Description = the presentation of qualitative and quantifiable details about some object.

*Qualitative details* [physical qualities] = color, shape, size, texture, materials of construction, ingredients, and so on.

*Quantifiable details* [measureable quantities] = weight, height, width, depth, and so on.

Description Organization = part by part

e.g. wooden pencil: lead, wooden barrel, eraser, and the metal clip that holds the barrel and eraser together.

Describe each part in one or more sentences or in one or more paragraphs.

Figure 1 below shows the standard organization of a description.

<table>
<thead>
<tr>
<th>TECHNICAL DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title</strong></td>
</tr>
<tr>
<td>Introduction: definition (purpose of the mechanism), general description, overview of parts.</td>
</tr>
<tr>
<td>Part 1: <strong>purpose</strong>, size, shape, dimensions, attachment methods, color, texture, materials, location, orientation, etc</td>
</tr>
<tr>
<td>Part 2: <strong>purpose</strong>, size, shape, dimensions, attachment methods, color, texture, materials, location, orientation, etc.</td>
</tr>
<tr>
<td>Part 3: <strong>purpose</strong>, size, shape, dimensions, attachment methods, color, texture, materials, location, orientation, etc.</td>
</tr>
<tr>
<td>Conclusion: operation of the mechanism just described (process).</td>
</tr>
</tbody>
</table>

Figure 1: The Standard Organization of a Technical Description
Format and Organization of a Description

(Note: these guidelines are generic: you must adapt them to suit today’s assignment which focuses on functionality.)

1. TITLE
Begin with a descriptive title.
e.g. Description of a Shan Yu Action Figure

2. INTRODUCTION
2a. Describe the object’s overall function or purpose.

2b. Describe the object’s overall appearance, including the following qualities whenever applicable to your purpose and audience’s needs:
   - Shape
   - Color
   - Material
   - Finish
   - Texture
   - Size

When describing the object, be as specific as possible: include exact measurements, weight, shapes, and so on. Use numerals for measurements: 1-1/2 inches, ¾ inch, 2 inches, and so on.

2c. List the object’s parts in the order in which you plan to describe them.

3. PART- BY- PART DESCRIPTION
   i. Describe each main part of the object.
   ii. Give each main part its own heading.
   iii. Describe the subparts of each main part in the same section.
   iv. Give each subpart a subheading.
   v. Use the list in 2b above.

NOTE: Use sketches/diagrams whenever possible to help your reader visualize what you are describing.

4. CONCLUSION
Discuss the operating principles of the object. If the object merely exists rather than operates as in the Shan Yu Action Figure, you can sum up by saying something like the following:

Shan Yu is a hard, plastic action figure consisting of five movable parts: two torso parts, two arms, and a left hand. This object can be used for a variety of exciting games.
Marking Criteria for Description and Functionality Assignment

1. **Communications Grade**
The communications grade focuses on how effectively you have understood the principles of writing a technical description. Your communications’ grade will cover the following:

   - Page design
   - Heading format
   - Text organization
   - Writing clarity
   - Integration of graphics with text
   - Consideration of engineering audience’s needs

2. **Design/Engineering Grade**
You will be marked on how well you have done the following:

   Described the *functionality* in terms of what the object does. For example, does your object use forces, pressures, leverages, etc.? You need to integrate your statics and physics knowledge to talk about what the object does.

   *functionality of components and functionality of machine*

For the design content, you are describing the kind of functionalities that exist in this machine. Should the other group develop a different kind of machine with the same functionality, this result would be a great thing [1].

**REFERENCES**