

SULIT



BAHAGIAN PEPERIKSAAN DAN PENILAIAN  
JABATAN PENDIDIKAN POLITEKNIK  
KEMENTERIAN PENDIDIKAN TINGGI

JABATAN TEKNOLOGI MAKLUMAT & KOMUNIKASI

PEPERIKSAAN AKHIR  
SESI JUN 2016

DFT3123: HUMAN COMPUTER INTERACTION

TARIKH : 02 NOVEMBER 2016  
MASA : 8.30 AM - 10.30 AM (2 JAM)

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Kertas ini mengandungi DUA PULUH TIGA (23) halaman bercetak.

Bahagian A: Objektif (30 soalan)

Bahagian B: Struktur (3 soalan)

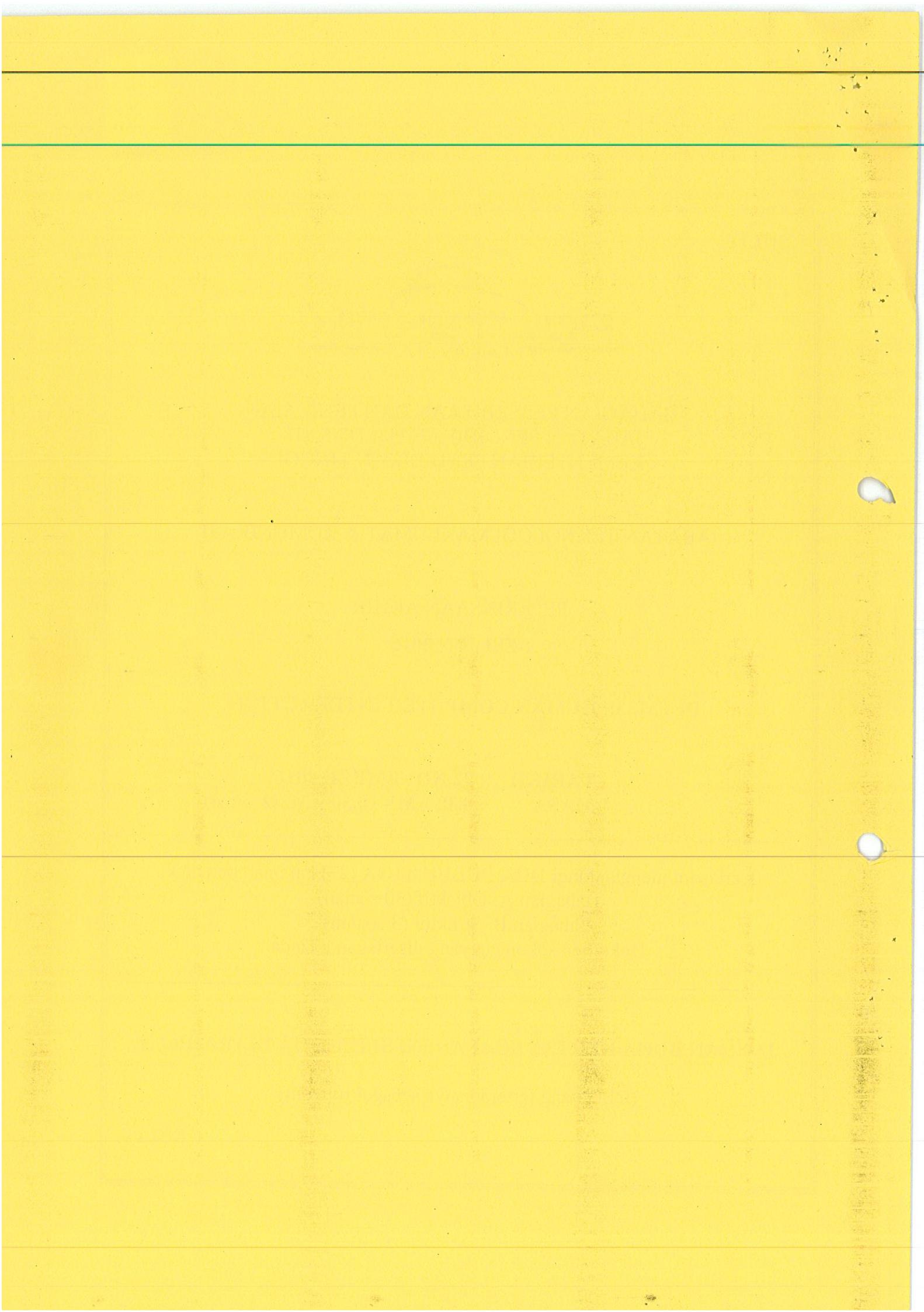
Dokumen sokongan yang disertakan : Tiada

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JANGAN BUKA KERTAS SOALANINI SEHINGGA DIARAHKAN

(CLO yang tertera hanya sebagai rujukan)

SULIT



**SECTION A : 45 MARKS****BAHAGIAN A : 45 MARKAH****INSTRUCTION:**

This section consists of **THIRTY (30)** objective questions. Mark your answers in the OMR form provided.

**ARAHAN :**

*Bahagian ini mengandungi TIGA PULUH (30) soalan objektif. Tandakan jawapan anda di dalam borang OMR yang disediakan.*

CLO1

C1

1. Below are components of Interaction Framework EXCEPT

*Di bawah menunjukkan komponen-komponen dalam Kerangka Interaksi KECUALI*

- A. System / Sistem
- B. Memory / Memori
- C. Input/Output / Input / Output
- D. User / Pengguna

CLO1

C1

2. Identify the guidelines in design based on Menu for Interface Style.

*Kenalpasti garis panduan dalam rekabentuk berdasarkan Menu dalam Gaya Interaksi.*

- I. Wording
- II. Organization
- III. Highlighting
- IV. Selection

- A. I, II and III
- B. I, III and IV
- C. II, III and IV
- D. I, II, III and IV

- CLO1            3. Define the meaning of an End-user of a program.

C1

*Tentukan maksud pengguna akhir sesuatu program.*

- A. Designer / *Perekabentuk*
- B. Human user / *Pengguna*
- C. Programmer / *Pengaturcara*
- D. Administrator / *Pentadbir*

- CLO1            4. Select from the following memory that is related to floppy disk, optical disk and magnetic tape?

C1

*Pilih daripada antara berikut ingatan yang berkaitan dengan cakera liut, cakera optik dan pita magnetik?*

- A. Virtual memory / *Ingatan Maya*
- B. Short-term memory / *Ingatan Jangka-Pendek*
- C. Long-term memory / *Ingatan Jangka-Panjang*
- D. Perceptual memory / *Ingatan Persepsi*

CLO1  
C2

5. Re-arrange The Norman's 7 stage model of activities BELOW.

*Susun semula 7 peringkat aktiviti mengikut Model Norman di BAWAH.*

- I. Execute the action sequence  
*Melaksanakan aturan tindakan*
  - II. Form an intention  
*Membentuk satu niat*
  - III. Specify an action sequence  
*Menetapkan aturan tindakan*
  - IV. Establish a goal  
*Menentukan matlamat*
- A. IV, II, III, I  
B. II, III, I, IV  
C. IV, III, II, I  
D. I, III, IV, I

CLO1  
C2

6. Ergonomics is traditionally a study of the relationship of interaction. Choose the goals of ergonomics function in design?

*Ergonomik adalah satu bidang kajian yang mengkaji hubungan interaksi. Pilih fungsi matlamat ergonomik dalam rekabentuk?*

- A. Productivity and quality / *Produktiviti dan kualiti*  
B. Healthy and productivity / *Kesihatan dan Produktiviti*  
C. Quality and healthy / *Kualiti dan Kesihatan*  
D. Productivity only / *Produktiviti sahaja*

seating arrangements adaptable to cope with all sizes of user

*memastikan susunan tempat duduk sesuai untuk semua saiz pengguna*

- CLO1 C2 7. Identify the interface style that has direct accelerated access to the system functionality and is useful for repetitive tasks.

*Nyatakan satu bentuk antara muka yang diakses secara terus dan berguna untuk mempercepatkan kebolehfungsian sistem tugas berulang-ulang kali.*

- A. Menu / *Menu*
- B. Command line / *Baris Arahan*
- C. Web navigation / *Navigasi Laman web*
- D. Form fills and spreadsheet / *Borang dan lembaran kerja*

- CLO1 C2 8. Choose from the following senses that is used to receive and response to information

*Pilih antara deria berikut yang digunakan untuk menerima dan memberi maklum balas terhadap sesuatu informasi.*

- I. Visual Channel / *Deria penglihatan*
  - II. Auditory Channel / *Deria pendengaran*
  - III. Haptic Channel / *Deria sentuhan*
  - IV. Smell Channel / *Deria bau*
- A. I and II
  - B. II and III
  - C. I, II and III
  - D. I, II and IV

CLO1  
C1

9. Identify the attributes of usability in interactive system design.

*Kenalpasti ciri-ciri kebolehgunaan dalam merekabentuk sistem interaktif.*

- I. Learnability / *Kebolehbelaaran*
  - II. Flexibility / *Fleksibiliti*
  - III. Robustness / *Keteguhan*
  - IV. Interactivity / *Interaktiviti*
- A. I, II and III
  - B. II, III and IV
  - C. I, II and IV
  - D. I, II, III and IV

CLO1  
C1

10. Select the principle of Learnability that support usability.

*Pilih prinsip Kebolehan Belajar yang menyokong kebolehgunaan.*

- A. Substitutivity / *Kebolehbahagian*
- B. Customizability / *Kebolehubahan*
- C. Predictability / *Kebolehjangkaan*
- D. Responsiveness / *Responsif*

CLO1  
C1

11. Label the blank area of X in a waterfall model in Figure A1.

*Labelkan ruang kosong bertanda X di dalam Model Air Terjun pada Rajah A1.*

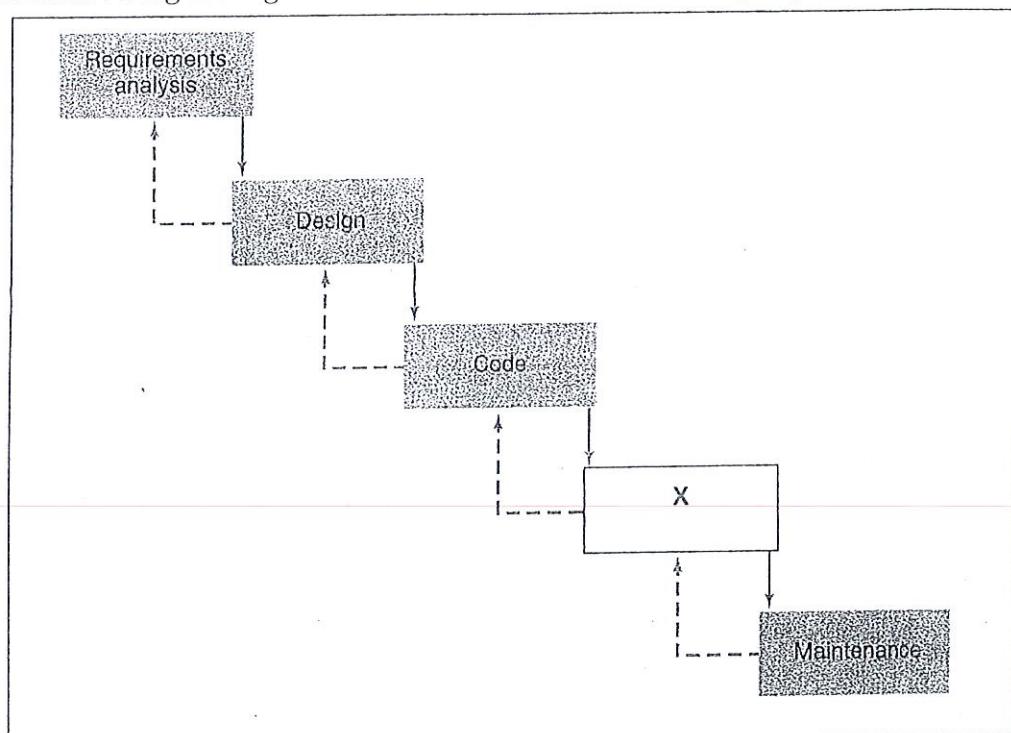


Figure A1 / Rajah A1

- A. Development / Pembinaan
- B. Test / Ujian
- C. Analyze / Analisis
- D. Implementation / Implementasi

CLO 1  
C1

12. Identify the CORRECT software development process

*Kenalpasti proses pembangunan perisian yang BETUL*

- A. Computer systems/Sistem komputer
- B. Interactive process/Proses Interaktif
- C. Application/ Aplikasi
- D. User requirement/ keperluan pengguna

CLO1

C1

13. Identify the principle to support the usability in an interactive systems design

*Kenalpasti prinsip untuk menyokong kebolehgunaan dalam rekabentuk sistem interaktif*

- A. Usability/*Kebolehgunaan*
- B. Flexibility / *Fleksibiliti*
- C. Suitability / *Kesesuaian*
- D. Efficiency/ *Kecekapan*

CLO 1

C2

14. Identify the most suitable approach to prototyping that are closely related to the above statement.

*Kenalpasti pendekatan kepada prototaip yang dirujuk kepada pernyataan di atas.*

To ensure that the system requirements are validated and that they are clearly understood.

*Memastikan keperluan sistem disahkan dan bahawa mereka difahami*

- A. Throw-away / *Pakai Buang*
- B. Evaluation / *Penilaian*
- C. Maintenance / *Penyelenggaraan*
- D. Technically / *Secara Teknikal*

CLO 1  
C2

15. Determine the principle of Flexibility that is used in Figure A2.

*Kenalpasti prinsip Fleksibiliti yang digunakan di dalam Rajah A2.*

Figure A2 / Rajah A2

- A. Substitutivity / Kebolehgantian
- B. Predictability / Kebolehjangkaan
- C. Observability / Keteramatatan
- D. Responsiveness / Memberi maklum balas

CLO 1  
C2

16. Identify the principles to support usability.

*Kenalpasti prinsip yang menyokong kebolehgunaan.*

- A. Robustness, Predictability, Learnability  
*Keteguhan, Ramalan, kebolehupayaan belajar*
- B. Robustness, Flexibility, Predictability  
*Keteguhan, Fleksibiliti, Ramalan*
- C. Flexibility, Learnability, Robustness  
*Fleksibiliti, kebolehupayaan belajar, Keteguhan*
- D. Flexibility, Predictability, Learnability  
*Fleksibiliti, Ramalan, kebolehupayaan belajar*

CLO 1  
C3

17. By referring to **Figure A3**, choose the structure that is used in process-oriented design rationale.

*Dengan merujuk kepada Rajah A3, pilih struktur yang digunakan dalam proses berorientasikan reka bentuk rasional.*

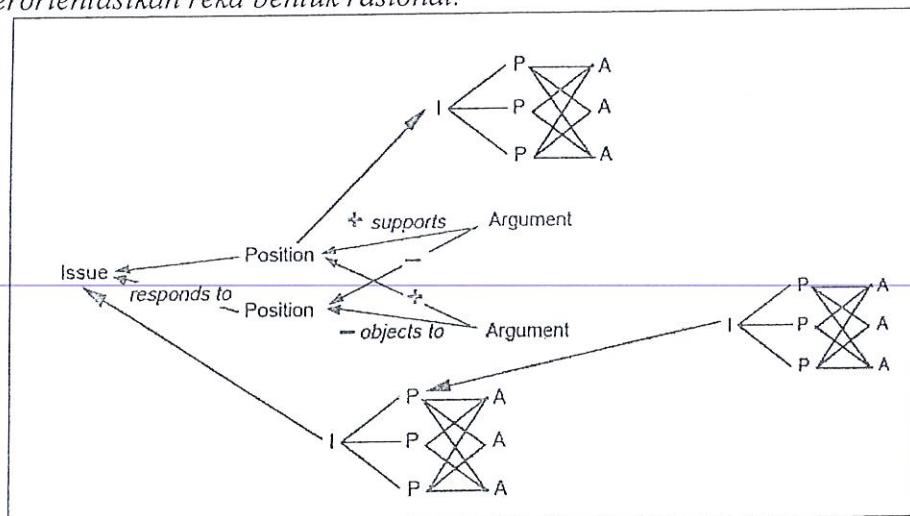


Figure A3 / Rajah A3

- A. EVA Analysis / *Analisis EVA*
- B. RAD Model / *Model RAD*
- C. gIBIS / *gBIS*
- D. Schneiderman's Analysis / *Analisis Schneiderman*

CLO 1  
C3

18. Choose the Schneiderman's Golden Rules that has been applied in Figure A4.

*Pilih Schneiderman's Golden Rules yang diaplikasikan dalam Rajah A4.*

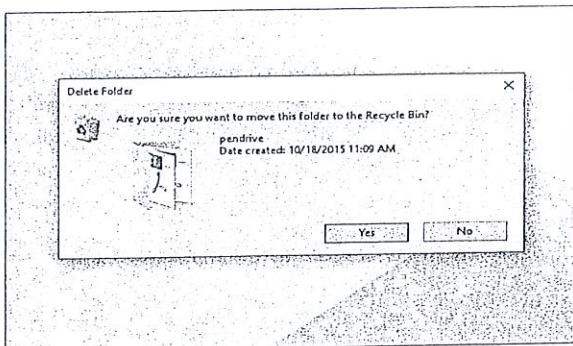


Figure A4 / Rajah A4

CLO 1  
C3

19. Figure A5 explains the Schneiderman's Rule. Choose the **CORRECT** answer.

*Rajah A5 menjelaskan Peraturan Schneiderman. Pilih jawapan yang BETUL.*

"For every user action, there should be a system feedback. For frequent and minor actions, the response can be modest, whereas for infrequent and major actions, the response should be more substantial. Visual presentation of the responses will provide a convenient environment for showing changes explicitly".

Figure A5 / Rajah A5

- A. Design dialogues to yield "closure". / *Rekabentuk dialog untuk menghasilkan closure.*
- B. User control freedom feedback. / *Maklumbalas bagi kawalan pengguna*
- C. Offer informative feedback. / *Menawarkan maklumbalas bermaklumat*
- D. Permit makes reversal of action easier. / *Permit memudahkan tindakan pembalikan.*

CLO1  
C2

20. Based on the statement below, choose the cognitive challenges that you should consider as your design progresses.

*Merujuk kepada pernyataan di bawah, pilih cabaran-cabaran kognitif yang anda harus pertimbangkan dalam perkembangan reka bentuk.*

**“It is commonly believed that the user’s cognitive style should be considered in the design progress”**

**“Kebiasaannya dipercayai bahawa gaya kognitif pengguna perlu dipertimbangkan dalam perkembangan rekabentuk”**

- I. Conceptual complexity / *Kerumitan konseptual*
  - II. Memory load / *Beban memori*
  - III. Attention / *Perhatian*
  - IV. Reasoning / *Pertimbangan*
- A. I and II
  - B. II and III
  - C. I, II and III
  - D. I, II and IV

CLO1  
C2

21. Identify the advantage of Laboratory Studies Evaluation

*Kenalpasti kelebihan Penilaian Kajian Makmal*

- A. natural environment / *persekitaran semulajadi*
- B. context retained / *konteks dikekalkan*
- C. uninterrupted environment / *persekitaran tanpa gangguan*
- D. possibility of longitudinal studies / *kebarangkalian kajian longitudinal*

22. Identify the advantages of Heuristic Evaluation :

*Kenalpasti kelebihan Penilaian Heuristic :*

- I. You can obtain feedback early in the design process.  
*Anda boleh mendapatkan maklumbalas awal di dalam proses reka bentuk.*
  - II. It can provide some quick and relatively inexpensive feedback to designers.  
*Ia boleh menyediakan maklumbalas berpatutan yang cepat dan relatif kepada pengguna-pengguna.*
  - III. The evaluation may identify more minor issues and fewer major issues.  
*Penilaian berkemungkinan mengenalpasti lebih banyak isu minor dan kurang isu major.*
  - IV. You can use it together with other usability testing methodologies.  
*Anda boleh menggunakan bersama-sama dengan metodologi ujian kebolehgunaan yang lain.*
- A. I, II and III  
B. II, III and IV  
C. I, II and IV  
D. I, III and IV

23. Below are Nielsen's 10 Heuristic Evaluation EXCEPT

*Berikut merupakan 10 Penilaian Heuristic berdasarkan Nielsen KECUALI*

- A. User control and freedom / *kawalan pengguna dan bebas*
- B. Error prevention / *pencegahan kesilapan*
- C. Aesthetic and minimalist design / *kajian estetik dan minimalis*
- D. Offer informative feedback / *menawar maklumbalas berinformasi*

CLO1 C2 24. Identify the type of evaluation techniques that is less flexible and less probing.

*Kemalpasti apakah jenis teknik penilaian yang kurang fleksibel dan kurang menyelesaikan sesuatu masalah.*

- A. Interviews / *Temubual*
- B. Think aloud / *Think aloud*
- C. Protocol analysis / *Analisis protokol*
- D. Questionnaires / *Soal selidik*

CLO1 C2 25. Define the meaning of Think Aloud.

*Takrifkan maksud bagi Think Aloud*

- A. Cognitive walkthrough / *Cognitive walkthrough*
- B. Heuristic evaluation / *Penilaian Heuristic*
- C. User observed performing task / *Pengguna memantau tugas berprestasi*
- D. Model-based evaluation / *Penilaian Model-based*

CLO1 C3 26. Choose the suitable evaluation technique based on the statement above.

*Pilih teknik penilaian yang sesuai berdasarkan kenyataan di atas.*

Predict the relationship between two or more variables

*Mengamalkan hubungan di antara dua atau lebih pembolehubah*

- A. Empirical/ Experimental Evaluation / *Penilaian empikal/eksperimental*

- B. Cognitive Walkthrough / *Cognitive Walkthrough*

- C. Heuristic Evaluation / *Penilaian Heuristik*

- D. Model-Based Evaluation / *Penilaian berdasarkan model*

CLO1

C3

27. Choose the BEST question style based on the questions below.

*Pilih jenis soalan yang TERBAIK bagi merujuk soalan-soalan di bawah.*

*How is everything going?*

*Bagaimana semuanya berlaku?*

*Would you like to tell me more?*

*Boleh kamu beritahu saya selanjutnya?*

- A. Ranked question / *soalan berpangkat*
- B. Scalar question / *soalan berskala*
- C. Open-ended question / *soalan terbuka*
- D. General question / *soalan umum*

CLO1  
C3

28. Figure A6 shows one of Nielsen's Heuristic Principles. Choose the principle represented in Figure A6.

*Rajah A6 menunjukkan satu daripada Prinsip Nielsen Heuristic. Pilih prinsip yang diwakili oleh Rajah A6.*

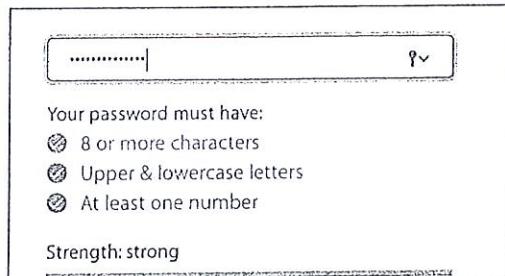


Figure A6 / Rajah A6

- A. Error prevention  
*Pencegahan Kesilapan*
- B. User control and freedom  
*Kawalan pengguna dan bebas*
- C. Help users recognize, diagnose and recover from errors  
*Membantu pengguna-pengguna mengenalpasti, mendiagnosis and memulihkan daripada kesilapan*
- D. Visibility of system status  
*Ketampakan status sistem*

CLO1  
C3

29. Refer to the statement below, choose the appropriate factor in experimental design.

*Berdasarkan kenyataan di bawah, pilih faktor yang sesuai dalam rekabentuk eksperimen.*

- Should be chosen to match the expected user population  
*Pemilihan yang sepadan dengan jangkaan populasi pengguna*
- Sample size must be large enough  
*Saiz sampel mestilah besar*

- A. Variable / *Pembolehubah*
- B. Hypothesis / *Hipotesis*
- C. Participants / *Peserta*
- D. Data / *Data*

CLO1  
C3

30. Choose the best statements that describe the principle in questionnaire designing

*Pilih penerangan terbaik yang menerangkan tentang prinsip merekabentuk soalselidik.*

I. Keep questions short  
*Soalan mestilah ringkas*

II. Only ask a question if it contributes to design  
*Hanya tanya soalan yang menyumbang kepada rekabentuk*

III. Use closed questions for ease of analysis  
*Menggunakan soalan tertutup untuk senang dianalisis*

IV. Always pilot questionnaires/interview schedules  
*Sentiasa cuba jadual temubual/soalselidik*

A. I and II

B. II, III and IV

C. I, II, III and IV

D. IV only

**SECTION B : 55 MARKS****BAHAGIAN B : 55 MARKAH****INSTRUCTION:**

This section consists of THREE (3) structured questions. Answer ALL questions.

**ARAHAN:**

Bahagian ini mengandungi TIGA (3) soalan berstruktur. Jawab SEMUA soalan.

**QUESTION 1****SOALAN 1**CLO1  
C1

- (a) (i) Define the meaning of Human Computer Interaction (HCI).

*Takrifkan maksud Human Computer Interaction (HCI).*

[2 marks]

[2 markah]

- (ii) List down THREE (3) components of HCI.

*Senaraikan TIGA (3) komponen HCI.*

[3 marks]

[3 markah]

- (iii) Describe TWO (2) important factors of user interface design in human daily life.

*Huraikan DUA (2) faktor kepentingan rekabentuk antara muka di dalam kehidupan seharian manusia.*

[2 marks]

[2 markah]

CLO1  
C2

- (b) (i) Describe WIMP interface style.

*Jelaskan ciri-ciri antaramuka WIMP.*

[2 marks]

[2 markah]

(ii) List down THREE advantages and THREE disadvantages of WIMP Interface style.

*Senaraikan TIGA kelebihan dan TIGA kekurangan ciri-ciri antaramuka WIMP.*

[3 marks]

[3 markah]

CLO1

C3

(c) Differentiate between Command Line Interface and Menus Interface.

*Bezakan diantara Antaramuka Command Line dan Antaramuka Menu.*

[3 marks]

[3 markah]

**QUESTION 2**  
**SOALAN 2**

CLO1

C1

- (a) State **TWO** (2) differences of software Engineering and Interaction Design?  
*Nyatakan **DUA** (2) perbezaan di antara Kejuruteraan perisian dan Interaction Design?*

[4 marks]  
[4 markah]

CLO1

C2

- (b) Explain **FIVE** (5) steps in waterfall lifecycle?  
*Terangkan **LIMA** (5) langkah dalam “waterfall lifecycle”?*

[10 marks]  
[10 markah]

CLO1  
C3

- (c) Referring to Figure B1 and given principles, explain those principles to support usability in interactive system design.

*Merujuk kepada Rajah B1 dan prinsip-prinsip yang diberikan, terangkan prinsip-prinsip tersebut untuk menyokong kebolehgunaan dalam reka bentuk sistem interaktif.*

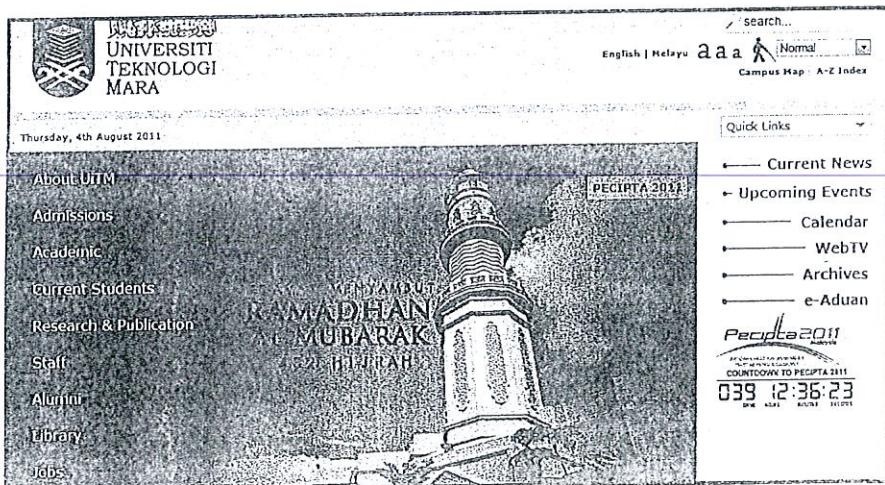


Figure B1 / Rajah B1

- i. Familiarity / Kebiasaan [2 marks]  
[2 markah]
- ii. Consistency / Ketekalan [2 marks]  
[2 markah]

iii. Responsiveness / *Responsif tindakbalas*

[2 marks]

[2 markah]

## QUESTION 3

## SOALAN 3

CLO1  
C1

(a) Based on the statements above

- Making things better starts from evaluation
- Evaluation is a process, not an event

i. Write the purpose of evaluation.

*Tulis tujuan penilaian.*

[2 marks]

[2 markah]

ii. List THREE (3) types of evaluating technique done by experts.

*Senaraikan TIGA (3) teknik penilaian yang dilakukan oleh pakar.*

[3 marks]

[3 markah]

CLO1  
C2

(b) Interview and questionnaire are two methods used in Query Technique.

*Temubual dan Soal Selidik adalah dua kaedah yang biasa digunakan dalam Teknik Menyoal.*

i. Give TWO (2) differences between interview and questionnaire methods.

*Berikan DUA (2) perbezaan di antara kaedah Temubual dengan Soal Selidik.*

[4 marks]

[4 markah]

ii. Write TWO (2) examples of Open – Ended question related to any topics.

*Berikan DUA (2) contoh soalan Open – Ended berkaitan dengan mana – mana topik.*

[4 marks]

[4 markah]

CLO1  
C3

- (c) You almost finish typing your assignment using Microsoft Word. Suddenly, you realized that there are some words that were spelled wrongly and you need to edit those words. Through GOMS Model (Goals, Operators, Methods, Selection) in Model – Based Evaluation, solve your problem.

*Anda hampir siap menaip tugas menggunakan Microsoft Word. Tiba-tiba, anda menyedari ada beberapa perkataan-perkataan yang salah di eja dan anda perlu memperbetulkan perkataan-perkataan tersebut. Dengan menggunakan kaedah GOMS Model (Goals, Operators, Methods, Selection) dalam Model – Based Evaluation, selesaikan masalah anda.*

[7 marks]

[7 markah]

## SOALAN TAMAT