*(<u>Note</u>: this document was issued to all students prior to the examination as pre-reading material)*

.DESCRIPTION OF THE LEE REALTY PROJECT

1.   Introduction

Advanced Technology Solutions Pte Ltd (ATS) is a local IT company that conducts IT consultancy and software development for Singapore based SMEs. The major business of ATS is to develop small to medium sized business systems, using 4GL's or web application development tools. The development process used by ATS is as follows:

- The requirements will be collected and documented by the project leader, who will also draft and agree screen layouts with the customer.

- The project leader will develop a systems design, and in conjunction with the other team members produce program specifications and database designs.

- The project team will develop the software programs based on the above specifications.

- The programs (and associated screens) will then be subject to a walkthrough *(this has been found to be more effective in detecting defects and assuring quality than unit tests).*

- The software programs will be integrated and tested.

- The acceptance test plan will be jointly drafted by the project leader and the customer, and then performed on the integrated software.
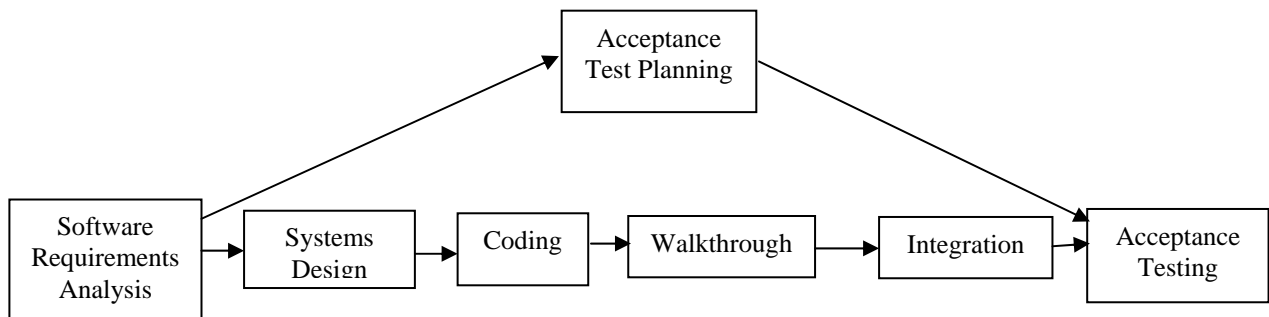
2.   The Project Plan

Lee Realty Pte Ltd are a leading housing sales and rental agency based in Singapore. They have offices in Clementi, Hougang and Pasir Ris. They agreed a contract with ATS to develop a small office system that would link up these offices and provide a common database of properties that are being sold, rented or managed by Lee Realty. The system would consist of:

- A property database (to be developed using Access 2007).

- A user interface (to be developed using Visual Basic.NET).

APPENDIX B

- Appropriate hardware, including installation performed by ATS system engineers.

The project price was agreed at $70,000, and Lee Realty have stated that the project must be completed by the end of week 5.

The tasks in the project are as follows:

Task 1:   Requirements Analysis (**RA**)
Task 2:   Systems Design (**SD**)
Task 3:   Database Implementation (**DI**)
Task 4:   Code User Interface (**CU**)
Task 5:   Hardware Installation and Integration (**HI**)
Task 6:   Walkthrough Database Programs (**WD**)
Task 7:   Walkthrough User Interface (**WU**)
Task 8:   Software Integration and Test (**SI**)
Task 9:   Produce Acceptance Test Specification (**PA**)
Task 10:   Deploy Software to Lee Realty Sites and Perform Acceptance Test (**DS**)

It is intended that the hardware and utility software will be installed at the Lee Realty offices while the application software is being developed at the ATS offices. After software integration and testing, the application software will be installed at the Lee Realty offices and acceptance testing will then take place. The acceptance tests will be performed jointly by the users and ATS staff. The relationship of the various tasks is shown below:
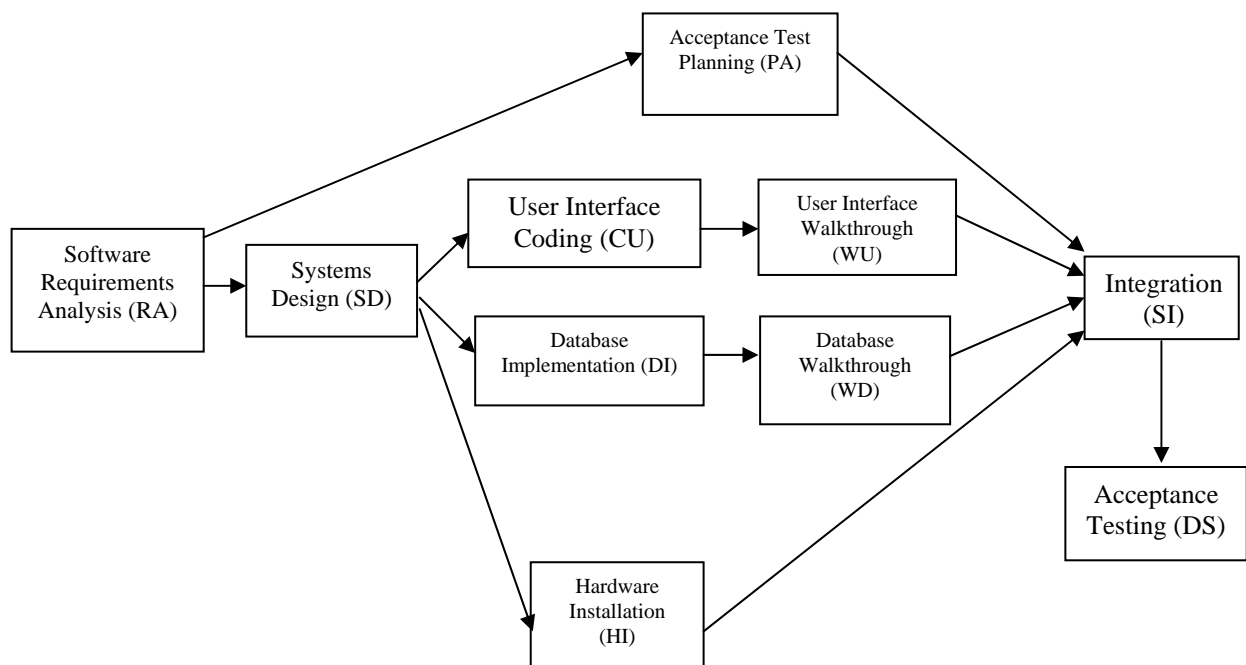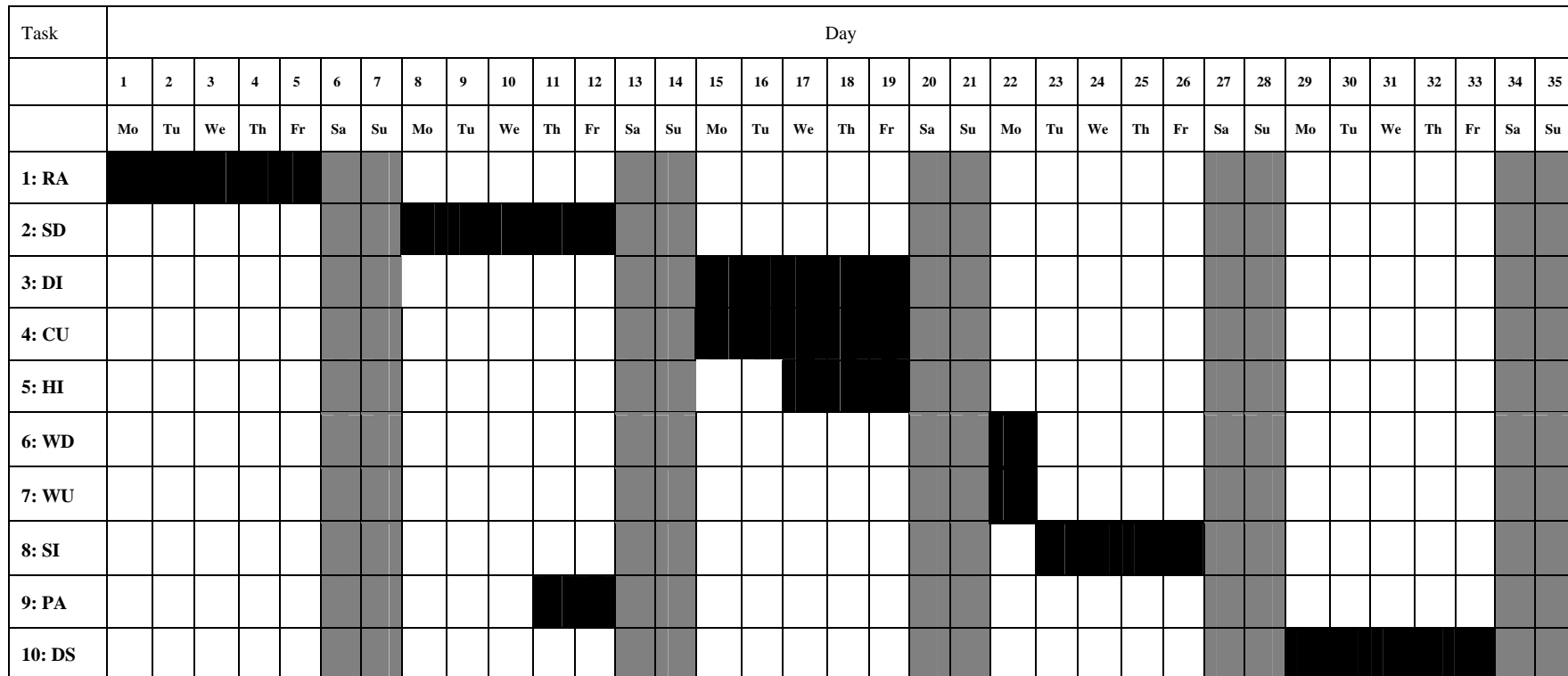
APPENDIX B

The Gantt chart showing the mapping of the tasks onto a calendar is shown below in figure 1. The effort and labour costs for the project are shown in table 1, and table 2 shows total project costs.

Figure 1:   Gant Chart for the Lee Realty Project

Task	Day																																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su
1: RA	■	■	■	■	■																														
2: SD								■	■	■	■	■																							
3: DI															■	■	■	■																	
4: CU															■	■	■	■																	
5: HI																	■	■																	
6: WD																						■													
7: WU																						■													
8: SI																								■	■	■									
9: PA											■	■																							
10: DS																													■	■	■	■	■		

APPENDIX B

Table 1:   Planned Effort and Labour Costs

Task	Resources/required effort (Man-days)			
	PL	PR1	PR2	SE
Task 1: RA	5			
Task 2: SD	3	5	-	
Task 3: DI	1	5	-	
Task 4: CU	1	-	5	
Task 5: HI	3	-	-	3
Task 6: WD	0.5	0.5	0.5	-
Task 7: WU	0.5	0.5	0.5	-
Task 8: SI	2	4	4	-
Task 9: PA	2	-	-	-
Task 10: DS	-	5	5	-
Total Effort	**18**	**20**	**15**	**3**
Man-day Rates	1000	500	500	500
Total Costs (S$)	**18000**	**10000**	**7500**	**1500**

Table 2:   Total Costs of Lee Realty Project

Total Labour Costs:	37000
Total hardware/utility costs:	18000
Contingency:	6000
Profit:	9000
TOTAL (S$)	**70000**

Note: (i)   _Effort expended by Lee Realty users is not shown here_
         (ii)   _Cost rates of ATS staff are:_
- _PL: S$1000 a day._
- _PR: S$500 a day._
- _SE: S$500 a day._

3.   The Assigned Staff

The staff assigned to the project are as follows:

- The **Project Leader (PL)** has had 3 years of experience in Visual Basic programming. He has acted as project leader in a previous project.

- **Programmer 1 (PR1)** has 2 years experience in Visual Basic and 6 months experience in Access 2000.

- **Programmer 2 (PR2)** has had experience in commercial application programming using COBOL, C and RPG and has recently attended a Visual Basic training course at ISS.

- **System Engineer** (SE) is experienced in installation and setting-to-work of hardware, and in testing and running networks. He has no experience in developing application software.