

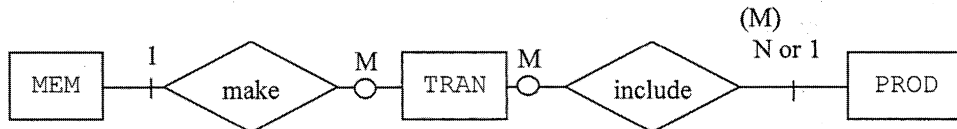
Paper 2A

Marks

1. (a) SELECT DIS FROM EVE, RES ① 3
 WHERE EVE.EID=RES.EID ①
 AND PID = 'F0023' ①
- (b) SELECT DIS FROM EVE ① 3
 WHERE MAXA>=20 AND 20>=MINA ①
 AND GENDER = 'F' ①
- (c) SELECT SUM(QUOTA) FROM EVE ① 3
 ① ①
 WHERE GENDER = 'F' ①
- (d) SELECT DIS, COUNT(*) FROM EVE ① 3
 WHERE DIS NOT IN (SELECT DIS FROM EVE WHERE GENDER = 'F') ①
 AND GENDER = 'M' ①
 GROUP BY DIS ①
- (e) List the champions of all events. 2
 ① ①

2. (a) (i) The corresponding attribute cannot be null (empty) in a record. 1
 (ii) Primary key / foreign key / unique / default 1

- (b) 4



All entities ①
 Relationship ①, ①
 Cardinality ①, ① (4 out of 5)

- (c) (i) SELECT MID ① 3
 FROM TRAN, PROD }
 WHERE TRAN.PID = PROD.PID } ①
 GROUP BY MID ①
 HAVING SUM(UPRICE*QUAN)>10000 ①

- (ii) The database cannot be changed or edited accidentally. (better access control) 1×2
 It can be convenient for ordinary users to apply to their information searching. (faster in searching)

- (d) (i) There are redundant data in the locations and names of the warehouses.
It wastes storage on empty fields.
When warehouse information is changed, it may lead to data inconsistency.

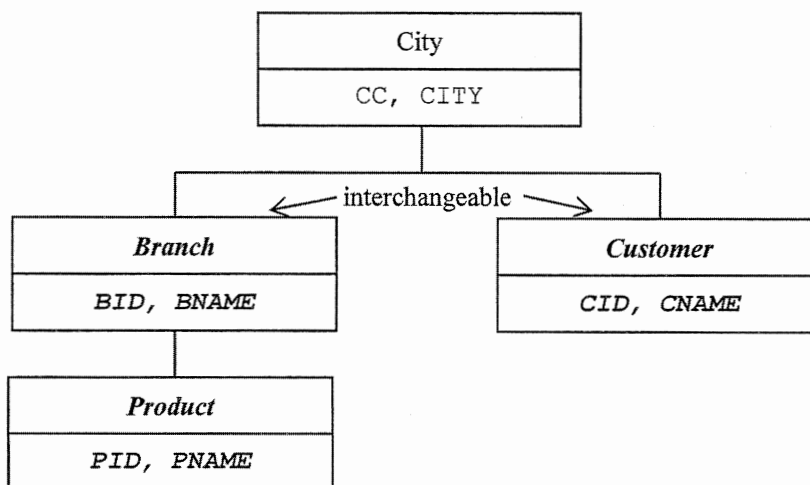
1×2

- (ii) PRODUCT (PID, PNAME, UPRICE) } ①
 Primary key: PID
 WAREHOUSE (WID, ADDR, WNAME) } ①
 Primary key: WID
 STOCK (WID, PID, STOCK) } ①
 Primary key: WID, PID

4

WID – identity code of warehouse }
 ADDR – address of warehouse }
 WNAME – name of warehouse }
 STOCK – number of product in warehouse } ① (any 1)

3. (a)



1, 1

1

(b)

	Primary key	Foreign key
PROD	<u>PID</u>	null
TRAN	<u>TID, PID</u>	CID, PID

3

1 for each cell, maximum = 3

- (c) Workforce for the related knowledge is more available. (personnel)
 The support from the DBMS is more available. (support)
 The performance on heavy duty use of DBMS is better. (performance)
 The migration of DBMS costs a lot. (migration/cost of change)
 Relational DBMS performs better in indexing. (indexing)
 Complicated queries can be made.

1×4

- (d) (i) Overhead on storage is created. /Overhead on updating is needed.

1

- (ii) (1) It involves accessing all records in CUST and the ordering is not important. So the advantage of using index in locating a particular record is of no use.

2*

(2) SELECT * FROM CUST WHERE CID = 'C1234'
 (or CID under ORDER BY/GROUP BY)

1

Marks

4. (a) (i)

CASE tool	Deliverable
Query editor	Data report/Query command
Graphical modeling tool	ER diagram
Project management tool	Project schedule

1×3

(ii) Data dictionary, version numbers (meta data)

1×2

- (b) (i) 7
(ii) 3
(iii) 8
(iv) 4
(iv) 1

1×5

(c) (i) Daily average AQHI in Central (summary information)

1

(ii) The air quality in certain districts in March is improving.
Some districts share the similar patterns of AQHI readings.

1×2

- (d) Ensure the source of data is reliable.
Ensure the information it produces is accurate.
Collect the only necessary information from users.

1×2

*** Marking criteria**

- ② Illustrate a logical and concrete answer
① Illustrate a relevant answer