| LEVEL    | TOPIC                                       | SUB-TOPIC  | DESCRIPTION                     | COMMENTS | ESTIMATION (h) |
|----------|---|--|---------------------------------|----------|----------------|
| Initials |   |  |                                 |          |                |
| iiiiiais |   |  |                                 |          |                |
| L2       | Installation                                | Installation of Linux                                  | Ubuntu & CentOS                 |          |                |
| _2       | Boot Process of Linux                       | Understand runlevels and manage GRUB                   |                                 |          |                |
| _1       | Difference Between Linux, Unix and Windows  |  |                                 |          |                |
| L1       | Various Platforms of Unix and Linux         |  |                                 |          |                |
| L2       | Dual Boot Installation of Windows and Linux |  | High Level understanding        |          |                |
| L1       | Directory structure                         |  |                                 |          |                |
| L1       | User Management                             | commands, manually                                     |                                 |          |                |
| L1       | File Permissions                            | read, write, execute, setuid, setgid, sticky bit       |                                 |          |                |
| L2       | Package Management                          | yum, apt, dpkg, rpm                                    |                                 |          |                |
| _1       | Relative and Absolute path                  |  |                                 |          |                |
| _1       | Navigation through directories              |  |                                 |          |                |
| _1       | shell                                       |  |                                 |          |                |
| L2       | ports & sockets                             |  |                                 |          |                |
| L1       | Environment variables                       |  |                                 |          |                |
| _1       | Basic utilities and servers                 | rsync  |                                 |          |                |
| _1       | File system                                 | Manage filesystem definition & basic understanding     |                                 |          |                |
| _2       | Memory mgmt                                 | Types of memory, memory management commands, Swap mgmt | Disk based swap, file base swap |          |                |

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|          |                   |  |                               |          |                |
| Initials |                   |  |                               |          |                |
| L1       | Basic Commands    | ls, cd, cat, pwd, touch, mkdir, rm, cp, mv, ping, tail, head, who, ps, kill, pkill | kill -15, kill -9, pkill -hup |          | 8              |
| L2       | Advanced          | grep, awk, find, sed, netstat, telnet, ifconfig,                                   |                               |          | 12             |
| L1/L2    | Disk command      | du, df, fdisk, mkswap, swapon,<br>swapoff, mount, umount                           |                               |          | 16             |
| L2       | system monitoring | top, htop, sar, w, uptime, mpstat, prstat, vmstat, iostat, systat                  |                               |          | 24             |
|          |                   |  |                               |          |                |

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|-------|---------------------------|--|--|----------|----------------|
|       | TOPIC                     | SUB-TOPIC  | DESCRIPTION                            | COMMENTS | ESTIMATION (h) |
|       |                           |  |  |          |                |
| L2    | Basic topics              | Inode, Hardlink & Softlink,<br>Sticky Bit, Hidden files,<br>sudoers, load average                                    |  | partial  | 12             |
| L2    | Servers                   | SSH, SFTP, SCP, FTP,<br>SAMBA, NTP, DNS &<br>DHCP, NFS   | Difference b/w 4 and 3,<br>NFS Daemons |          | 20             |
| L2    | Process                   | Background process,<br>Zombie process, Orphan<br>process, CRON   |  | partial  | 6              |
| L2    | Basic configuration files | passwd, shadow, hosts,<br>hostname, hosts.allow,<br>hosts.deny, resolve.conf,<br>.bashrc, profile.rc, login.<br>defs |  | done     | 6              |
|       | Wildcards                 |  |  |          |                |
|       |                           |  |  |          |                |
| L2    | Security                  | Firewalls, Iptables,<br>Selinux, ACL, pam  |  | partial  | 20             |
| L2    | Memory mgmt adv.          | Proc Directory   |  |          | 3              |
| L2    | Filesystem mgmt           | Mounting and unmounting, fstab   | softmount, hardmount                   | done     | 8              |
| L2    | system log mgmt           | systemd, journald & rsyslog  |  |          | 8              |
| L2    | Disk mgmt                 | LVM, fdisk   |  | 1 done   | 12             |
| L2    | Service management        | systemctl, init.d  |  | partial  | 12             |

| LEVEL  | TOPIC               | SUB-TOPIC                      | DISCRIPTION  | Suggested Links                         | COMMENTS | ESTIMATION (h) |
|--------|---------------------|--------------------------------|--|---|----------|----------------|
|        |                     |                                |  |   |          |                |
| itials |                     |                                |  | W 1 0                                   |          |                |
|        |                     |                                | What is Webserver, Webserver vs WebContainer,<br>Configuration of Nginx(Nginx+Apache)<br>Hosting (Nginx + Apache)- Dns Based Virtual Hosting | Web Server                              |          |                |
|        |                     |                                |  | Nginx                                   |          |                |
|        |                     |                                |  | NGINX (Dns based VIRTUAL HOSTING)       |          |                |
|        |                     |                                |  | IP BASED HOSTING                        |          |                |
|        |                     |                                | - IP Based Virtual Hosting<br>- Port Based Virtual Hosting   | Configuration of Reverse Proxy in Nginx |          |                |
|        | WebServers          | Apache, Nginx                  | Hosting (2 or more Dns/IP) + Apache  | Redirection in Nginx                    |          |                |
|        |                     |                                | Redirection in Nginx + Apache  | Configuration of Reverse Proxy in Nginx |          |                |
|        |                     |                                | Reverse Proxy(Nginx + Apache) Authentication (Nginx + Apache)  | Authentication in Nginx                 |          |                |
|        |                     |                                | Load Balancing(Nginx + Apache)   | Load Balancing + apache hosting         |          |                |
|        |                     |                                |  |   |          |                |
|        |                     |                                |  |   |          |                |
|        |                     |                                |  |   |          |                |
|        | Web container       | Tomcat, jetty, Jboss, glasfish |  |   |          |                |
|        |                     |                                |  |   |          |                |
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|        |                     |                                |  |   |          |                |
|        |                     |                                |  |   |          |                |
|        | Virtualization tool | vagrant, docker                |  |   |          |                |
|        | 1100                | 0.0                            |  |   |          |                |
|        | VCS                 | Git                            |  |   |          |                |
|        | 011                 |                                |  |   |          |                |
|        | CI tools            | Jenkins                        |  |   |          |                |
|        | Build tools         | Maven, Ant                     |  |   |          |                |
|        | Dullu loois         | iviaveli, Alit                 |  |   |          |                |
|        | Monitoring tools    | zabbix                         |  |   |          |                |
|        | WOTHLOTTING LOOIS   | Zauuix                         |  |   |          |                |
|        | Orchestration tools | Puppet, Chef, Ansible          | Puppet Training Outline  |   |          |                |
|        | Ordiestration tools | r uppet, Otter, Arisible       | Chef Training Outline Chef Training Outline  |   |          |                |

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| 1 1      |                            |                                    |             |          |                |
| Initials |                            |                                    |             |          |                |
|          | Cloud Technology           | AWS advanced, Azure, Digital Ocean |             |          |                |
|          |                            |                                    |             |          |                |
|          | Code Quality Analysis Tool | Sonar                              |             |          |                |
|          |                            |                                    |             |          |                |
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|-------------|---------------------|--------------------------------|-------------|----------|----------------|
| Initials    |                     |                                |             |          |                |
| · initialis | Cloud Technology    | AWS                            |             |          |                |
|             | CI tools            | Travis, GoCD, CircleCl         |             |          |                |
|             | Monitoring          | Nagios, CheckMK                |             |          |                |
|             | Virtualization tool | Docker in depth,<br>Kubernetes |             |          |                |
|             | VCS                 | Gitlab, Bitbucket, SVN         |             |          |                |
|             |                     |                                |             |          |                |