1

(a) **project select** BOOK (PName = 'Pitman')(Title)

(b) **project join** (**project select** BOOK (Pname = 'MIT Press')) (AName),
AUTHOR: [AName = AName]) (Specialism)

(c) **project join** (**project select** BOOK (Title = 'A guide to DB2')) (PName),
PUBLISHER: [PName = PName]) (Location)

(d) **project divide**
(**project** BOOK (AName, PName), D : [AName | AName]) (PName)
where D(AName) is a relation containing two tuple-values *Smith* and *Jones*.

(e) **project join** (**select join** (**project** BOOK (AName, PName), PUBLISHER : [PName = PName]) (Location = 'Paris'), AUTHOR: [AName = AName]) (AName, Address)

2

(a) **project join** (**project select** DEPARTMENT (DeptName = 'R/D') (DeptNo), EMPLOYEE : [DeptNo = DeptNo]) (EmpNo, EmpName)

(b) **project join** (**project select** (**join**
(**project select** DEPARTMENT (Location = 'Geneva') (DeptNo, ManagerNo), EMPLOYEE : [DeptNo = DeptNo]) (EmpName = 'Smith') (EmpNo,ManagerNo),
EMPLOYEE : [EmpNo = ManagerNo]) (EmpName)

(c) **project join** (**project select** DEPARTMENT (Location = 'New York') (DeptNo), EMPLOYEE : [DeptNo = DeptNo) (EmpNo, EmpName, Salary)

3

Denoting T = TAPE, M = MEMBER, B = BORROWING

(a) **project** T(Title)

(b) X2 := **project** (**select** T(Title= ‘Quadrophenia’) (Catalogue#)

(c) X2 \ (**project** (**select join** (X2, B: [Catalogue# = Catalogue#])(Return-Date = ‘Not-Yet’) (Catalogue#)

(d) R1 := **project join** (**project select** T(Title = ‘Paradise Lost’) (Catalogue#), B:[Catalogue# = Catalogue#])**)** (Id)
R := **project join(**R1, M: [Id = Id]**)** (Id, Name)

(e) **project** T(Title) \ (**project select join**(T, B: [Catalogue# =Catalogue#]) (Borrow-Date + 730 > *sysdate*) (Title))