Form 1
Design & Technology
Time: 90Mins.

Name: ___________________________   Class: ____________________

Answer all questions.

1) Write down these four Design stages in their proper places.

Planning- Brief-Evaluation- Chosen Idea

1. Situation
2. __________
3. Investigation
4. Ideas
5. __________
6. Development
7. __________
8. Testing
9. __________

4 Marks

2) Mention THREE sources where you can collect pictures and information about your project.

a) ________________  b) ________________  c) ________________

3 Marks

3) The educational toy shown below is commonly used by young children

a) Name two materials that can be used to manufacture the toy.

i) ____________________  ii) ____________________

2 Marks
4) Why is it important to have a project file (Design Folio) with all information and drawings?

5) Underline the key words of each of the following design brief. Design Brief (a) is underlined for you as an example.
   a) Design and make an invitation card for a school concert.
   b) Design and make a memo card for a restaurant.
   c) Design and make a pencil holder for the form 1 students.
   d) Design and make a toy for a 6 year old girl.

6) Underline the main reasons for having more than one idea when designing your project.
   a) To be more creative.
   b) To determine the cost.
   c) To show people how intelligent you are.

7) List in order the following steps which are necessary in a cutting activity.
   Secure the work, understanding working drawing, finishing, cutting, marking out,
   a) __________________
   b) __________________
   c) __________________
   d) __________________
   e) __________________


8) The figure shown below is drawn to actual size. Using a **ruler** measure the figure and **place** the information on the drawing.

9) Fill in the blanks using the correct word from the list given below:

   **Tidy, one, run, ask, held, google, cloths.**

   a) When being in the workshop, always walk, never ____________

   b) Keep your workbench ________________, return tools after use.

   c) If you are not sure about something, _____________

   d) Only ____________ person per machine.

   e) When working on machines, work must be always ____________ securely.

   f) When working on a drill, ____________ must be worn to protect eyes.

   g) An apron must be worn to protect your ________________

   10 Marks
10) Calculate the total voltage of the batteries shown in Figure A.

Answer ________

2 Marks

11) Draw a sketch to show the following batteries.

<table>
<thead>
<tr>
<th>PP3 – type Battery</th>
<th>AA – type Battery</th>
</tr>
</thead>
</table>

4 Marks

12) What do we mean by the following?

a) An insulator of electricity: _____________________________________________

b) A conductor of electricity: _____________________________________________

2 Marks

13) Complete the table given below:

<table>
<thead>
<tr>
<th>Name</th>
<th>Symbol</th>
<th>Used for</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED</td>
<td>![LED symbol]</td>
<td>INPUT PROCESS OUTPUT</td>
</tr>
<tr>
<td>DIODE</td>
<td>![DIODE symbol]</td>
<td></td>
</tr>
</tbody>
</table>
14) Convert the below Pictorial circuit into a Circuit Diagram.

<table>
<thead>
<tr>
<th>Pictorial Circuit</th>
<th>Circuit Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Pictorial Circuit" /></td>
<td><img src="image2" alt="Circuit Diagram" /></td>
</tr>
</tbody>
</table>

6 Marks

15) Woods are classified into two main groups. Name them.
   a) __________________________________ b) ______________________________

2 Marks

16) Natural woods are classified into two main groups. Name them.
   a) __________________________________ b) ______________________________

2 Marks
17) Use the following words to complete the following passage.

- plywood
- red deal
- mahogany
- hardwood
- softwood
- Parana pine
- oak
- natural
- chipboard
- manufactured

Timbers are classified under two groups: hardwood and softwood.

 comes from deciduous trees having wide leaves which normally fall in autumn.

 trees are mostly evergreen and have needle-like leaves. Examples of hardwood are and . Examples of softwood are and .

With technological advances, man started to produce new kinds of woods called boards. Examples of such wooden boards are and .

8 Marks

18) Plastics are divided into two main groups. Name them.

a) 

b) 

2 Marks

19) Which types of plastics can be reshaped?

2 Mark

20) Mention two different objects made from plastic for each of the two categories.

a) 

b) 

Thermoplastics

a) 

b) 

Thermosetting

4 Marks
21) Look at the following signs and then answer the following questions.

![Sign A](image)
![Sign B](image)
![Sign C](image)
![Sign D](image)
![Sign E](image)

a. Which sign shows the way to an emergency exit?

b. Which sign can be found printed on the packaging of certain adhesives?

c. Which sign should be placed near a fire extinguisher?

d. Which sign indicates the position of an emergency switch?

e. Which sign obliges you to wear a pair of safety glasses?

1 mark × 5 = 5 marks

22) In the space provided below write down:

<table>
<thead>
<tr>
<th>Do you like Design &amp; Technology and why?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What do you find difficult in Design &amp; Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

6 Marks
10. Figure B, Figure C and Figure D show three tasks commonly carried out during Design and Technology project work. State which **processes**, **tools** and **materials** are shown in each figure. Some information is given for you.

<table>
<thead>
<tr>
<th>PROCESS</th>
<th>MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>marking knife</td>
<td>wood</td>
</tr>
</tbody>
</table>

**Figure B**

<table>
<thead>
<tr>
<th>PROCESS</th>
<th>TOOLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>sawing</td>
<td>engineer’s vice</td>
</tr>
</tbody>
</table>

**Figure C**

<table>
<thead>
<tr>
<th>PROCESS</th>
<th>TOOLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>drilling</td>
<td>twist drill</td>
</tr>
</tbody>
</table>

**Figure D**

1 mark \( \times 7 = 7 \) marks