YOUR STEP ASSESSMENT CONSULT

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AKWAABA MOCK

BASIC DESIGN TECHNOLOGY – PRE TECHNICAL SKILLS 2 & 1

MARKING SCHEME

OBJECTIVES

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

PAPER 2

QUESTION 1

(a) i.

- Design and make a unit for pupils to keep their graphic materials
- Design and make a unit to hold pupil's graphic materials. 1 mark

ii. a. **Function**

i. What are the main uses of the artifact?

ii. How heavy should it be?

iii. What other purpose can it serve?

iv. How is it going to be used?

v. How many items will it hold? ½ marks

b. **Material**

i. What type of material will be used for making the artifact?

ii. Is the material available in the locality?

iii. Is the material suitable for the unit?

iv. What are the properties of the material that makes it suitable? ½ marks

iii. i. Using video recorders

ii. Taking photographs

iii. Writing with pen and paper 1 mark

iv a. **Economics**

i. How much will the material cost?

ii. How many hands will be employed?

iii. What is the workmanship?

iv. What is the total cost of production?

v. What will be the selling price? ½ marks

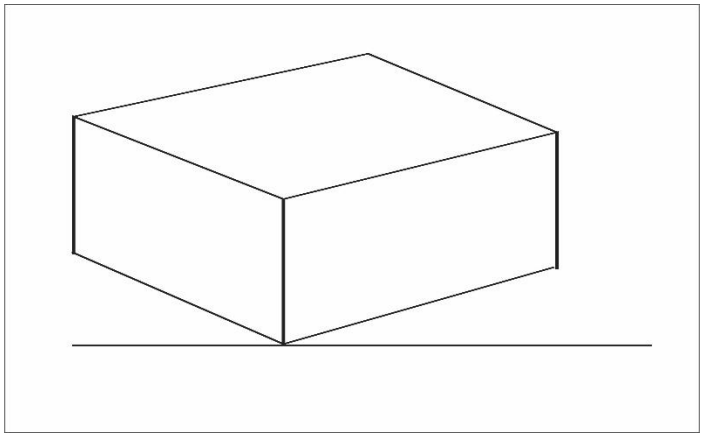
b. **Ergonomics**

i. Who will use the material?

ii. Where will the unit be used?

iii. What will be the size of the unit? ½ marks

(v)



2 marks

(b) i. Principles of design refers to the guidelines that govern the production of an art work.

They describe the ways the artist uses the element of art in a work of art. 1 mark

ii. Creative /Art designer, Layout artist, logo designer, illustrator, Photo editor, multimedia designer. 1 x 3 = 3 marks

iii Red, yellow, orange, green, blue, indigo and violet 2 marks

(c) i. Food spoilage is the state in which food has gone bad and is usually dangerous to eat. 1 mark

ii. Bacteria, enzymes, moulds. 1 x 3 = 3 marks

iii Canning, smoking, freezing, oiling. 1 mark

iv Food preservation is the act of keeping food for longer periods of time by giving it a special treatment. 1 mark

v. sun or solar drying, oven drying, vacuum drying, spray drying 1 x 2 = 2 marks

QUESTION 2

(a) Steps in building the first course of the wall

- Set - out the length and width of wall on the floor to show the outline.
- Pick and spread mortar at both ends of the outline.
- Bed the end blocks/bricks
- Plumb, gauge and level the end blocks/bricks
- Lay blocks/ bricks between the end blocks / bricks.
- Check the top level and face alignment.
- Fill in the mortar joints to complete the first course. [6×1½ mark = 9 marks]

(b) Laying tools: straight edge, tape measure, builder's square, spirit level, gauge rod, hand trowel, wooden float. [Any 4 × 1 mark = 4 marks]

(c) Length of block =450mm [¼ mark]

Length of space between blocks= 20mm [¼ mark]

Length of half block =½×450mm=225mm [½ mark]

i. Length A of the wall = 3(450mm) + 2(225mm) + 4(20mm)

= 1350mm + 450mm + 80mm

= 1880mm. [2 marks]

ii. Height B of the wall = 4(225mm) + 4(20mm)

= 900mm+ 80mm

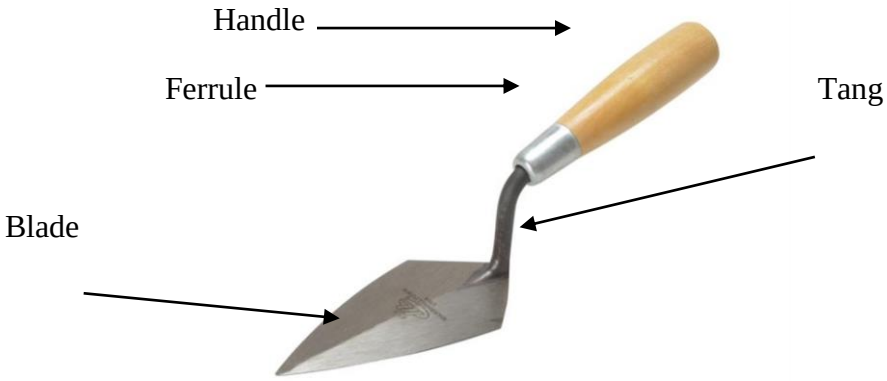
= 980mm [2 marks]

iii. Total area of the wall = length A × height B

=1880mm × 980mm

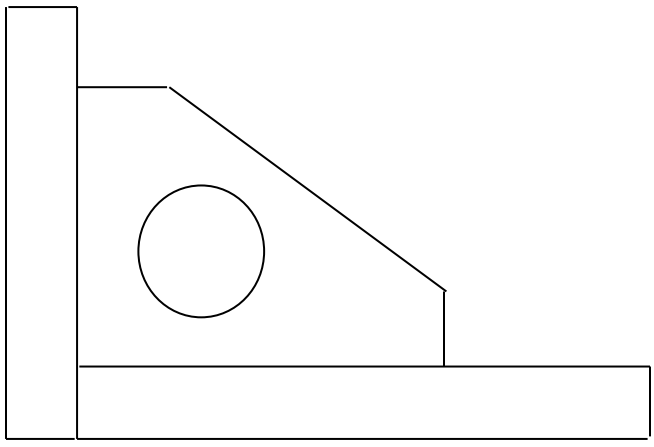
= 1842400mm² [2 marks]

(d) Drawing of hand trowel [5 marks]



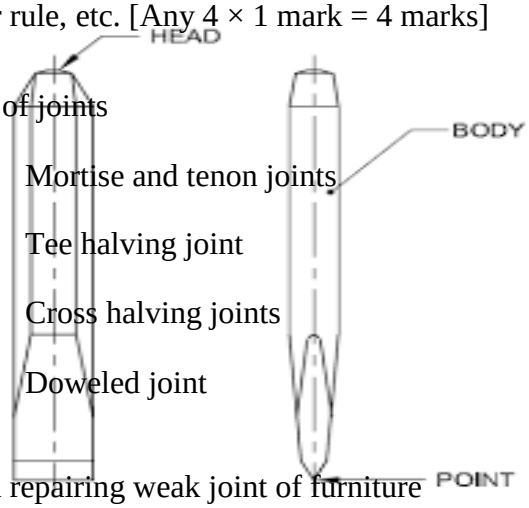
QUESTION 3

(a) Drawing of front elevation [9 marks]



(b) i. Four tools needed to make the artifact:

firmer chisel, rip saw, cross cut saw, smooth plane, claw hammer, try square, meter rule, etc. [Any 4 × 1 mark = 4 marks]



ii. Type of joints

α. Mortise and tenon joints

β. Tee halving joint

¥. Cross halving joints

@ Doweled joint [Any 2 × 1 mark = 2 marks]

(c) Steps used in repairing weak joint of furniture

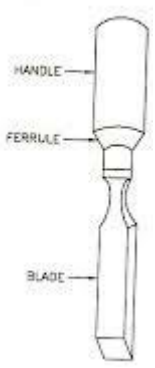
i. Separate the joint carefully with a screwdriver and a pair of pincers to pull out missing nails.

ii. Replace the doweled / broken tongue.

iii. Glass paper the joint clean and dry before applying glue and reassemble it.

iv. Nail the joints and clamp them to set. [4×1 mark = 4 marks]

(d) Sketch of a firmer chisel [5 marks]



QUESTION 4

(a) i. Sketch of cold chisel [5 marks]

(b) i. Correct measurement [5 marks]

Drawing [5 marks]

ii.

- Mark out the shape of the template
- Mark out datum lines and dot punch it.
- Dot punch all marked lines
- Cut all unwanted parts and file to size
- Remove all burrs.
- Coat the surface of the workplace. [6 × 1 mark = 6marks]

(c) i. Marking out tools

- dot punch
- marking gauge
- try square
- tape measure / metre rule. [Any 2 ×½ mark = 1 mark]

ii. Cutting tool used to

- hacksaw

- hand file
- flat chisel
- cross cut chisel, etc [any 2 ×½ mark = 1 mark]

(d) i. Two ways of detecting electrical fault

α. check if any of the wires in the socket / plug is disconnected.

β. by checking the fuse [2×½ mark = 1 mark]

ii. Two tools for repairing electrical faults are : Tester, Screwdriver, A pair of pliers

[any 2 ×½ mark = 1 mark]