1. Create a nonclusterd index for the enter\_date column of the works\_on table. Sixty percent of each index leaf page should be filled

CREATE NONCLUSTERED INDEX IX\_work\_on\_EnterDate ON dbo.Work\_on (enter\_date) with (fillFactor = 60)

2. Create a unique composite index for the l\_name and f\_name columns of the employee table

CREATE UNIQUE INDEX IX\_emp\_Name ON dbo.Employee(emp\_fname,emp\_lname)

3.Create a view that comprises the data of all employees that work for the department d1.

CREATE View [dbo].[V\_GETALLEmployee]

AS

SELECT \* FROM Dbo.Employee WHERE Dept\_no = 'd1'

GO

Select \* from [V\_GETALLEmployee]

4. For the project table, create a view that can be used by employees who are allowed to view all data of this table except the budget column.

CREATE View [dbo].[V\_GETALLProjectDetails]

AS

SELECT project\_no,project\_name FROM Dbo.Project

GO

select \* from [V\_GETALLProjectDetails]

5.Create a vew that comprises the first and last names of all employees who entered heir projects in the second half of the year 1988.

CREATE View [dbo].[V\_GETEmployeeDetails]

AS

SELECT emp\_fname ,emp\_lname FROM dbo.Employee E JOIN dbo.Work\_on W ON E.emp\_no = W.emp\_no WHERE DAtEPART(YYYY,W.enter\_date) = '1998' AND DATEPART(M,W.enter\_date) > 6

GO

select \* from [V\_GETEmployeeDetails]

6.Solve the previous exercise so that the original columns

f\_name and l\_name have new names in the view: firstand last, respectively.

Alter View [dbo].[V\_GETEmployeeDetails]

AS

SELECT emp\_fname as [First],emp\_lname as [last] FROM dbo.Employee E JOIN dbo.Work\_on W ON E.emp\_no = W.emp\_no WHERE DAtEPART(YYYY,W.enter\_date) = '1998' AND DATEPART(M,W.enter\_date) > 6

GO

select \* from [V\_GETEmployeeDetails]

7.use the view in Exercise 3 to display full details of all employees whose last names begin with the letter M.

Select \* from [V\_GETALLEmployee] WHERE emp\_lname like '%m'

8.Create a view which comprises full details of all projects on which the employee named smith works .

CREATE VIEW [dbo].[V\_GETEmployeeWorkedDetails]

AS

SELECT P.\* FROM dbo.Project P INNER JOIN dbo.Work\_on W ON P.project\_no = W.project\_no INNER JOIN dbo.Employee E ON W.emp\_no = E.emp\_no WHERE CONCAT(e.emp\_fname,' ',e.emp\_lname) like '%smith%'

GO

select \* from [V\_GETEmployeeWorkedDetails]

9.Using the ALTER VIEW statement, modify the condition in the view in Exercise-3. The modified view should comprise the data of all employees that work either for the department d1 or d2, or both.

Alter View [dbo].[V\_GETALLEmployee]

AS

SELECT \* FROM Dbo.Employee WHERE Dept\_no in ('d1' ,'d2')

GO

Select \* from [V\_GETALLEmployee]

10.Using the view from Exercise 4, insert details of a new project with project no ‘p2’ and name ‘moon’

Insert INTO [V\_GETALLProjectDetails] values('p2','moon')

select \* from [V\_GETALLProjectDetails]

11.Create a view( with the WITH CHECK OPTION clause) that comprises the first and last names of all employees whose employee number is less than 10,000. After that, use he view to insert data for a new employee named Kohn with the employee number 22123, who works for the department d3.

CREATE View [dbo].[V\_VerifyAndInsertEmployee]

AS

SELECT emp\_no,emp\_fname,emp\_lname,Dept\_no FROM Dbo.Employee WHERE emp\_no < 10000

WITH CHECK OPTION;

GO

Insert INTO V\_VerifyAndInsertEmployee VALUES(22123,'Kohn','','d3')

12.Create a view(with the WITH CHECK OPTION clause) with full etails from the works\_on table for all employees that entered their projects during the years 1998 and 1999. After that, modify the entering date of the employee with the employee number 19346. The new date is 06/01/1997.

CREATE VIEW V\_GETEmployeeDetailsFromWORK

AS

select \* from dbo.Work\_on WHERE DATEPART(YYYY,enter\_Date) between 1998 and 1999

with check option;

select \* from V\_GETEmployeeDetailsFromWORK

Update V\_GETEmployeeDetailsFromWORK set enter\_date = '06-01-1997' WHERE emp\_no = 529346

13.Solve the above excersise without the WITH CHECK OPTION clause and find the differences in relation to the modification of the data .

Alter VIEW V\_GETEmployeeDetailsFromWORK

AS

select \* from dbo.Work\_on WHERE DATEPART(YYYY,enter\_Date) between 1998 and 1999

select \* from V\_GETEmployeeDetailsFromWORK

Update V\_GETEmployeeDetailsFromWORK set enter\_date = '06-01-1997' WHERE emp\_no = 529346