# M.Tech. IN ADVANCED INFORMATION TECHNOLOGY – SOFTWARE TECHNOLOGY (MTECHST)

## Term-End Examination

## December, 2014

00299

## 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 5 questions.*

(iii)  *Assume suitable data wherever required.*

(iv)   *Draw suitable sketches wherever required.*

(v)    *Italicized figures to the right indicate maximum marks.*

## SECTION I

1.   Solve the following case study.              *5×6=30*

You are an Oracle Database Administrator of an organization involved in Bio research system. Your database gets populated all throughout the day from across the world. Basically data input is done through web forms, bar code reader and

bio matrix system of different campaigns or through pushing from live database from other systems. There are many users who access the online data. As a DBA you should maintain the following tasks :

(i)    Backup and Recover managements. Your backup should also include the control files.

(ii)   Take a situation for weekly full backup, devise a strategy for creating the backup pieces and defend your strategy.

(iii)  DBA also maintains the type of control files.

(iv)   Database Alert Log Scanner and Notification : the database alert log is scanned for errors and sends an e-mail if errors are identified.

(v)    Trace File and Log File management : deletes old trace files to keep your file system clean.

## SECTION II

2.  (a)  How do standby database scripts copy archive files from the primary database and apply them to a standby database ?   **7**

    (b)  What is the need of privileges ? How will a DBA set privileges to the user ?   **4+3=7**

3.  Why does DBA use different backup strategies ? Explain the pros and cons between Hot and Cloud backup.   **7+7=14**

4.  (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 databases.   **4+4=8**

    (b)  Explain how index gives faster search to large database table. Write the type of index with an example.   **3+3=6**

5.  Write the script to take a RMAN online full backup of all data files. You need to create several channels to hasten the backup process. Specify the backup locations with details.   **5+5+4=14**

6.  (a)  How does data encryption affect index schemes ? In particular, how might it affect schemes that attempt to store data in sorted order.   **5+4=9**

    (b)  While installing an Oracle, DBA first checks the software and hardware configurations. What is the need to do this step, and how does he/she do this ?   **5**

7. User management is one of the tasks of DBA. Explain with the help of an example. Write a script to show how to create a user and how to allocate the privileges to the user. *6+4+4=14*

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