

SULIT



BAHAGIAN PEPERIKSAAN DAN PENILAIAN
JABATAN PENDIDIKAN POLITEKNIK
KEMENTERIAN PENDIDIKAN TINGGI

JABATAN KEJURUTERAAN ELEKTRIK

PEPERIKSAAN AKHIR
SESI DISEMBER 2015

EC601: DATABASE SYSTEM

TARIKH : 9 APRIL 2016
MASA : 8.30 AM – 10.30 AM (2 JAM)

Kertas ini mengandungi SEBELAS (11) halaman bercetak.

Bahagian A: Struktur (10 soalan)

Bahagian B: Esei (3 soalan)

Dokumen sokongan yang disertakan : Tiada

JANGAN BUKA KERTAS SOALANINI SEHINGGA DIARAHKAN

(CLO yang tertera hanya sebagai rujukan)

SULIT

SECTION A : 40 MARKS***BAHAGIAN A : 40 MARKAH*****INSTRUCTION:**

This section consists of **TEN (10)** structured questions. Answer **ALL** questions

ARAHAN :

Bahagian ini mengandungi SEPULUH (10) soalan berstruktur. Jawab SEMUA soalan

CLO1
C1**QUESTION 1**

List down **TWO (2)** advantages and **TWO (2)** disadvantages of Database Management System (DBMS).

SOALAN 1

Senaraikan DUA (2) kelebihan dan DUA (2) kekurangan Sistem Pengurusan Pengakalan Data.

[4 marks]

[4 markah]

CLO2
C1**QUESTION 2**

Figure 1 show the components of Database System. List **FOUR (4)** People in the Database System Components.

SOALAN 2

Rajah 1 menunjukkan komponen di dalam Sistem Pangkalan Data. Senaraikan EMPAT (4) 'People' di dalam Komponen Sistem Pangkalan Data.

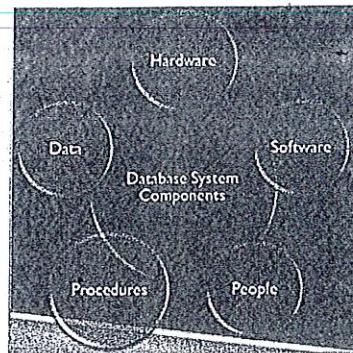


Figure 1/ Rajah 1

[4 marks]

[4 markah]

CLO1
C2**QUESTION 3**

Explain TWO (2) definitions of Database Management System (DBMS)

SOALAN 3

Terangkan DUA(2) maksud bagi Database Management System (DBMS)

[4 marks]

[4 markah]

CLO1
C1**QUESTION 4**

- a) State the relationship in an Entity Relationship Model.

[1 mark]

- b) List THREE (3) relationship in Entity Relationship Model.

[3 mark]

SOALAN 4

- a) Nyatakan perhubungan dalam model hubungan entiti.

[1 markah]

- b) Senaraikan TIGA (3) hubungan dalam model hubungan entiti.

[3 markah]

QUESTION 5CLO1
C2**SOALAN 5**

Give TWO (2) difference between strong entity set and weak entity set.

[4 mark]
[4 markah]

CLO1

C1

QUESTION 6

Define the following terms:

- a) Attribute.
- b) Domain.

SOALAN 6

Definisikan istilah-istilah berikut:

- a) Atribut
- b) Domain.

[4 marks]
[4 markah]

CLO1

C4

QUESTION 7

Based on Table 1 below, use the operation set of FULL OUTER JOIN for the following Relational Algebra (Lecturer \bowtie Course).

SOALAN 7

Berdasarkan Jadual 1 di bawah, gunakan set operasi FULL OUTER JOIN bagi Algebra Hubungan berikut (Lecturer \bowtie Course).

Lecturer		
No staf	L.Name	Course
1225	Ainora	EC601
1227	Azhani	EC504
1229	Azizah	EE603

Course	
Course	C.Name
EC601	Database
EC504	Mutimedia
EC502	Visual Basic

Table 1/Jadual 1

[4 marks]

[4 markah]

CLO1

QUESTION 8

C3

Based on student data in Table 2: STUDENT , write the SQL command to delete all of the rows that have a NULL value in the CLASS column and draw the table result.

SOALAN 8

Berdasarkan data pelajar di dalam Jadual 2: STUDENT, tuliskan arahan SQL untuk memadam semua baris yang mumpunyai nilai NULL di dalam lajur CLASS dan lakarkan jadual hasilnya.

MATRIX_NO	STU_NAME	CGPA	CLASS
15DKE11F1045	ZAHID	3.0	
15DKE11F1066	ADAM	3.8	
15DET11F1077	ZARINA	2.1	
15DTK11F1047	LIANA	4.0	DTK3A

Table 2 / Jadual 2 : STUDENT

[4 marks]

[4 markah]

CLO1

C3

QUESTION 9

Based on the Table 3:STUDENT below, write using SQL command to calculate the average scores of students who scored greater than 50 and produce the output.

SOALAN 9

Berdasarkan Jadual 3: STUDENT di bawah, dengan menggunakan arahan SQL kira purata markah pelajar yang mendapat markah lebih daripada 50 dan paparkan hasil keluarannya.

[4 marks]

[4 markah]

Std_Id	Name	Score
DTK1001	Kumar	49
DTK1002	Siti	50
DTK1003	Ismail	60
DTK1004	Nani	30
DTK1005	Mei	80

Table 3 / Jadual 3: STUDENT

QUESTION 10

Based on the Figure 2 below, construct the table EMPLOYEE using SQL command.

CLO1

C3

SOALAN 10

Merujuk kepada Rajah 2 dibawah, binakan jadual PEKERJA menggunakan arahan SQL.

EMPLOYEE (EmpId, Job_Title, Depart_Name, LocationId)

Figure 2/ Rajah 2

[4 marks]

[4 markah]

SECTION B: 60 MARKS**BAHAGIAN B: 60 MARKAH****INSTRUCTION:**

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

ARAHAN:

Bahagian ini mengandungi **TIGA (3)** soalan eseai. Jawab **SEMUA** soalan .

CLO1
C3**QUESTION 1****SOALAN 1**

- a) Based on Figure 3: Database System Environment, briefly explain;

Berdasarkan kepada Rajah 3: Database System Environment terangkan secara ringkas

- i. **FOUR (4)** components needed to make a database system environment
EMPAT(4) komponen yang diperlukan untuk membentuk persekitaran sistem pengkalan data

[8 marks]

[8 markah]

- ii. **FOUR (4)** of the individuals who are responsible in a database system environment.
EMPAT(4) individu yang bertanggungjawab dalam persekitaran sistem pengkalan data

[8 marks]

[8 markah]

- b) Compare between database systems and file base system in terms of data dependency.

Bandingkan di antara sistem pangkalan data dan sistem pangkalan fail dari segi kebergantungan data.

[4 marks]

[4 markah]

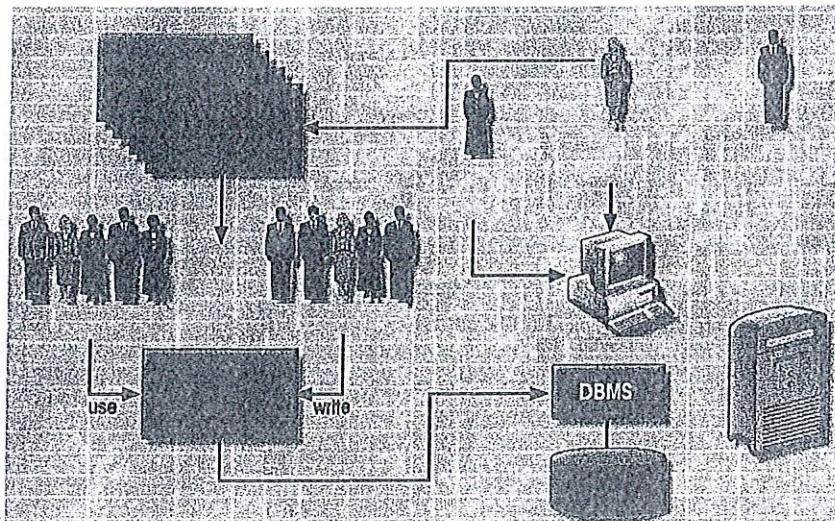


Figure 3 / Rajah 3: Database System Environment

CLO1
C3

QUESTION 2

SOALAN 2

Based on the Project Management Report given,

Berdasarkan borang Laporan Pengurusan Projek yang diberikan,

- a) Complete the normalize form(NF) from UNF to 3NF in Table 4

Lengkapkan bentuk normal daripada UNF hingga 3NF di dalam Jadual 4

[12 mark]

[12 markah]

- b) Based on 3NF, sketch the Schema Model with the relation for each table.

Berdasarkan kepada 3NF, bina skema model dimana setiap jadual mesti berkait.

[8 mark]

[8 markah]

PROJECT MANAGEMENT REPORT

Project Code : PC001
 Project Title : Networking Installation

Manager ID : E01
 Manager: En. Hafis Bin Shahril

EmployeeNo	EmployeeName	DepartmentNo	DepartmentName	HourlyRate
T5001	Razak	L004	IT	RM 22
T5002	Hashim	L023	Programming	RM 18
T5003	nurhana	L005	programming	RM 18
T5004	shaiful	L007	Electrical	RM 20

UNF	1NF	2NF	3NF

Table 4/Jadual 4

CLO1
 C3

QUESTION 3

SOALAN 3

Item_Code	Items	Model	Price	Quantity
CK1001	Keyboard	Logitech	499	10
CK1002	Keyboard	Razer	215	30
CM1003	Mouse	Logitech	99	15
CM1004	Mouse	Razer	215	50
CX1005	Router	D-Link	129	100
CX1006	Repeater	Aztec	148	120

Table 5/ Jadual 5: HARDWARE

Based on the Table 5: HARDWARE, write a SQL COMMAND for the following operations:-

Berpandukan kepada Jadual 4: HARDWARE, tuliskan pernyataan SQL bagi operasi berikut:-

- a) List out all the information for hardware quantity that greater or equal to 30
Senaraikan semua maklumat untuk kuanititi perkakasan yang lebih besar atau sama dengan 30.
[4 marks]
[4 markah]
- b) List out all the information for hardware items is a mouse.
Senaraikan semua maklumat di mana perkakasan berkenaan adalah tetikus
[4 marks]
[4 markah]
- c) List out all item codes and item which price is between 50 to 200
Senaraikan semua kod barang dan barang yang harganya di antara 50 dan 100.
[4 marks]
[4 markah]
- d) List out the item code and the price where the item code is either CX1005 or CX1006
Senaraikan semua kod barang dan harga dimana item barang adalah CX1005 atau CX1006
[4 marks]
[4 markah]

- e) Insert a new record containing the following information :-
Masukkan rekod baharu yang mengandungi maklumat berikut

Item_Code	Items	Model	Price	Quantity
CK1003	Keyboard	Corsair	695	10

[4 marks]

[4 markah]

SOALAN TAMAT