter a password to confirm registration. Their email and password gives them access to the appointment system.

There are a number of doctors at the clinic and their name, general medical qualification and their range of specialties such as diabetics, women's health, etc. are displayed on the website. For each specialty they have done, they also list their qualification in that specialty.

All appointment requests must be made via the clinic's website. The patient puts in an appointment request for a date and time period, and they can either request a specific doctor or they can select a speciality or they can request that the clinic allocates any doctor. The clinic then organises the appointment with a doctor and emails the appointment details (date, time, doctor name) to the patient. If the appointment request is not possible, they email the patient to let them know, and update the status of the appointment request.

After the patient attends their appointment, they pay the fee if they are a private patient. Government patients do not have to pay a fee as their fees are paid by the government. The doctor records the date, medicine name and dose of any medicines they have prescribed associated with the appointment. Before they can note the prescription they must check that the medicare no. is valid with the Government medicare system

Use the Makeuwell system description for the following questions:

A. Develop a Domain Model Class diagram for the Makeuwell medical clinic. The model should include all relevant domain classes and the attributes for each class, relationships and relationship multiplicities.
B. Develop a Use Case diagram for the Makeuwell medical clinic.
C. Develop a First-cut sequence diagram for the 'Register patient' use case for the Makeuwell medical clinic.