

**BEST BRAIN EXAMINATIONS KONSORTIUM**  
**SPECIAL PRIVATE MOCK FOR BECE CANDIDATES – OCTOBER 2021**  
**MARKING SCHEME – PRE-TECH**

## PAPER 2

## QUESTION ONE

(a) (i) **COMPLETING THE TABLE BELOW**

NUTRIENT	TWO SOURCES
Proteins	Egg, milk, fish, meat, etc
Fats/oils	Shea butter, frytol, margarine,
Iron	green leafy vegetables, eggs, plantain, meat
Vitamin C	oranges, lemons, tangerines, etc

 $\frac{1}{2}$  each x4 = 2 marks(ii) **NUTRIENTS THAT CAN BE OBTAINED FROM THE FOLLOWING FOOD ITEMS:**

FOOD ITEM	NUTRIENTS
Egg	Protein, fat, carbohydrate, vitamins, minerals, etc
Milk	Fat, protein, calcium, vitamins, etc
Coconut	Fat, carbohydrate, minerals, etc
Palm oil	Fat, carbohydrate, Vitamin A, minerals, etc.

 $\frac{1}{2}$  each x4 = 2 marks(b) (i) **STATE TWO USES OF BUTTONS IN SEWING ARTICLES.**

- For decorations on the garment.
- They are used as fasteners.

1 each x 2 = 2 marks

(ii) **MAIN USES OF PERMANENT STITCHES**

- For joining
- For neatening
- For decoration

1 each x 2 = 2 marks

(c) (i) **WRITING DESIGN BRIEF**

Design and make/construct/ realise a unit to keep workshop tools separately

1 mark

(ii) **TWO ANALYSIS QUESTIONS ON MATERIAL**

- Which materials are available?
- What material is suitable?
- Where will the material be easily obtained?
- What type of materials will be used to make the unit?, etc

 $\frac{1}{2}$  x 2 = 1 mark(iii) **TWO SPECIFICATIONS ON ERGONOMICS MAY INCLUDE:**

- The unit should be used in the workshop
- The unit should be used in the school
- The unit should be able to contain more tools
- The unit should be used by students and instructors

 $\frac{1}{2}$  x 2 = 1 mark(d) **USES OF THE FOLLOWING TOOLS AND MATERIALS**

Tool/ Material	One use
Paper	Sheet for writing, wrapping
Pencil	Drawing, shading, writing, etc
Pastel	Painting

1 each x 3 = 3 marks

(e) (i) **DISTINCTION BETWEEN EXHIBITION AND PACKAGING**

- Packaging refers to the act of putting products in containers, boxes and wrapper, etc
- Exhibition on the other hand refersto the collection of various products for public display to attract views and buyers.

 $\frac{1}{2}$  x 2 = 1 mark(ii) **STATING ONE IMPORTANCE OF PACKAGING**

- It preserves the products so that the content would not go bad
- It adds value to the products
- It gives information, etc

 $\frac{1}{2}$  x 2 = 1 mark(iii) **STATING TWO REASONS FOR EXHIBITION:**

- To serve as platform for selling products
- To let public assess the quality of the products
- To make public aware of what the products are

1/2 x 2 = 1 mark

To promote local craftsmanship, etc  
**WAYS OF RELATING WELL TO THE BUSINESS CUSTOMER**

- Being nice to the customer
- By making the customer feel he is always right.
- Customer must be treated with respect and kindness
- Customer must be treated in a way that will encourage them to come back
- You must be patient to customer even when you are right
- Customers are guests of the enterprise and should be treated as such.
- Etc.

[3 marks @ 1 mark each]

**PART II [50 MARKS]**

**QUESTION TWO**

(a) (i) **REARRANGING THE STEPS IN BUILDING OF THE FIRST COURSE OF THE WALL:**

- I. Measure and mix materials to obtain mortar
- II. Set out the position and outline of the wall
- III. Pick and spread mortar and lay the end blocks
- IV. Gauge, plumb and level them
- V. Bed the remaining blocks and level
- VI. Check alignment and fill in mortar gaps to complete the first course

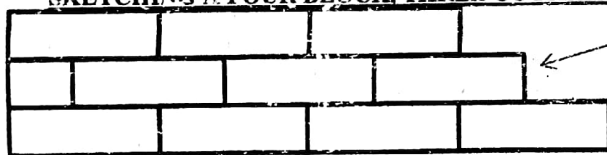
1/2 mark each x 6 = 3 marks

(ii) **REASONS FOR TERMINATING A WALL TEMPORARILY**

- Lack of materials.
- Poor weather condition
- Lack of funds.
- When the block layer is getting sick.

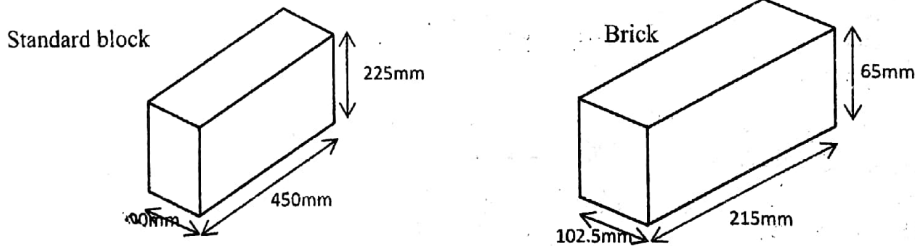
1/2 mark each x 4 = 2 marks

(b) **SKETCHING A FOUR BLOCK, THREE COURSES WALL WITH RACKING BACK.**



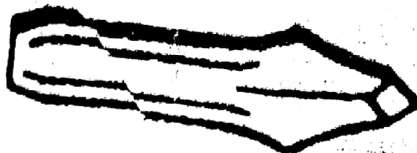
Correct presentation of wall -2 marks  
 Good pencil work -1 mark  
 Racking back - 1 mark  
 TOTAL = 4 marks

(c) (i) **USING SKETCHES TO SHOW THE DIFFERENCE BETWEEN STANDARD BLOCK AND BRICK.**



3 each X 2 = 6 marks

(ii) **SKETCH OF THE DIAMOND POINT CHISEL**



**USES OF THE DIAMOND POINT CHISEL**

- Cutting vee grooves
- Clearing sharp corners.

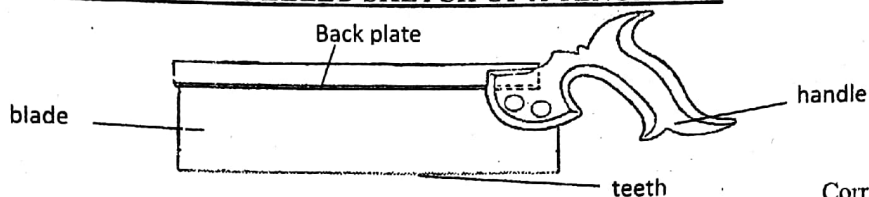
3 marks

1 marks @ 1/2 mark each

- (d) (i) **STATING THE MAIN DIFFERENCE BETWEEN A BATTERY AND CAPACITOR:**  
 - Battery stores and discharges energy  
 - Capacitor charges, stores and discharges energy **1 each x 2 = 2 marks**
- (ii) **STATING THREE ADVANTAGES OF USING LEDs THAN BULBS:**  
 - They are cheap  
 - They use less current  
 - They have longer lifespan  
 - They emit less heat **1 each x 3 = 3 marks**

**QUESTION THREE**

- (a) (i) **MAKING A LABELLED SKETCH OF A TENON SAW**



Correct drawing = 4 marks  
 1/2 mark for each labelling correct = 2 marks

- (ii) **STATING TWO CARE AND MAINTENANCE OF THE TENON SAW!**  
 - Clean the blade and oil it after use to prevent rust  
 - Keep the saw safely on a tool rack  
 - Slip a plastic guard over the saw teeth to protect it when the saw is not being used. **1 x 2 = 2 marks**

- (b) **Completing the table below.**

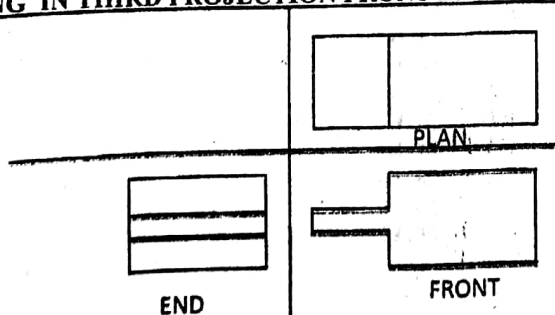
Material	One property	Colour	One use
Aluminium	(i) Lustrous; (ii) Good conductor of heat and electricity; (iii) Light in weight; (iv) Malleable (iv) Ductile	Bluish; white	(i) Roofing sheet; (ii) Cooking utensil (iii) Wires (iv) Nails (v) Bowls etc.
Wawa	(i) Light in weight; (ii) Not hard; (iii) Not strong	Yellowish white	(i) Temporal structures; (ii) Cheap household furniture. (kitchen stool, table etc.)
Odum	(i) Hard; (ii) strong; (iii) difficult to work with, etc	Reddish brown	- Ornaments, pipes, musical instrument, light fittings, etc

1/2 mark each 8 any 8 correct = 4 marks

- (b) **STATING THE MAIN USE OF EACH OF THE FOLLOWING TOOLS:**

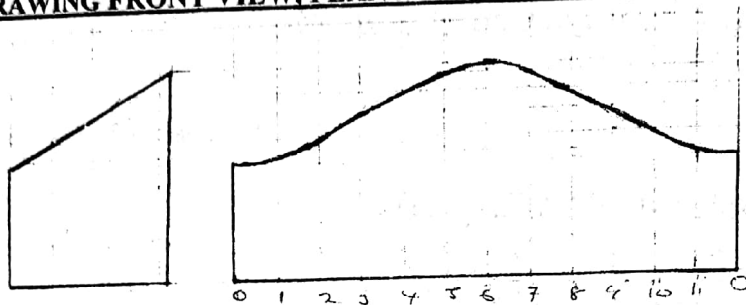
- (i) *Spirit level*: For plumbing and levelling a wall  
 (ii) *Builder's square*: For checking right angle corners of a wall  
 (iii) *Bolster*: For cutting blocks into accurate sizes  
 (iv) *Brace and bit*: For boring circular holes in wood  
 (v) *Round file*: For filing round or semi-circular holes in metal work.  
 (vi) *Hand file*: For filing a stepped work  
 (vii) *Spoke shave*: used for shaping curved edge of wood  
 (viii) *Pincers*: is used for removing bent nails from wood **1/2 mark each x 8 = 4 marks**

- (d) **DRAWING IN THIRD PROJECTION FRONT ELEVATION, PLAN AND LEFT END ELEVATION**



9 marks

**QUESTION FOUR**  
**(a) DRAWING FRONT VIEW, PLAN AND SURFACE DEVELOPMENT OF THE FRUSTUM**



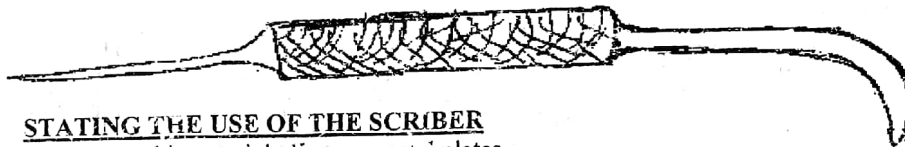
10 marks

**(b) COMPLETING THE TABLE**

Material	One property	One use
P. V. C	- Good electrical insulator - Resistance to corrosion, etc	- Electrical cable, water pipe, garden hose, etc
Brass	- Good corrosion resistant, light in weight, well cast, etc	- Ornaments, pipes, musical instrument, light fittings, etc

½ each x 8 = 4 marks

**(c) (i) MAKING A FREEHAND SKETCH OF A SCRIBER**



3 marks

**(ii) STATING THE USE OF THE SCRIBER**

- For marking straight lines on metal plates

1 mark

**(d) ARRANGEMENT OF PROCESSES IN DRILLING A HOLE IN METAL.**

1. Coat the surface of the metal
2. Mark out the position of the hole.
3. Centre punch it.
4. Back the metal with wood and place it in the machine vice.
5. Fix the required size of drill bit in the chuck.
6. Start the drilling machine and drill through the metal.
7. Remove burrs.

(1 × 7 = 7 marks)

**PAPER 1 [30 MARKS]**

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|-------|-------|-------|
| 1. D  | 11. A | 21. C |
| 2. C  | 12. C | 22. D |
| 3. A  | 13. C | 23. B |
| 4. C  | 14. C | 24. D |
| 5. B  | 15. C | 25. A |
| 6. C  | 16. C | 26. D |
| 7. D  | 17. C | 27. B |
| 8. C  | 18. D | 28. D |
| 9. B  | 19. B | 29. A |
| 10. A | 20. C | 30. C |