1,Booting process
http://www.thegeekstuff.com/2011/02/linux-boot-process/

2,What is the use initrd?

initrd stands for Initial RAM Disk.
initrd is used by kernel as temporary root file system until kernel is booted and the real root file system is mounted. It also contains necessary drivers compiled inside, which helps it to access the hard drive partitions, and other hardware.

3,how to recover initrd image in linux?

http://www.cyberciti.biz/faq/rebuild-the-initial-ramdisk-image/
http://advancelinux.blogspot.com/2013/06/how-to-rebuild-initrd-or-initramfs-in.html

4,How to Repair a Corrupt MBR and boot into Linux?

a,Boot with CD/DVD
b,Then type linux rescue
boot: linux rescue
c,Then mount /mnt/sysimage by selecting ok.
d,The next step is to make your newly mounted directory the root (or parent) directory.
chroot /mnt/sysimage
e,Restoring GRUB
grub-install /dev/hda
f,Then reboot the system

5,Invalid root password & system not booting due to fstab wrong entry.

a,At the GRUB splash screen at boot time, press any key to enter the GRUB interactive menu.
b,Select Red Hat Enterprise Linux with the version of the kernel that you wish to boot and type e to edit
c,Go to the end of the line and type 1 (press the Spacebar and then type 1). Press Enter to exit edit mode and then press b to boot.

6,Explain about fstab file.
/etc/fstab
LABEL=/dev/sda1 /boot ext3 defaults 1 2

Column:-1 <device> /dev/sda1
Column:-2 <mountpoint> /boot
Column:-3 <filesystemtype> ext3
Column:-4 <options> defaults
Column:-5 <dump> 0 or 1 or 2
Column:-6 <fsckorder> 0 or 1 or 2

7,To check last shutdown & reboot.

last -x -a|grep shutdown

#last

8,To mount ISO image.
#mount -o loop -t iso9660 suse93livedvd.iso /media/iso

9,To check folder & File Size.
#du -sh * |grep G

10,How to check the currently mounted file systems in server?

#mount
#df -hT
#cat /proc/mounts

11,How to Format a Hard Disk.

#fdisk -l
#fdisk /dev/sda or /dev/hda

12,To check available disk.
#parted
#fdisk -l

13,To check lun status
#lsscsi

14,How do I find out runlevel of Unix or Linux system?
runlevel
or
who -r

15,configuration file of runlevel
/etc/inittab

16,How to check physical or virtual machine details, serial number, product details..
#dmidecode

17,To check disk uuid info.

blkid

18,how to configure kernel parameters at runtime, what is the file and how to refresh without reboot?

#/etc/sysctl.conf
#sysctl -p

19,what is diff b/w rpm and yum?
http://www.differencebetween.net/technology/difference-between-yum-and-rpm/

20,Explain crontab and how to use it ?
The crontab used for schedule routine work in background process on the system. set up the cronjob a certain run-level starting from minutes but its not working at seconds,

Can set schedule at Min, hour, date, day of month , day of week.

#Crontab –l : showing crontab list
#Crontab –e : This option is used to edit the crontab for schedule

For example : 00 09 * * * /usr/sbin/perl   /usr/local/jobname.pl

Every day run cronjob at 9.00 AM.

21,Diff b/w hard link and soft link.
http://www.geekride.com/hard-link-vs-soft-link/

22,How to check cpu and architecture details.
#lscpu
#uname -p
#cat /proc/cpuinfo

23,how to check memory details.

free -m
vmstat -s
cat /proc/meminfo
#top

24,To list modules and see info of kernal modules.

lsmod
modinfo <modulename>

25,To check open files.

#lsof

26,To check pci details.

#lspci

27,To check boot related error.

dmesg

28,To check error log.

/var/log/message

29,To check ssh user login info.

/var/log/secure
/var/log/sshd.log

30,Performance related
#top -c
#vmstat -a or -s or -m
#iostat
#free -m or g
#sar
#lsof |grep <device>
#uptime
#hdparm -Tt /dev/sda

31, To check ip details.
ifconfig
ip a
#hostname -i

32,To check link status of interface.
ethtool eth0
ip link show

33,To check network related
#netstat -lnp
#ss
#iptraf

34,Network conf file,interface file and dns lookup file.

/etc/sysconfig/network

/etc/sysconfig/network-scripts/ifcfg-eth

/etc/resolv.conf

/etc/hosts

35,To set service start on boot.
chkconfig <servicename> on

36,To check pv,lv and vg status

#pvs or pvdisplay
#lvs or lvdisplay
#vgs or vgdisplay
#dmsetup ls --tree
#pvscan
#vgscan
#lvscan

37,To create pv,lv,vg.

```
#pvcreate /dev/sda
#vgcreate <vgname> /dev/sda
#lvcreate -L 1G -n <lvname> <vgname>


38,To extent pv,vg,lv.
#vgextend <vgname> <pvname>

#lvextend -L+1G /dev/myvg/homevol
#resize2fs /dev/myvg/homevol

#lvresize -r -L+1G /dev/mapper/vg00-lvol6

39,To reduce lvm. with example of home folder
# umount /home
# e2fsck -f /dev/mapper/vg_cloud-LogVol00
# resize2fs /dev/mapper/vg_cloud-LogVol00 10G
# lvreduce -L 10G /dev/mapper/vg_cloud-LogVol00
# mount /home/

40,How to restore LVM.
https://www.jethrocarr.com/2013/11/23/restoring-lvm-volumes/

41,How to scan a new disk added to Redhat linux server. Manual method with out any script or softwares.

#echo 1 >/sys/class/scsi_host/host1/

#echo "- - -" > /sys/class/scsi_host/host1/scan
or
#echo "c t l" >  /sys/class/scsi_host/host1/scan

c   is the channel on the HBA,
t    is the SCSI target ID  ,
l    is the LUN and
h   is  the HBA number

42,how to create HALVM and how to identify it HALVM?

#vgcreate -c y <vgname> <pvname>

#vgs (you can see the Attr value WZ--nc

43,Did HALVM required to do manual mount and fstab entry?
Ans:-no

44,what is the daemon for clustered lvm?
clvmd

45,what is GFS and how to create gfs file system?

#mkfs.gfs2 -p lock_dlm -t guru:smb_gfs2 -j 2 /dev/vgcl_gfs/smb_gfs2

-p > locking protocol (lock_dlm)

-t > lock table (guru:smb_gfs2)

-j > Journals (node) maximum 16 journals can able to access gfs

46,How to extend gfs filesystem?

#lvextend -L +size /dev/vgcl_gfs/smb_gfs2

#clvmd -R

#gfs_grow -v (device|mount)
```

47,how to check multipath details?

#multipath -ll

48,what is multipath?
Assign the disk on dual path HBA, for faulty tolarance and same lun will be visible on diff name. here the concept called active-active (round-robin).

49,what is the package name and conf file for multipath?

device-mapper-multipath

/etc/multipath.conf

50,what is the main entry to enable multipath in /etc/multipath.conf?
**below 2 lines are important **

user_friendly_names yes
bindings_file /etc/multipath/bindings

51,What is the command to list cluster service group?

#clustat

52,What is the command used to relocate a service to another node? and disable,enable,freeze and unfreeze?

#clusvcadm -r service_name -m node_name   -->Relocate

#clusvcadm -e service_name -m node_name   -->Enable

#clusvcadm -d service_name -m node_name   -->Disable

#clusvcadm -Z service_name -m node_name   -->Freeze group in place

#clusvcadm -U service_name -m node_name   -->Unfreeze/thaw group

53,What are the important services for redhat cluster?

cman,clvmd,gfs,rgmanager

54,What is the order to stop the Red Hat Cluster services?

#service rgmanager stop
#service gfs2 stop
#service clvmd stop
#service cman stop

55,What is the command to add, modidy and remove of servicegroup in redhat cluster?

#ccs_tool

56,What is ccs_tool and usage?
ccs_tool is part of the Cluster Configuration System (CCS).It is used to make online updates to cluster.conf.

#ccs_tool lsnode --> to list node

#ccs_tool update /etc/cluster/cluster.conf --> Update the cluster

57,What is cman_tool?
cman_tool is a program that manages the cluster management subsystem CMAN. cman_tool can be used to join the node to a cluster, leave
       the cluster, kill another cluster node or change the value of expected votes of a cluster.

#cman_tool status   --> to see the status

58,What is the command to check the status of servicegroup and how to start the serrvice?
rg_test is the resource group test, can test the status and start the serivice group in cluster.

#rg_test test /etc/cluster/cluster.conf status service <ServiceGroup>

#rg_test noop /etc/cluster/cluster.conf start service <ServiceGroup>

59,What are the different port no. used in Red Hat Cluster?

corosync/cman --> 5404,5405 udp

ricci --> 11111 tcp

dlm (Distributed Lock Manager) --> 21064 tcp

Modclustered --> 16851 tcp

luci --> 8084

rgmanager --> 4196,4197

60,what is network ipbonding?

If you have two or more network interfaces, you can "bond" them under Linux to create a redundant network configuration. There are 7 different modes that can be used to allow for fault tolerance, load-balancing or both.

61,List the configuration file network ipbonding?

/etc/modprobe.conf

/etc/sysconfig/network-scripts/ifcfg-bond0

/etc/sysconfig/network-scripts/ifcfg-ethX

62,Steps to create ipbonding?

-->Add alias on /etc/modprobe.conf
alias bond0 bonding

-->Create master bonding file and make below entries. /etc/sysconfig/network-scripts/ifcfg-bond0
DEVICE=bond0
BOOTPROTO=none
ONBOOT=yes
TYPE=Ethernet
NETMASK=255.255.255.0
IPADDR=192.168.122.100
GATEWAY=192.168.122.1
BONDING_MASTER="yes"
BONDING_SLAVE0="eth0"
BONDING_SLAVE1="eth1"
BONDING_OPTS="mode=1"

--> Make ethx interface as slave./etc/sysconfig/network-scripts/ifcfg-ethX

DEVICE=ethX
BOOTPROTO=none
HWADDR=52:54:00:89:9d:49
MASTER=bond0
SLAVE=yes
ONBOOT=yes
TYPE=Ethernet

--> restart the network service and check the status on

```
cat /proc/net/bonding/bond0
```

63,How to failover the network interface in ipbonding?

```
#ifenslave -c bond0 ethx  --> To change active slave

#ifenslave -d bond0 ethx  --> To detach a dead interface without setting the bond device down
```

64,what is kick start? and package name and command to create kickstart file?
system-config-kickstart provides a simple method of creating a kickstart file that can be used to automate the installation process on
Red Hat Linux.
#system-config-kickstart --> package name and command to create ks file.

```
#ksvalidator /var/ftp/pub/ks.cfg  --> ksvalidator is command to validate the configuration file.
```

65,what is the command to install os from kickstart server to client?
once system boot with bootable media, then type below command to install the os... boot:

```
#linux ks=ftp://192.168.x.x/pub/ks.cfg
```

66,what is yum? how to setup yum repository?

yum is an interactive, rpm based, package manager. It can automatically perform system updates, including dependency analysis and
obsolete processing based on "repository" metadata. It can also perform installation of new packages, removal of old packages and per-
form queries on the installed and/or available packages among many other commands/services

```
-->mount rhelx media on system and then copy to /var/ftp/pub/.
# cp -avr /media/*. /var/ftp/pub/

-->create file and make below entry /etc/yum.repos.d/yum.repo

[yum]
name=serverrepo
baseurl=file:///var/ftp/pub/Server
enabled=1
gpgcheck=0

-->Create repository by executing below command.
#createrepo -v /var/ftp/pub/Server/

--> Then execute below command.

#yum clean all
#yum list all
```

67,how to install package theough yum?

```
#yum install <package name>
```

68,what is diff b/w yum upgrade and yum update?

yum upgrade and yum update will perform the same function that update to the latest current version of package.

But the difference is Upgrade will delete obsolete packages, while update will preserve them.

69,How to use yum to downgrade or rollback some package updates?

```
#yum list <packagename>
#yum downgrade <packagename>
```

70,what is proc and what is the size of it?

The proc filesystem is a pseudo-filesystem which is used as an interface to kernel data structures. It is commonly mounted at /proc.Most of it is read-only, but some files allow kernel variables to be changed.

*size of /proc is zero 0

71,What is inode?

The inode (index node) is a fundamental concept in the Linux and UNIX filesystem. Each object in the filesystem is represented by an inode.

=> File type (executable, block special etc)
=> Permissions (read, write etc)
=> Owner
=> Group
=> File Size
=> File access, change and modification time (remember UNIX or Linux never stores file creation time, this is favorite question asked in UNIX/Linux sys admin job interview)
=> File deletion time
=> Number of links (soft/hard)
=> Extended attribute such as append only or no one can delete file including root user (immutability)
=> Access Control List (ACLs)