

BDT – PRE-TECHNICAL SKILLS

1. GENERAL COMMENTS

The standard of the paper compared favourably with that of the previous year. Candidates' performance was good and better than that of the previous year.

2. SUMMARY OF CANDIDATES' STRENGTHS

- (1) Most candidates answered the compulsory questions very well.
- (2) Majority of candidates clearly indicated question numbers against questions that they answered.
- (3) Most candidates organized their responses in an orderly manner.
- (4) Most candidates' handwritings were readable.
- (5) Most candidates have improved upon their sketching skills.

3. SUMMARY OF CANDIDATES' WEAKNESSES

- (1) Some candidates did not adhere to the dictates of the rubrics and as such answered all the four questions instead of three.
- (2) Some candidates showed lack of knowledge in the design and make processes.
- (3) Most candidates could not express their thoughts and ideas clearly while some could not also spell words correctly.
- (4) Majority of candidates could not answer the Visual Art aspect of the question correctly.

4. SUGGESTED REMEDIES

- (1) Candidates should be taught to read, understand and follow the dictates of the rubrics of the paper before answering them.
- (2) Teachers should thoroughly take students through the design process and encourage them to practice it.
- (3) Teachers should endeavour to complete the syllabus with their candidates.
- (4) Qualified teachers should be engaged to teach all the aspects that constitute the BDT, i.e. Pre-Technical Skills, Home Economics and Visual Art.

5. DETAILED COMMENTS

QUESTION 1 - COMPULSORY

- (a) State one advantage of baked foods.
- (b) State two disadvantages of freehand cutting.
- (c)
 - (i) List two stages of the design process.
 - (ii) List two methods of recording information for solving a design problem.
 - (iii) Name a suitable pencil for sketching a possible solution in a design work.
 - (iv) List two methods of sketching a final solution in pictorial drawing.
- (d)
 - (i) Define a poster
 - (ii) Give two reasons why poster is important in advertisement.
 - (iii) List two types of poster.
 - (iv) State one major difference between the two types of poster.

- (a) Most candidates were able to state one advantage of baked foods.
- (b) A few candidates were able to answer this question correctly. Most of them rather stated advantages instead of disadvantages.

The required answers include:

- It can result in waste of fabric;
- Mistakes made cannot be easily corrected.

- (c) Majority of candidates answered this question very well and scored high marks.
- (d) Very few candidates were able to answer this part of the questions very well. Most candidates could not define a poster nor state the importance of poster.

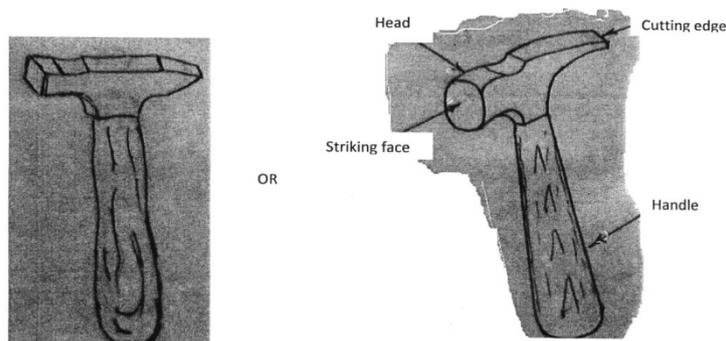
The required answers were:

- (i) Poster is a written, printed notice or advertisement that informs the public of events, goods and services.
- (ii) It educates the public or informs and warns the public.
- (iii) Text poster/Pictorial poster.
- (iv) Text poster contains only words without any illustrations.

QUESTION 2

- (a)
 - (i) **Make a freehand pictorial sketch of the brick hammer.**
 - (ii) **Label any two parts of the brick hammer sketched in question 2(a)(i).**
 - (iii) **State one use of the brick hammer.**
- (b) **State one reason for each of the following operations:**
 - (i) **oiling metal parts of the firmer chisel;**
 - (ii) **wearing goggles when grinding the cold chisel;**
 - (iii) **racking back a wall.**
- (c) **State one use of each of the following electronic components:**
 - (i) **resistor;**
 - (ii) **inductor;**
 - (iii) **diode.**

- (a) (i) Most candidates were able to sketch the brick hammer pictorially. A few however could not sketch the brick hammer but rather sketched the claw hammer.



- (ii) Very few candidates labelled the brick hammer. Most candidates rather listed the parts outside the sketch.
- (iii) Majority of candidates were able to state the use of the brick hammer.
- (b) The question was well answered by majority of candidates.
- (c) Most candidates had difficulty stating the use of the listed electronic components.

The required answers were:

- (i) Resistor: it resists or opposes the flow of current.
- (ii) Inductor: it creates a magnetic field/oscillates.
- (iii) Diode: it allows current to flow in one direction only.

QUESTION 3

- (a) **Figure 1 shows the Orthographic Projection of a block made of metal. Use it to answer questions a(i) to a(iv).**

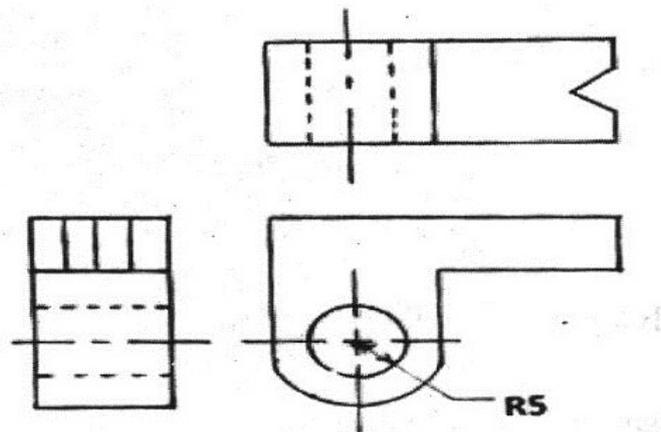


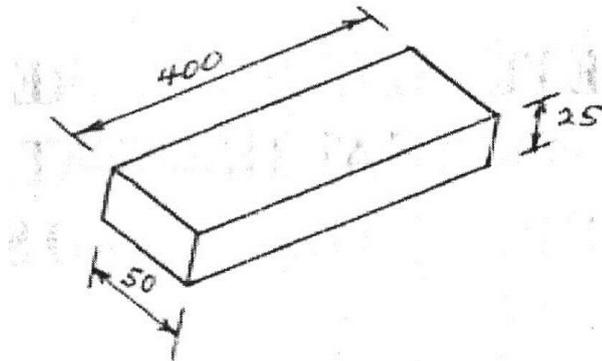
Figure 1

- (i) Copy the views shown in figure 1.
- (ii) Label the copied views shown in question a(i) with the following:
 - (α) front elevation ;
 - (β) plan;
 - (γ) end elevation.
- (iii) State the type of orthographic projection used.
- (iv) Name one cutting tool used for producing the 5 mm diameter hole.
- (b) (i) Make a freehand pictorial sketch of a pick axe.
- (ii) Label any one part of the pick axe sketched in question 3(b)(i).
- (iii) State one use of the pick axe.
- (a) (i) This question was very popular among candidates. Most candidates were able to copy the views correctly. A few however changed the positions of the views.

- (ii) A few could not also label the views correctly.
 - (iii) Most candidates were able to state the type of orthographic projection used, that is the Third Angle Orthographic projection.
 - (iv) Very few candidates were able to name a cutting tool for producing the hole: the required answers are: drill bit, or twist drill bit or hand drill.
- (b)
- (i) Most of the candidates were able to sketch a pick axe. A few however produced 2-dimensional sketches instead of the 3-dimensional drawings demanded by the question. Some candidates also sketched something that looked like Tee-square to represent a pick axe.
 - (ii) Most candidates were able to sketch the pick axe and label the parts correctly.
 - (iii) Most candidates were able to state the correct use of the pick axe.

QUESTION 4

- (a)
 - (i) **Make a freehand pictorial sketch of the mould box.**
 - (ii) **State one use of the mould box.**
 - (iii) **State one reason for oiling the inside of the mould box before using it.**
- (b) **State two examples of each of the following materials:**
 - (i) **non-ferrous alloys;**
 - (ii) **aggregate;**
 - (iii) **abrasives.**
- (c) **Figure 2 shows the sketch of a piece of timber for making a joint. Copy and complete the processes involved in preparing the workpiece in the table below:**



Operation	One Tool Used For Carrying Out Operation
(i) measure the given length and width;	
(ii) cut off the rough piece;	
(iii) plane the face side and face edge;	
(iv) test for flatness and squareness;	
(v) mark face side and face edge;	
(vi) plane off waste;	
(vii) square one end and mark the required length;	
(viii) cut off the waste.	

- (a) (i) Majority of the candidates were able to make a freehand pictorial sketch of the mould box to show resemblance. A few candidates however sketched a chalk box or gauge box as a mould box.
- (ii) Most candidates were able to state the use of the mould box. A few however wrongly stated things like: “to keep something inside it”, “for food items”, “it is used for batching”.

The required answer is: It is used for moulding blocks or bricks.

- (iii) Most of the candidates could not answer this question well. Some candidates gave responses like: “to make the wall smooth”, “to prevent block/brick from rusting”.

The required answers include:

- to prevent the mortar from sticking to the internal surface of the mould box.

- (b) Most of the candidates were able to list examples of non-ferrous alloys and aggregates. Most of them however could not list examples of abrasives. Examples of abrasives include: emery cloth, sand/glass paper, oxide paper, etc.
- (c) Majority of candidates answered this question very well by copying and completing the table with the correct tool used. A few candidates however did not copy the table but only listed the tools.