The EDP Department

The Data Processing Manager
The Data Processing Manager is the person with overall responsibility for running the department.

The DP manager's role is that of **planning**, **organising** and **facilitating** the functions of the data processing department. The DP Manager’s responsibilities include:

1. Introducing new information systems;
2. Ensuring that the data processing needs of the organisation are met;
3. Planning for future data processing needs.

The Systems Analyst/Designer
A systems analyst, as a member of the analysis team, is the person who is responsible for the design and implementation of a computer system.

The analyst must be good at problem solving abilities, be knowledgeable about business operations and have a strong background in relevant areas of computer science. To be successful, a systems analyst must possess at least the following:

- **Communication Skills.** *The analyst must be able to communicate clearly and concisely, both in writing and in speech.*

- **Problem-solving skills.** Systems are developed to solve problems. An analyst must have wide experience in solving problems.

- **Environment Expertise.** It is important for the analyst to completely understand the environment for which the system is being developed. The analyst must be familiar with existing operations, so that he can decide if a computer can do the job better.

- **Technical Knowledge.** Analysts should be well-trained in relevant areas of computer science. They must be thoroughly familiar with the capabilities and limitations of hardware and software products.

**Responsibilities of a Systems Analyst include:**

1. Studying the needs of the organisation.
2. Fact finding so that existing procedures can be studied.
3. Defining input and output requirements and file contents, including the equipment needed to fulfil the requirements.
4. Providing overall plans for the programming section to follow in developing the system.
5. Supervising the testing of the system.
6. Checking the accuracy and effectiveness of the system once it is working.

In short, a successful system analyst must be **resourceful, ingenious and creative.**
Systems Administrator

The tasks of a system administrator are categorised in the following sections

Resource Management. Managing resources such as:

- Disk space.
- CPU time.
- Network bandwidth.
- File server.

Human Interface. It is standard procedure for the system administrator to be the central contact point for addressing all problems relating to computing.

Standard Administration.

- Keeping abreast of technology - read trade publications, attend conferences.
- Ordering sundries such as tapes, discs - a weekly task.
- Rebooting machines - a high-pressure task, when it happens.
- Repairing anything else that is broken
- Security

Disaster Mitigation. System administrators have the job of keeping their sites prepared for catastrophes such as floods, fires, tornadoes, and user errors. Here is a list of tasks related to this activity:

- Backups (daily practice that is becoming more automated).
- Archives.

Dealing with Hardware. The following are time-consuming tasks:

- Installing and updating and configuring hardware.
- Installing and updating and configuring networks.
- Fixing printers (a constant source of irritation at many sites).
- Repairing workstations.

Dealing with Software. The install-and-go philosophy seldom works, because modern systems have become so complicated that usually a good deal of configuration is required to get the best out of a software package.
**Programmer**

A Programmer is required to maintain existing programs as well as to create new ones. In large departments programmers work in teams.

The programming team is responsible for the planning, writing and testing of programs. Plans are provided by systems analysts.

**Systems programmers.** Some programmers are charged with maintaining the computer operating system and in writing programs to improve it. Systems programmers normally use a high-level language such as C or ADA.

**Applications programmers** write in a high-level programming language such as C. Many business applications nowadays are written using a **fourth generation language** (4GL). A 4GL is a system of standard templates that simplify the development of an application and enhance the programmers' productivity.

**Responsibilities of a Programmer include:**

1. Designing computer programs.
2. Checking the correctness of the logic of the design.
3. Writing (coding) the program.
4. Testing the program by taking test data through each step.
5. Testing the program on the computer, using different sets of data.
6. Correcting the program if any mistakes are found.
7. Preparing detailed instructions (documentation) necessary for the running of the program.
8. Preparing program revisions where corrections, system changes or improvements are required.

**I.T. Trainer**

The role of the trainer is to impart new skills in a clear way and to build up user confidence. The trainer must have good communication powers and be able to help the user in his difficulties.

**Operator**

Operators are required to supervise the running of the computer installation and to operate, where necessary, the individual pieces of equipment.

**Responsibilities of an Operator include:**

1. Powering up the equipment and Loading the system
2. Loading, replenishing and unloading peripherals as necessary, e.g. loading printers with papers
3. Observing and acting upon messages received from the computer's operating system.
4. Monitoring quality of printed results by observation.
5. Cleaning equipment sensitive to dust on a regular basis.
Data entry Clerk

Data entry clerks enter the data into a computer system. They are usually skilled touch typists. The data clerk has the major responsibility of entering valid data. If the data entered contains errors, the output also contains errors. By visually checking what data is being entered, together with other validation techniques, the data clerk can minimise data input errors.

Lab Technician

Lab Technicians perform regular maintenance to the hardware. They carry out both preventive maintenance and corrective maintenance. They are responsible to install new hardware.

Maintenance Engineer

Engineers are normally provided by the computer manufacturer as part of the maintenance contract. They specialise in one series of computers, or in one piece of equipment.

In large installations, a maintenance engineer is in charge of a team of technicians. As an expert on hardware matters, the maintenance engineer is called upon for advice when new equipment is to be purchased. Such equipment must be compatible and of the required quality to perform in harmony with the rest of the system.

Webmaster

This role involves the designing and maintenance of a web site. In general, almost any Webmaster would be expected to know the Hypertext Markup Language (HTML) and have a good understanding of why a company should want a Web site.

A Webmaster is a person who either:
- Creates and manages the information content (words and pictures) and organization of a Web site
- Manages the computer server and technical programming aspects of a Web site
- Or does both.
### Job Role Skills

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<th>Job</th>
<th>Role</th>
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| IS Manager        | 1. Ensures that the department functions efficiently and delivers value to business.  
                      2. Meet all information processing needs.  
                      3. Takes care of;  
                       ® System Development & maintenance  
                       ® Operations management  
                       ® User support  
                       ® Network management | 1. Communication skills  
                                                                      2. Technical skills |
| System Analyst    | Analysis and design of new computerized systems according to requirements | 1. Good understanding of computer systems  
                                                                      2. Communicate effectively with business managers  
                                                                      3. Interpersonal skills  
                                                                      4. Maturity and business knowledge |
| Programmer        | Coding, Testing and maintenance of computer programs | Familiarity with programming language |
| Operator          | Install, maintain and repair hardware and software | 1. Detailed understanding of physical operations of company hardware  
                                                                      2. Technical skills |
| Network technician| Oversee all network services provided by the company | 1. Good background in IT  
                                                                      2. Specialized networking skills |
| End User support  | Support to end user  
                      Responsive to business needs | Good communication skills  
                                                                      Patience |
| Database Administrator | Database design  
                           Database implementation & operation  
                           User Co-ordination  
                           Backup and recovery  
                           Performance monitoring  
                           System Security | 1. Web editing skills  
                                                                      2. Knowledge of web editing software |
| Web master        | Create / develop websites  
                      Maintain websites |                                                                      |

**IT Roles Questions**

1. a) Outline the duties of the following personnel  
   i. Data Processing Manager  
   ii. System Programmer  
   iii. Maintenance Engineer  
   iv. Application Programmer

   b) What different skills are required from a tester than from a programmer and a system analyst?