Database fundamentals:

**DBMS vs RDBMS**

**Terminologies:**

* Entity
* Attribute
* Relationship
* Tuple
* Anomaly

**Normalization**

* 1NF -
* 2NF
* 3NF
* BCNF

**Database object**

* Table
* View
* Functions
* Stored procedure
* Trigger
* Index
* primary index – there can be only one primary index
* secondary index –

**Constraints:**

* NOT NULL
* Unique – it will accept one null value.
* Primary key
* Default
* Check - condition
* Foreign key

**SQL Statements:**

* DML – select, insert, update, delete
* DDL – create, alter, drop, truncate
* DCL – grant, deny, revoke
* TCL – commit, rollback, savepoint

**Joins:**

* Inner join
* Left-outer
* Right-outer
* Full
* Cross join
* Self-join
* Equi vs non-equi

**Products:**

* Oracle
* SQL Server
* DB2
* MySQL
* PostgreSQL
* Foxpro
* MS Access

**Transactions:**

* ACID

**Windows Essentials:**

* Domain-Domain Tree-Forest-Site-Replication-DC-RWDC-RODC
* **Protocols** – ports http=80, dns = 53, dhcp = 67, smtp = 25, pop = 110
* **ADDS**
  + Ntds.dit file where ADDS is stored
* **FSMO** – Flexible Single Master Operations
  + There are 5 roles :
    - Forest:
      * Domain Naming
      * Schema Master
    - Domain:
      * RID
      * PDC
      * Infrastructure
* **Group Policy**
  + User vs Computer
  + It accepts only msi packages
  + By default there will be 2 policies
    - Default policy
    - Domain controller policy
  + To quickly create GPO or starter GPO – create the object from the templates.
* **DNS:**
  + Different types of records:
    - A/AAAA – convert name to ip address
    - CNAME - canonical name
    - MX – mail exchange
    - PTR – pointer from ip to name
    - SRV – Service record is used to identify the service provided by which server.
  + Zone
    - Primary Zone – copy of dns data that can be modified
    - Secondary zone – it used for name resolution
    - Stub zone - it will contain info of the who is the main server (i.e authorative team server).
* **DHCP:**
  + It provides centralize address management.
  + APIPA range – 169.254.0.0
* **WDS**
  + Types of images:
    - Boot images – Windows PXE
    - Install images (.wim format)
  + Two imp server:
    - Transport server
    - Deployment server
* **WSUS**
  + It will used to update the windows with latest packages are available.
  + SCCM –
  + To implement SCCM IIS is server
* **IIS:**
* **Security-Firewall-EFS(to protect files and folder)-Bit locker**

**Linux Essentials:**

**Anaconda**

**DHCP PXE**

**Kickstart**

* **File System Management**
  + **Special Permission**
    - **Suid**
    - **Sgid**
    - **Sticky bit**
    - **Umask**
  + **ACL**
* **User Management:**
  + **Root**
  + **Sudoer(0)**
* **Software management:**
  + **Rpm**
    - **Rpm –qa – to query about a particular package**
    - **Rpm –qip – yet to be installed**
    - **Rpm-ivh**
    - **Rpm -ea**
  + **yum**
* **Disk Management**
  + **Fdisk**
  + **LVM – PV – VG- LV**
  + **Mkfs**
  + **Mount**
  + **/etc/fstab**
* **Process Management**
  + **Ps –ef**
  + **Kill -15 or -9**
  + **Top**
  + **Nice**
  + **renice**
* **Troubleshooting**
  + **Ifconfig**
  + **Ping**
  + **Fsck – file system recovery or use for recovery also**
  + **Host – dig**
  + **Single usermode – passwd –d root**
  + **/var/log**
  + **Dmesg**
* **Security**
  + **Iptables**
  + **SElinux**

**Windows Fundaments:**

* **POST**
* **MBR vs GPT**
* **Bootloader**
* **BCD – bcdedit**
* **FAT32 vs NTFS**
* **Process-threads-processor(CISC vs RISC) - hyperthreading – multiprocessing**
* **HAL**

**Network Essentials:**

* **Subnetting**
* **Routing Protocols**
* **Administrative distance**
* **TCP vs UDP**
* **DNS**
* **Router switch configuration**
* **Banners motd and login banner**
  + **Banner login “message”**
  + **Banner motd “message”**
* **Backup of ios**
  + **Copy run start**
  + **Copy flash tftp**
* **Password failure**
* **RIP, EIGRP, OSPF – no of hops**
* **Redistribution across protocols**
* **Security** 
  + **ACL**
    - **Standard**
    - **Extended**
    - **Named**
  + **Port security**
    - **Mac address**
    - **Sticky**
* **STP**
* **VLAN**
* **WAN Protocols**
* **NAT**

**Business Communication**

Business Email Etiquette

Communication

Others (Presentation skills and comprehension skills)

1. Subject line
2. salutation
3. Body
   1. Opening statement:
      1. This is to keep you informed about the result after testing the application
      2. This email communication intends to provide information about training programs conducted in H2 of 2016
      3. As dicussed over the phone, I have made the changes to the report. Please find the salient points of the same.
   2. closing statement
      1. kindly let me know of a good time to discuss this further
      2. I am awaiting a reply at the earliest
      3. Please feel free to connect with me for further clarification

Feature of BCC:

It is a process of influencing someone or others to achieve objective.

Two parts:

objective or it includes influence

**Communication:**