Appendix A: Sample RHCSA Exam 1  
Time Duration: 3 hours  
Passing Score: 70% (210 out of 300)  
  
**Instructions:**  
The RHCSA exam, EX200, is offered electronically on a physical  
computer running RHEL 8. The computer has two virtual machines with RHEL 8 running  
in each one of them. The exam presents two sets of tasks that are to be completed within  
the stipulated time in the identified virtual machine. Firewall and SELinux need to be  
considered. All settings performed in the virtual machines must survive reboots, or you  
will lose marks. Access to the Internet, printed and electronic material, and electronic  
devices is prohibited during the exam.

**Setup for Sample Exam 1:**  
Build a virtual machine with RHEL 8 Server with GUI (Exercises 1-1 and 1-2). Use a 10GB disk  
for the OS with default partitioning. Add 2x300MB disks and a network interface. Do not configure the network interface or create a normal user account during installation.  
Instructions:  
01: The following tasks are in addition to the exercises and labs presented in the book. No solutions are furnished, but hints to applicable exercises, chapters, or topics are provided in parentheses for reference.  
02: Please do not browse the Internet or seek help from other sources. However, you can refer to the manual pages, and the documentation under the /usr/share/doc directory. This rule does not apply to the kernel download task if included.  
03. The exam tasks should be completed in a terminal window using only the command line  
interface (no GUI).  
04: You can reboot the VM whenever you want during this exam, but retest the configuration after each reboot for verification.  
05: Use your knowledge and judgement for any missing configuration in task description.

**Tasks:**  
Task 01: Assuming the root user password is lost, and your system is running in multi-user target with no current root session open. Reboot the system into an appropriate target level, and reset the root user password to root1234. (Exercise 11-2). After completing this task, log in as the root user and perform the remaining tasks presented below.

Task 02: Using a manual method (create/modify files by hand), configure a network connection on the primary network device with IP address [192.168.0.241/24](http://192.168.0.241/24), gateway [192.168.0.1](http://192.168.0.1), and  
nameserver [192.168.0.1](http://192.168.0.1). Use different IP assignments based on your lab setup. (Exercise 16-3).

Task 03: Using a manual method (modify file by hand), set the system hostname to  
[rhcsal.example.com](http://rhcsal.example.com) and alias rhcsal. Make sure that the new hostname is reflected in the command prompt. (Exercises 16-1 and 16-5).

Task 04: Set the default boot target to multi-user. (Chapter 12, topic: Managing Target Units).

Task 05: Set SELinux to permissive mode. (Chapter 21, topic: Viewing and Controlling SELinux  
Operational State).

Task 06: Perform a case-insensitive search for all lines in the /usr/share/dict/linux.words file that begin with the pattern "essential”. Redirect the output to /var/tmp/pattern.txt file. Make sure that empty lines are omitted. (Chapter 07, topic: Regular Expressions).

Task 07: Change the primary command prompt for the root user to display the hostname, username, and current working directory information in that order. Update the per-user initialization file for permanence. (Exercise 7-1).

Task 08: Create user accounts called user10, user20, and user30. Set their passwords to Temp1234. Make user 10 and user30 accounts to expire on December 31, 2021. (Exercises 5-1, and 6-1 or 6-2).

Task 09: Create a group called group10 and add user20 and user30 as secondary members.  
(Exercise 6-4).

Task 10: Create a user account called user40 with UID 2929. Set the password to user1234.  
(Exercise 5-2).  
Task 11: Create a directory called dir1 under /var/tmp with ownership and owning group set to  
root. Configure default ACLs on the directory and give user10 read, write, and execute permissions. (Exercise 4-8).  
Task 12: Attach the RHEL 8 ISO image to the VM and mount it persistently to /mnt/cdrom. Define access to both repositories and confirm. (Exercise 10-1).  
Task 13: Create a logical volume called Ivoll of size 280MB in vgtest volume group. Mount the  
ext4 file system persistently to /mnt/mnt1. (Exercises 14-1, 14-2, and 15-3).  
Task 14: Change group membership on /mnt/mnt1 to group10. Set read/write/execute permissions on /mnt/mnt1 for group members, and revoke all permissions for public. (Exercises 6-4, 6-6, and either 4-1 or 4-2).  
Task 15: Create a logical volume called lvswap of size 280MB in vgtest volume group. Initialize  
the logical volume for swap use. Use the UUID and place an entry for persistence. (Exercise 15-6).  
Task 16: Use the combination of tar and bzip2 commands to create a compressed archive of the /usr/lib directory. Store the archive under /var/tmp as usr.tar.bz2. (Exercise 3-1).  
Task 17: Create a directory hierarchy /dir1/dir2/dir3/dir4 and apply SELinux contexts of /etc on it recursively. (Chapter 03, topic: Creating Files and Directories, and Exercise 21-2).  
Task 18: Enable access to the atd service for user20 and deny for user30. (Chapter 08, topic:  
Controlling User Access)  
Task 19: Add a custom message "This is RHCSA sample exam on $(date) by $LOGNAME" to the /var/log/messages file as the root user. Use regular expression to confirm the message entry to the log file. (Chapter 07, topic: Regular Expressions, and Chapter 12, topic: Logging Custom Messages).

Task 20: Allow user20 to use sudo without being prompted for their password. (Chapter 6 , topi: Doing as superuser (or doing as substitute User)).

Task21: Write a bash shell and passwords matching their usernames. The script should also extract the three usernames from the /etc/passwd file and redirect them into /var/tmp/newusers. Chapter 22.topic: script12 and chapter 07 topic: Regular expression and input output and error redirections

Task22: Launch a simple container as user20 using the latest version of ubi7 image. Configure the container to auto-start at system reboots without the need for user20 to log in. Exercise 23-10.

Task23 Launch another container as user20 using the latest version of ubi8 image with two environment variables shell and hostname. Configure the container to auto-start via system without the need for user20 to log in. Connect to the container and verify variables settings Exercise 23-7 and 23-10

**Reboot the system and validate the configuration.**