CSC454 Oracle 11gR2 Midterm
20 points

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- **1 point for each question. No partial credit.**

Recommendations: 1. Study first by yourself, and then answer all the questions without looking handouts.
2. Check notes, On-line documentation, etc., and then submit your final answers to D2L Dropbox.
3. By default, each question has only one answer unless I specified otherwise.
4. Only turn in the Midterm Answer Sheet (this page)

1. SGA memory area consist of the java pool, buffer cache, redo buffer, shared pool, stream pool, and large pool.

Therefore, the statement **B. PGA** is not a part of the SGA.

2. Shared pool consists of the library cache that includes SQL areas and package Dictionary cache including detailed information along with the metadata. Large pool is not a part of shared pool. Large pool is the separate heap used for memory allocation purposes .Java pool is concerned with the server memory and it is used for session specific purpose.Java pool is not the part of the shared pool.Shared pool size is dependent on its initialization parameter. Shared pool size can vary as per the different value of initializing parameter Therefore, the correct options are as follows:

   B. The Shared Pool can be dynamically resized.

   C. The Shared Pool is used for object that can be shared globally.

   D. The Library Cache consists of the most recently used SQL and PL/SQL statements.

3. Shared pool consist of the dictionary cache includes the detailed information along with the metadata Data dictionary information is cached in the data dictionary cache that is a part of the shared pool.

   Therefore, the correct option is **D. Shared Pool.**

4. Shared pool consists of the library cache and dictionary cache.Shared pool consists of the library cache that includes SQL areas and package.Dictionary cache including detailed information along with the metadata. Therefore, the correct options are as follows:

   B. Redo Log Buffer

5. Program global area(PGA) is a non-shared memory region created for a server process. GA contains the data and control information related to the server process that created it. PGA memory is allocated as per the database instances.Therefore, the correct option is

A. True

6. When an oracle instance is created, it starts a background process. Background process consist of the database writer, log writer, check pointer, system monitor, process monitor, and archiver.Therefore, the correct option is

C. Background processes.

7. Physical structure of the Oracle database includes **the Datafiles, Control Files, Redo Log Files, Archive Log Files, Parameter Files, Alert and Trace Log Files, and Backup Files**. Therefore, the correct option is

A. True.

8. Starting an instance by mounting the database is done to perform a full database recovery, to open the online redo log files and online data files, and to rename the data files. Starting an instance without mounting the database is done only to create the database or for recreation of the control files. Therefore, the correct option is

D. Use this startup state for database creation of database or recreation of the control files.

9. The statement: **CREATE SPFILE FROM PFILE;** requires the connection to the SYSDBA. The connection is required to access the database after creating the SPFILE and startup command is used. Therefore, the correct option is

A. This statement requires the SYSDBA or SYSOPER role to execute.

10.Database write is used to write or modify the files on disk from the database buffer. Log writer contains the records for the chances made in the database. System monitor is used for the failed instance recovery purpose. Process monitor is responsible for the recovery of the failed process. Checkpoint is used for a specific time to write the modified data to the database by the help of writer process.

Process with their matching task is shown in the table below:

A. Database Writer	1	Assists with writing to the data file headers
B. Log Writer	4	Records database changes for recovery purposes
C. System Monitor	3	Responsible for instance recovery
D. Process Monitor	2	Cleans up after failed processes
E. Checkpoint	5	Writes dirty buffers to the data files

11. Valid database start-up options are as follows:

Startup: it is used top startup the database.

Startup Force: it is used to start the instance forcefully and to perform the instance recovery.

Startup Nomount: as per the spfile background process are started.

Startup Mount: it is used to open and read the content of the control files.

Therefore, the correct option is **A. STARTUP NORMAL.**

12. SHUTDOWN ABORT is the shutdown option that requires the instance recovery for starting the database for the next time.

Therefore, the correct option is **E. None of the above.**

13. Fourth extent can be calculated as per the storage parameter values as follows:

- Minextents value is 1, so it allocates 1 extent for the table.
- Initial value is 50M, so the size of the 1st extent is 50 M.
- If the table data grows, then it allocates 2nd extent. The next value is 100M, so the size of the second extent will be 100 M.
- If the table grows further, then it allocates a third extent. The Pctincrease value is 20, the size of the 3rd extent is 20% greater than the 2nd extent. Thus it is

    100M+(20*100)/100 =120M

- If the table grow, then Oracle allocates more extents, each 20% larger than the last extent. Thus, 4th extend is

    120M+(120*20)/100 =144M

- Maxextents value is 200, so Oracle can allocate as many as 2000 extents for this table.

    Hence, the oracle allocates 144M to the 4th extent.

14. Oracle uses LRU algorithm for managing the content of the shared pool. Shared Pool can be allocated and deallocated using the LRU. Therefore, the correct option is

   B. Least Recently Used.

15. Shutdown Immediate does not wait for the user to disconnect, it just rollback the transaction which are not committed. Shutdown Immediate perform the task in following order:

   C. Rolls back all current uncommitted transactions

   B. Disconnects the users

A. Closes all files

E. Dismounts the database

D. Shuts down instance

16. Application development is the work of application developers and not of the database administrator. Therefore, the correct option is

D. Application development to manipulate database data.

17. During the transition from nomount to mount control files are required and data and redo files are read. Therefore, the correct option is

B. Control files.

18. Automatic Shared Memory Management uses sga_target initialization parameters. initialization parameter can be manual dynamic tuned are **DB_KEEP_CACHE_SIZE , DB_RECYCLE_CACHE_SIZE, DB_nK_CACHE_SIZE, and SGA_TARGET**.

These parameters are used to keep the pool, recycle the pool, for fixed SGA, and other internal allocations.

Therefore, the correct option is **E. All of the above.**

19. Automatic Shared Memory Management uses sga_target initialization parameter that automatically set the Database Buffer cache, Shared pool Large pool, and Java pools.

Therefore, the correct options are as follows:

A.Database buffer cache

C.Java pool

E. Shared pool

G. Large pool

20. To open the database, the datafiles, redo logfiles and the control files should be synchronized because they are required in order to read from the database and to write in the database.

Therefore, the correct option is **A. Data files, online redo log files, and the control files.**