

**M.Tech. IN ADVANCED INFORMATION  
TECHNOLOGY - SOFTWARE TECHNOLOGY  
(MTECHST)**

00483

**Term-End Examination**

**June, 2015**

**MINE-017 : DATABASE ADMINISTRATION**

*Time : 3 hours*

*Maximum Marks : 100*

**Note :**

- (i) *Section I is **compulsory** and carries 30 marks. Answer all the questions.*
- (ii) *Section II carries 70 marks. Answer any **five** questions.*
- (iii) *Assume suitable data wherever required.*
- (iv) *Draw suitable sketches wherever required.*
- (v) *Italicized figures to the right indicate maximum marks.*

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**SECTION I**

1. A local banking institution which is running on an Oracle database required a backup/recovery and disaster recovery solution. Oracle DBA module, which includes hot database backups, standby database modules, archived redo log maintenance and backups, error notification, and log and trace file management. Explain the following tasks done by DBA with SQL queries.

**The Admin Works Oracle DBA Module**  
includes the following utilities :

6×5=30

- (a) Database Configuration and Performance Report.
- (b) Database Backup Scripts : dynamically identify all files required by a hot or cold backup and perform the backup to disk or tape.
- (c) Standby Database Scripts : copy archive files from the primary database and apply them to a standby database.
- (d) Archived Redo Log file management : backs up archived redo log files and deletes them after a parameter-specified number of days.
- (e) Database Alert Log Scanner and Notification : the database alert log is scanned for errors and sends an email if errors are identified.
- (f) Trace File & Log File management : deletes old trace files to keep your file system clean.

## SECTION II

2. (a) What are the different Log Files used by DBA ? How can DBA use different Log Files to access database which is running 24\*7 ? 4+4=8
- (b) Network security has become even more critical as companies expose their system to larger number of users through internet and intranet connections. How does DBA overcome this problem ? Write the number of listeners in Network that are used by DBA. 3+3=6
3. (a) Create a user hierarchy for Enterprise Resource Planning systems (ERPs). Give the privileges to different users and tables. 4+4=8
- (b) Give the reason why many DBA use Enterprise Manager (EM). Write a step to take backup and recovery with the help of Enterprise Manager. 3+3=6
4. Create a scenario to explain the usage of all constraints in SQL. What is the use of exception table in row violating constraints ? Write an SQL script to show this. 5+4+5=14
5. Write necessity of locks in database. How does it help to avoid database failures ? Explain with example. 7+7=14

6. (a) Database can be started up and shut down by different ways. Why will DBA do this ? Write SQL statements that show different options to start up and shut down database. *4+4=8*
- (b) Explain how index gives faster search to a large database table. Write the type of index with example. *3+3=6*
7. Discuss briefly about Database creation, alteration and deletion. What is the need of DBCA in database creation ? *10+4=14*
8. A database administrator has created a locally managed table space. When you create tables on that table space, what are the limitations ? Give the requirement of different tables in database. *7+7=14*
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