UNIVERSITI TUN HUSSEIN ONN MALAYSIA

PEPERIKSAAN AKHIR
SEMESTER II
SESI 2008/2009

NAMA MATA PELAJARAN	:	ANALISA KEPERLUAN DAN SPESIFIKASI PERISIAN
KOD MATA PELAJARAN	:	BIT 3143
KURSUS	:	3 BIT
TARIKH PEPERIKSAAN	:	APRIL/MEI 2009
JANGKA MASA	:	2 JAM
ARAHAN	:	JAWAB **SEMUA** SOALAN.

KERTAS SOALAN INI MENGANDUNGI TUJUH (7) MUKA SURAT

SECTION A

Instruction: Answer **ALL** questions.

Q1   Give definition for the following terms:

(a)   Functional requirements

(b)   Non-functional requirements

(c)   Software Requirements Document (SRD)

(d)   Software Requirements Specification (SRS)

(8 marks)

Q2   Explain **TWO (2)** main objectives of requirements analysis.

(6 marks)

Q3   In software requirements analysis, getting correct requirements is important. List **FIVE (5)** sources that can be used to get the correct requirements.

(5 marks)

Q4   (a)   Define software maintenance.

(3 marks)

(b)   Explain **THREE (3)** types of software maintenance.

(12 marks)

Q5   Software Requirements Specification (SRS) can also be obtained using formal specification.

(a)   Explain the definition of formal specification.

(3 marks)

(b)   List **THREE (3)** examples of formal specification language.

(3 marks)

Q6   Develop a use-case diagram for a standard Online Library Loan System.

(10 marks)

Q7   Develop an activity diagram for a standard Online Library Loan System for making a loan for a book.

(10 marks)

SECTION B

Instruction: Answer **ALL** questions.

Q8   Assistant Registrar of FTMM is concerned to know on stock on hand of FTMM's stationeries. Currently, the staff of FTMM requests manually the stationeries by filling up a form, by stating the name of the stationeries and the quantity of them. Then, the staff has to get the approval from Assistant Registrar. Once approved, the Office Assistant will give the stationeries to the requested staff. Currently, the updating process is done manually, where the Office Assistant will take the stock of stationeries from the Central of Store. He will then update the number of stock in the log book accordingly. Therefore, an online system is needed for monitoring the stock of the stationeries at FTMM.

Based on the scenario above, do the following tasks:

(a)   Develop a systematic table of contents for the IEEE standard SRD. However you can omit sections on Appendix and Bibliography.

(5 marks)

(b)   List all the user requirements, system requirements and functional requirements in your SRD.

(10 marks)

(c)   Develop Software Requirements Specification (SRS) in your SRD using object-oriented approach.

(5 marks)

(d)   When developing your SRS, you should also develop the following diagrams:

(i)   Use-Case Diagram   (5 marks)
(ii)   Sequence Diagram with flow of events   (5 marks)
(iii)   Class Diagram   (5 marks)
(iv)   Activity Diagram   (5 marks)

BAHAGIAN A

Arahan: Jawab SEMUA soalan.

S1   Beri definasi untuk terma-terma berikut:

    (e)   *Functional requirements*

    (f)   *Non-functional requirements*

    (g)   *Software Requirements Document (SRD)*

    (h)   *Software Requirements Specification (SRS)*

(8 markah)

S2   Terangkan **DUA (2)** objektif utama untuk analisa keperluan.

(6 markah)

S3   Di dalam analisa keperluan perisian, mendapatkan keperluan yang betul adalah penting. Berikan **LIMA (5)** punca yang boleh di gunakan untuk mendapatkan keperluan yang betul.

(5 markah)

S4   (a)   Berikan definasi *software maintenance*.

(3 markah)

    (b)   Terangkan **TIGA (3)** kaedah *software maintenance*.

(12 markah)

S5   *Software Requirements Specification (SRS)* boleh juga di dapati secara spesifikasi formal.

    (a)   Beri definasi spesifikasi formal.

(3 markah)

    (b)   Beri **TIGA (3)** contoh bahasa spesifikasi formal.

(3 markah)

S6   Bangunkan *use-case diagram* untuk sistem *Online Library Loan*.

(10 markah)

S7   Bangunkan *activity diagram* untuk sistem *Online Library Loan* bagi kes membuat peminjaman buku.

(10 markah)

BAHAGIAN B

Arahan: Jawab **SEMUA** soalan.

S8   Penolong Pendaftar di FTMM mengambil berat tentang barang-barang peralatan di FTMM. Buat masa sekarang, staf FTMM yang ingin membuat permintaan ke atas peralatan di FTMM kena mengisi borang dengan menulis apa yang mereka kehendaki. Setelah di luluskan, Penolong Pendaftar akan memberi peralatan yang di pohon kepada staf. Kemudian, Pembantu Tadbir fakulti akan mengemas kini stok yang ada. Oleh itu, Sistem atas talian adalah di kehendaki untuk mengawal selia stok peralatan di FTMM ini.

Berpandukan kes ini, buat perkara-perkara di bawah:

(a)   Bangunkan sistematik kandungan untuk standard IEEE SRD. Walaubagaimanapun, anda boleh membuat pengecualian untuk *Appendix* dan *Bibliography*. .

(5 markah)

(b)   Hasilkan semua keperluan pengguna, sistem dan fungsi di dalam SRD anda.

(10 markh)

(c)   Bangunkan *Software Requirements Specification (SRS)* di dalam SRD anda dengan menggunakan kaedah yang berasaskan objek.

(5 markah)

(d)   Di dalam SRS anda, bangunkan gambarajah di bawah:

(i)   *Use-Case Diagram*   (5 markah)
(ii)   *Sequence Diagram with flow of events*   (5 markah)
(iii) *Class Diagram*   (5 markah)
(iv)   *Activity Diagram*   (5 markah)