**Term 1 - 2024**

**DRAWING AND DESIGN (449/1)**

**FORM ONE**

**Marking Scheme**

1. (a)State any six general objectives of drawing and design as a subject. (6 marks)
2. **Communicate engineering concepts using technical drawing as a language**
3. **Interpret visualized ideas correctly so as to realize functional designs.**
4. **Demonstrate an ability to present ideas in 2D @ 3D**
5. **Undertake income generating activities relevant to the community in the field of drawing and design**
6. **Attain a firm foundation for further training and education**
7. **Observe safety in the disposal of waste materials**

(b) Name three instruments used in linear measurement (3 marks)

* **Ruler**
* **Tape measure**
* **Vernier calipers**
* **Tee-Square**

1. Indicate the sizes of the following drawing papers (6 marks)

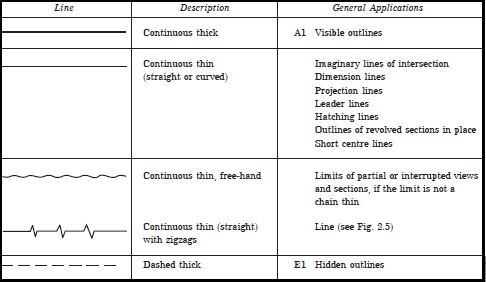
|  |  |  |
| --- | --- | --- |
| Paper name | Size | |
|  | LENGTH | WIDTH |
| **A5** | **297** | **210** |
| **A4** | **420** | **297** |
| **A3** | **297** | **420** |
| **A2** | **840** | **594** |
| **A1** | **841** | **594** |
| **A0** | **1189** | **841** |

1. Differentiate between the following terms as used in engineering. (4 marks)
2. Technical drawing
3. Artistic drawing

Artistic drawings are subjectively interpreted;

Technical drawings are understood to have one intended meaning.

1. List four aims of technical drawing. (4mks)
2. **Speed**
3. **Accuracy**
4. **Neatness**
5. **Technique**
6. state where each of the following types of lines are used (5mks)



1 Correct Use @ 1mark

Total 1x5 = 5 Marks

1. (a) Give one reason why the following are used in drawing. (4marks)
   * 1. Symbols and abbreviations

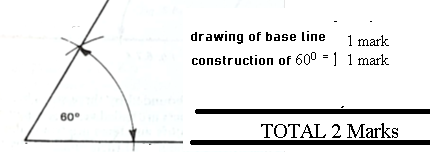
To eliminate too many notes

* + 1. Lettering

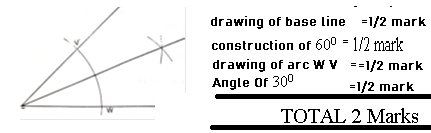
Provides brief but clear information which is not easily conveyed by the drawing

(b)State three factors that contribute to quality drawing. (3 marks)

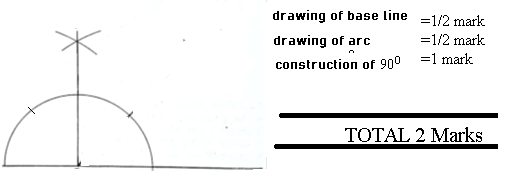
1. cleanliness
2. proper use of drawing instruments
3. maintenance of the drawing instruments
4. Construct the following angles using a pair of compass , a pencil and a ruler only (10 marks)
5. 600



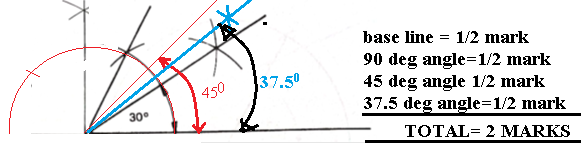
1. 300



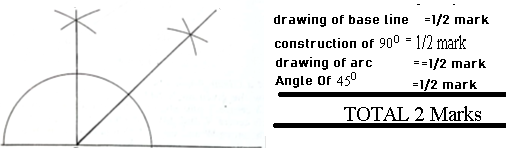
1. 900



1. 37.50



1. 450



1. (a). Name four types of triangles and state their characteristics (8 marks)

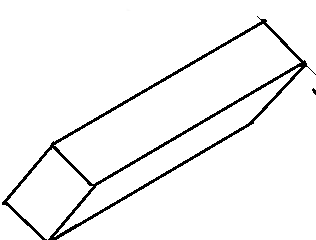
* ***Right angled triangles (*Only One Angle Is At 900*)***
* ***Scalene (* None Of The Sides Or Angle Are The Same*)***
* ***Equilateral (* All Sides Are Equal, All Angles Are At 600*)***
* ***Isosceles(* Two Sides Are Equal, Two Angles Are Equal)**

**Naming Of Triangles 1@ =1x4=4 Marks**

**Characteristics@1 =1x 4= 4 Marks**

**Total =8 Marks**

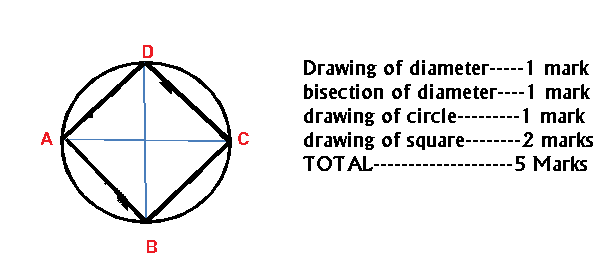
1. Sketch the following types of drawing instruments pictorially (6 marks)
   1. Eraser
   2. Pair of compasses with a pencil attached

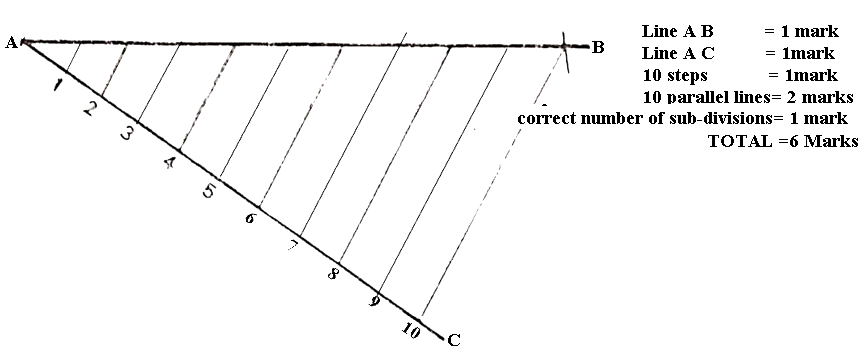
Correct Pictorial Of Each Instrument @ 3 Each Marks

Total= 6 Marks

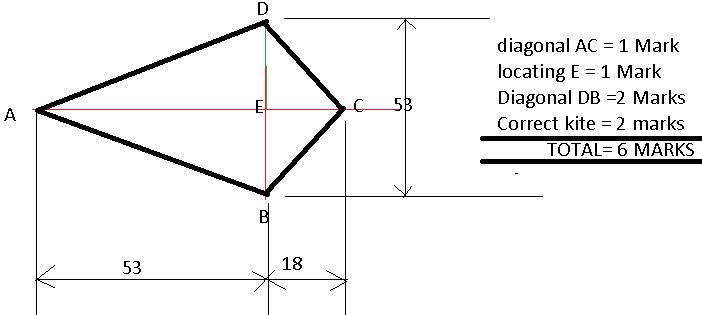
1. Construct a square whose diagonal is 65mm (6mks)



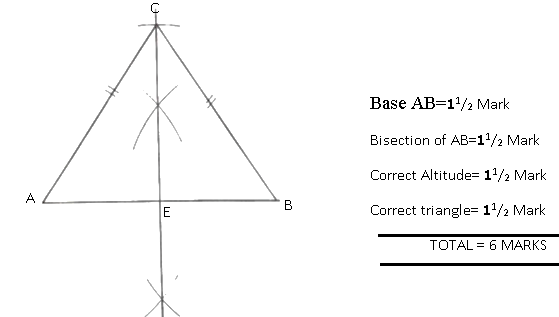
1. From the given line AB, illustrate how a line can be proportionally sub- divided into 10 equal portions. (6mks).



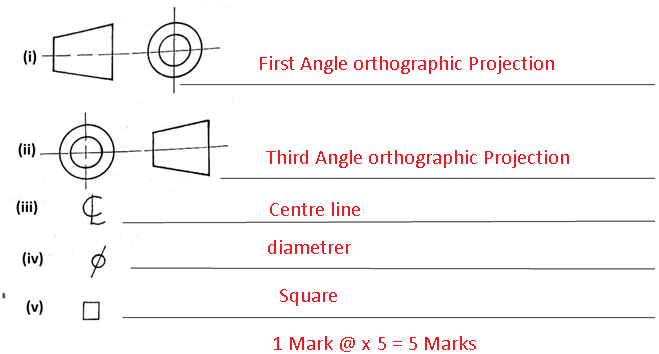
1. Construct a kite when given the lengths of the diagonals as 71 mm and 53mm and the point of intersection is 53mm from one end of the longer diagonal. (7mks)



1. Construct an isosceles triangle with a base measuring 62mm and an altitude of 50mm (6mks)



1. What do the following symbols represent? ( 10 marks)



1. Draw the three views of the block shown below in first angle projection (6 marks)

