Name:…………………………….................ADM No:………......Class:……....

449/1

DRAWING AND DESIGN

PAPER 1

AUGUST-SEPTEMBER

2½ *hours*

MECS CLUSTER JOINT EXAMINATION

FORM FOUR END OF TERM TWO EXAMINATION 2022

DRAWING AND DESIGN

INSTRUCTIONS TO CANDIDATES

1. Write your name, index number and class in the spaces provided above.
2. The paper contains three sections**: Section A**, **Section B** and **Section C**
3. Section A carries **50 marks**, section B carries **20 marks** and Section C **30 marks**
4. The paper contains **8 PRINTED** pages make sure all **PAGES ARE PRINTED** and **NONE IS MISSING**
5. Answer **ALL** the questions in each **section.**
6. All the answers and working must be written on the question paper in the spaces provided below each question.
7. **Label** every drawing drawn on A3 paper provided

For examiner use only

Section A

1	2	3	4	5	6	7	8	9	10

Section B

11	12	13

GRAND TOTAL

Section A (50 marks)

1. (a). State three types of materials and name objects designed using the stated material
    (3 marks)

    (a). Describe the following terms as used in design   (2 marks)

      (i). Aesthetics

      (ii). Ergonomics

2. On a circle of radius 50 mm, show the following parts of a circle
                                                                                (3 marks)

    (i). Quadrant

    (ii). Chord

    (iii). A segment

3. Given the length of diagonal as 67 mm. Construct a square and measure the length of one side   (3 marks)

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4. Draw the following types of keys   (3 marks)

     i.   Woodruff

     ii.   Pratt and Whitney

     iii.   Gib-head
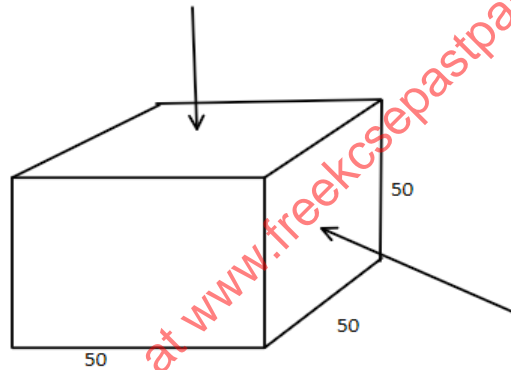
5. (a). Use freehand to write the title "ISOMETRIC DRAWING"   (1 mark)

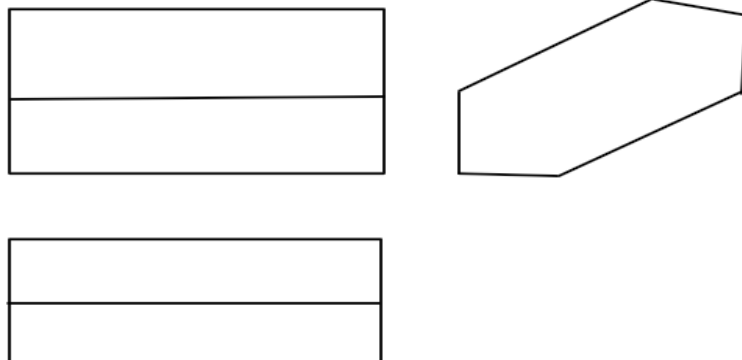   (b). Write down three factors to consider while lettering   (3 marks)

   (c). Draw two-dimensional object and name it.   (2 marks)

(d) Write down two information required on a title block that give information about work drawn   (2 marks)

6. Draw the cuboid shown below and inscribe a triangle on the faces indicated by the arrows.   (5 marks)

7. Sketch a pictorial object for the views below in Isometric   (6 marks)

8. (i). Propose three types of businesses a person can engage into after studying drawing and design   (1½ marks)

(ii). State fours three factors that would cause a business to succeed   (1½ marks)

9. Using the concentric circles method, construct an ellipse whose major axis is 80mm and minor axis is 40 mm   (6 marks)

10. Construct a diagonal scale of 1:10 to measure a maximum length of 1.0 m with an accuracy of 0.005 m. Indicate a length of 0.6 m   (5 marks)
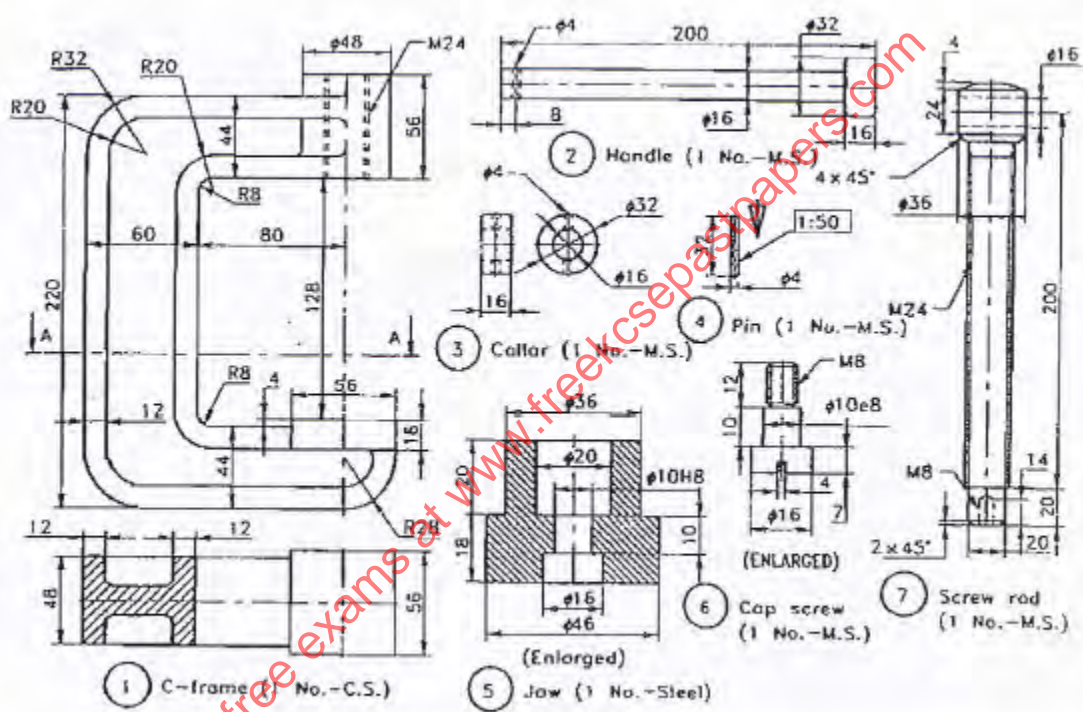
Section B (30 marks)

This question is Compulsory

It should be answered on the A3 paper provided.

Candidates are advised not to spend more than one hour on this question.

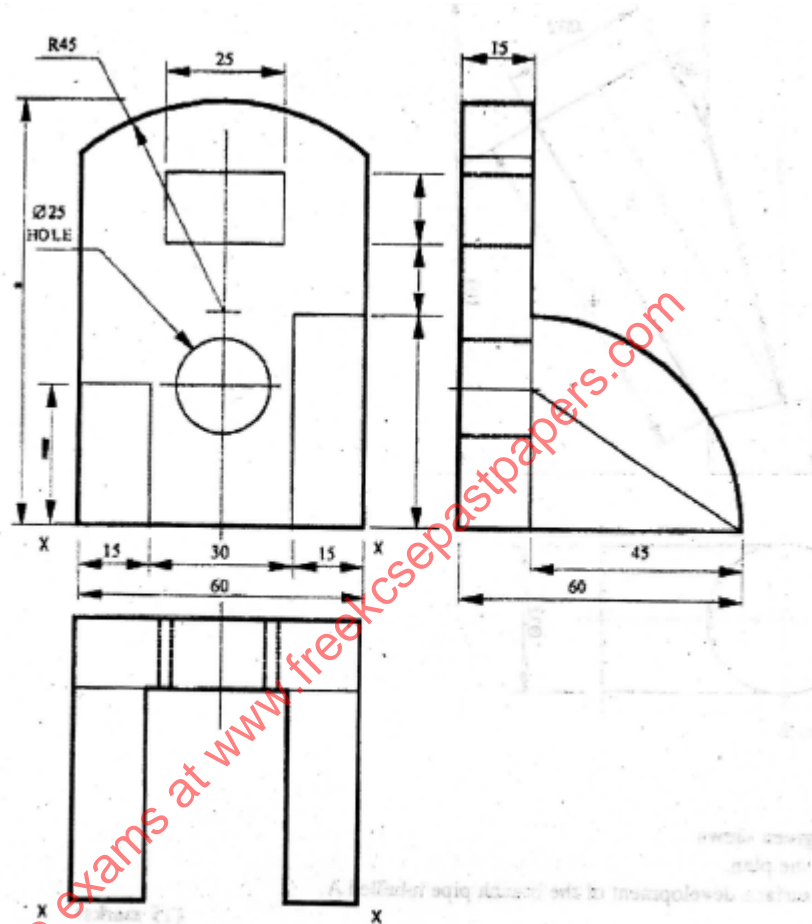11. The figure below shows views of the parts of a tool.

Draw the following,

    a.   Sectional front elevation

    b.   end elevation   (30 marks)

Section C (20 marks)

Choose any ONE question from this section

12. **(a).** The figure below shows three views of a bracket in first angle projection
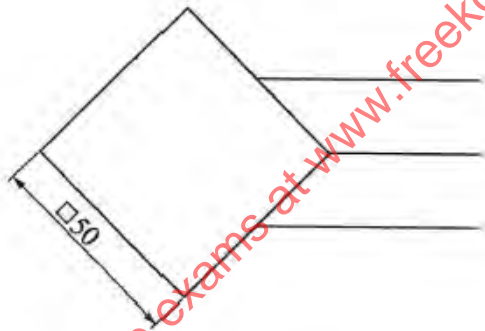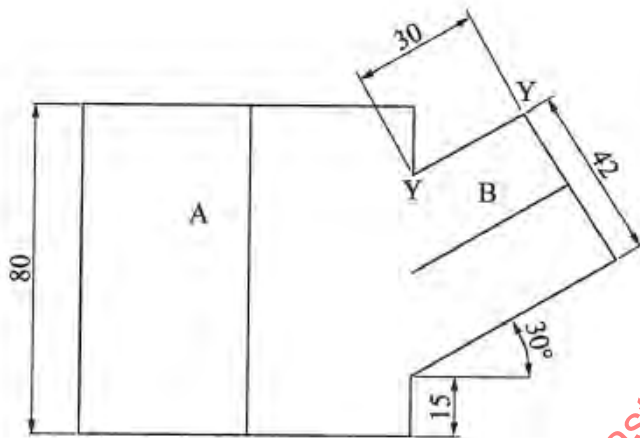

Draw, in FULL SIZE, the oblique view of the bracket with X-X as the lowest point

(15 marks)

(b). Given the length of diagonals of a kite as 91 and 52 mm and the point of intersection as 66 mm from one end of the longer diagonal. Construct the kite.   (5 marks)

13. (a). Copy the figure and complete;
   i.   the front elevation
   ii.   the plan
   iii.   draw the development of tube **A**   (15 marks)

(b). Draw the front view, end view and plan of a pentagonal prism   (5 marks)