**ZERAKI ACHIEVERS’ EXAMINATIONS (2022)**

**Term 1 – 2023 OPENER**

**DRAWING AND DESIGN (449/1)**

**PAPER 1**

**FORM FOUR (4)**

**Time: 2½ Hours**

**MARKING SCHEME**

**SECTION A (50 MARKS)**

***Answer All Questions in This Section***

1. (a) Outline four qualities of an entrepreneur. (4 marks)

Passion

Creativity

Self confidence

Vision

Risk taker

Curiosity

Visionary

Motivated

(b) List four advantages of using a computer draw over use of hands (4 marks)

Fast

Accurate

Clean

Cheap

Neat

1. State what an industrial training Centre in Kenya is. ( 1mark)

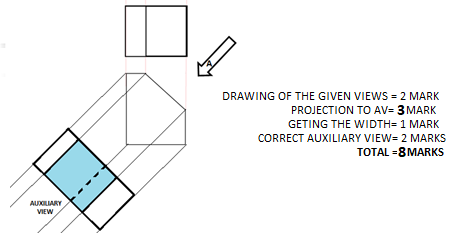
These are government or non-governmental institutions that offer marketable skills at artisan or craft level

1. State the composition of the following alloys (2 marks)
2. Brass copper and zinc
3. Stainless steel iron and chrome/vanadium
4. State two advantages of plywood over solid timber (2 marks)

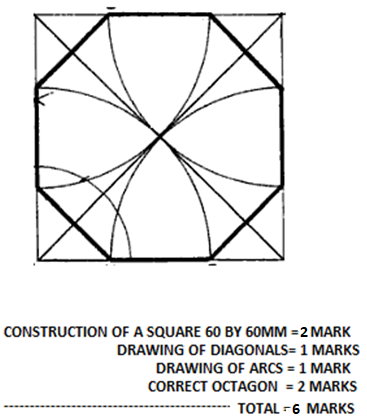
Uniform in strength, Cheap,

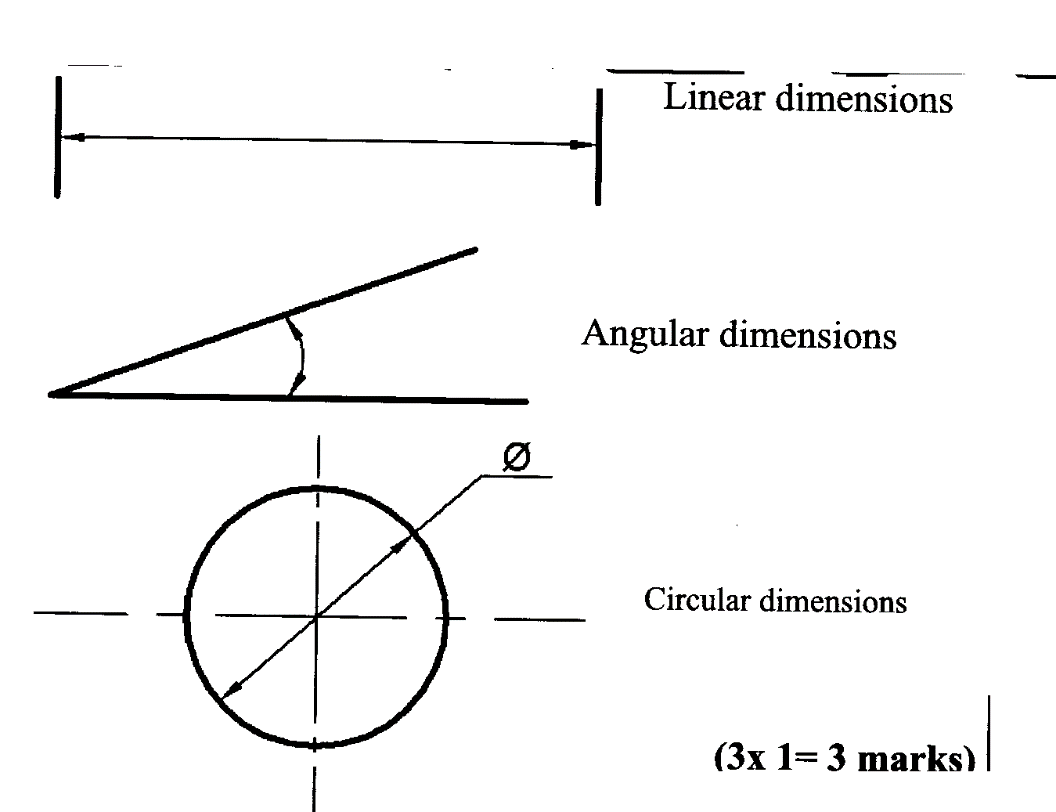
Versatile, Available in big sizes (8 x4)

1. Sketch a conventional breaks of the following (4 marks)
2. Wood
3. Pipe
4. Round section
5. Short break
6. State four reasons for sectioning parts in engineering drawings. (4 marks)
7. To see the inside construction
8. Dispense the need of using dotted lines
9. Reduce the number of views
10. Shows clearly how a mechanism works
11. Two views of a machine part are shown below. Project the auxiliary view in the direction of arrow A (8 marks)

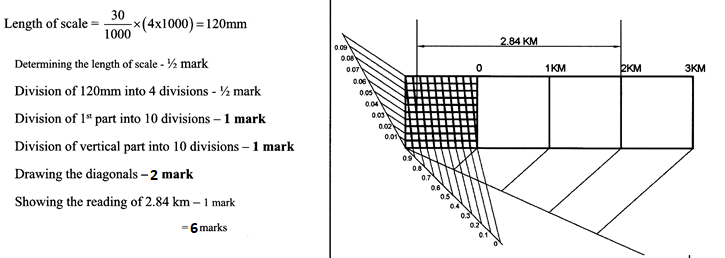


1. Construct a regular octagon whose distance across the flats is 60mm. (6 marks)

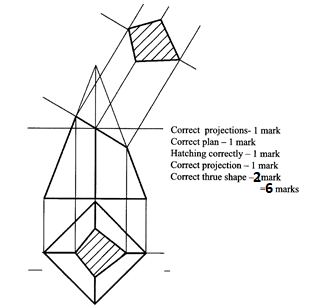


1. (a) Use sketches to describe three types of dimensions in drawing. (3 marks)

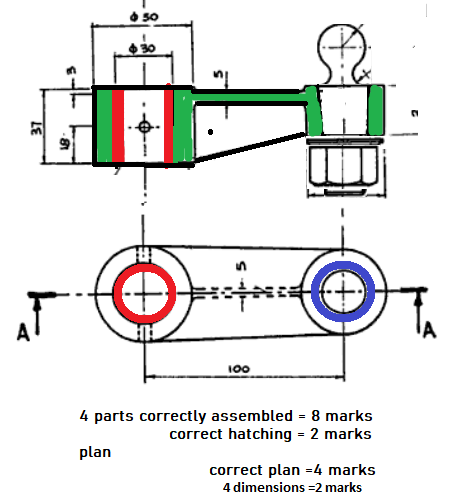
(b) Construct a diagonal scale in which 30mm represent 1 km to read up to 4km. Indicate a distance of 2.84km on the scale. (6 marks)



1. Figure 3 shows the front elevation and incomplete plan of a truncated square pyramid complete the plan and draw the true shape of the cut face. (6 marks)



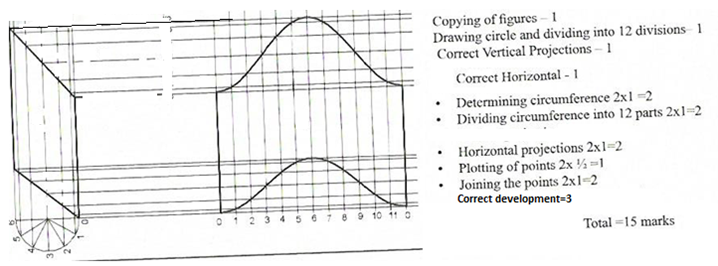
**Section B (20 Marks) QSTN 11**

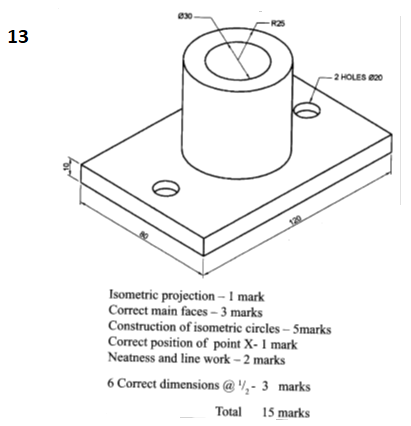
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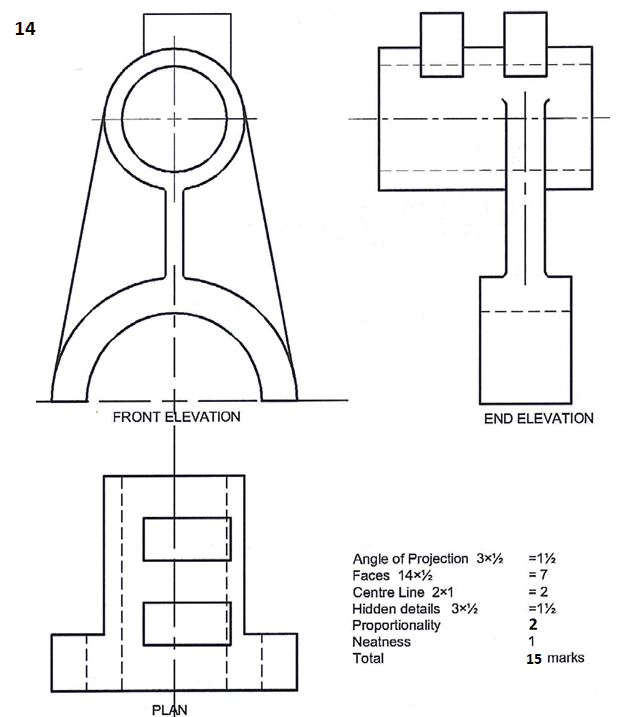
**Section C (30 Marks)**

***Answer any two questions from this section***

12. Figure 8 shows a cylinder truncated by two cutting planes A-A and B-B.

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