

JUNIOR LYCEUM AND SECONDARY SCHOOL
ANNUAL EXAMINATIONS 2009

Directorate for Quality and Standards in Education
Educational Assessment Unit

FORM 3 (Year 1)

DESIGN & TECHNOLOGY

TIME: 2hrs

----- **Note to student:** -----
You are required to answer all questions

FOR TEACHERS' USE ONLY

DISTRIBUTION OF MARKS

	Areas corrected					Marks for Written Exam.	Marks for Design Folio	TOTAL	FINAL MARK
	D	RM	E	T	F				
Max. Marks	20	20	20	20	20	100	100	200	%
Student's mark									

Enter student's mark obtained in every area of study in the above table.

D for Design, **RM** for Resistant Materials, **E** for Electronics, **T** for Textiles technology and **F** for Food technology

Questions 1 - 5 relate to the situation given below.

SITUATION

A businessman sells metal craft items to tourists in his crafts shop at Marsaxlokk fishing village.

One item that already sells well in his shop is a candlestick, whose sketch is shown in **Figure 1**.

This candlestick is made of 4 and 6 mm \varnothing mild steel rods and has a hard-wood base.

This businessman intends to increase the range (choice) of candlesticks he sells in his shop.

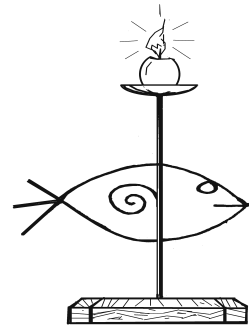


Figure 1

1. One specification for the candle stick would be:

“For safety reasons, the candlestick must be stable and steady enough so that it won’t be easily knocked over”.

Give one design requirements so that the above specification will be satisfied.

2 marks

2. Mention one process which is suitable for joining together the metal parts of the candlestick.

2 marks

3. Suggest one type of hardwood suitable for the base of the candlestick.

2 marks

4. By means of sketches show one idea for a new candlestick based on the same theme shown in figure 1 but capable of holding **TWO** candles.

10 marks

5. Suggest one type of finish for the metal parts of the candlestick and one type of finish for the wooden base.

For finishing the metal parts: _____

For finishing the base: _____

4 marks

6. List two safety precautions that should be observed when using pointed or sharp cutting tools.

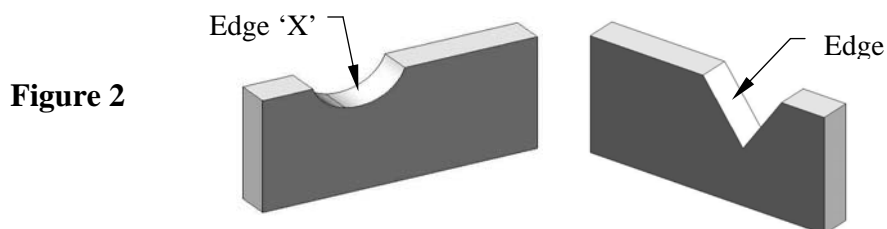
2 marks

7. a. Give an example of a tool with a sharp point.

- b. Give an example of a tool with a sharp cutting edge

2 marks

8. What shape of files should be used for filing down edges 'X' and 'Y' shown in **figure 2**?



For edge 'X' - _____

For edge 'Y' - _____

2 marks

9. State two advantages of PVC plastic.

2 marks

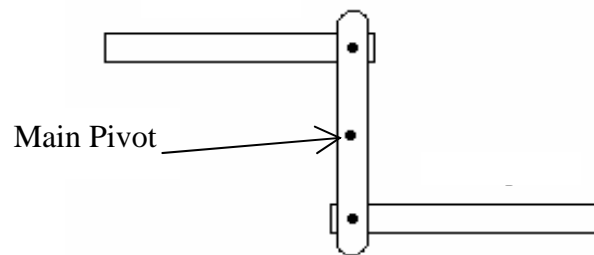
10. Give the name of four types of thermoplastics.

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4 marks

11. Add arrows to the linkage mechanism in **figure 3**, to indicate how this can be used for a reverse motion.

Figure 3
Linkage mechanism



3 marks

12. **Figure 4** shows a cam and follower.
Indicate (a) the follower (b) the lobe of the cam and (c) the shaft

Figure 4
Cam and follower



3 marks

13. Name one appropriate jointing method under each heading.

Permanent Joints	Temporary Joints

2 marks

14. Name the units used to measure:

- a. Resistance _____
- b. Voltage _____
- c. Current _____

3 marks

15. State three safety rules you must follow when using an electric soldering iron when soldering components.

3 marks

16. a. Sketch two resistors connected in series.

b. Sketch two resistors connected in parallel.

4 marks

17. Draw the circuit diagram of a battery powered torch light.

4 marks

18. a. Draw the symbol of an LED and indicate the polarity (positive and the negative).

3 marks

- b. Why are resistors used in an electronic circuit?

3 marks

TEXTILES TECHNOLOGY

19. List two other fastenings that can be used instead of buttons and button holes.

3 marks

20. Give the name of the hand tool you would use to cut Denim (Jeans material).

2 marks

21. State two ways for giving shape to fabrics.

4 marks

22. List two uses of a steam iron.

4 marks

23. State one method of neatening an edge on a textile product. Illustrate your answer with a sketch.

4 marks

24. Describe one way of recycling textile products.

3 marks

FOOD TECHNOLOGY

25. State what is meant by Primary Food and give one example.

Primary Food is _____

Examples: _____

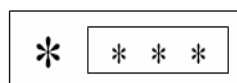
3 marks

26. State four precautions related to hygiene before someone starts any food preparation.

4 marks

27. Figure 5 shows a symbol found on a kitchen freezer. What does it stand for?

Figure 5



2 marks

28. Suggest three ways of reducing the amount of fat in a diet.

3 marks

29. The food we eat provides us with important nutrients, which we need for a healthy life.

a. Which nutrient helps retaining our body heat? _____

2 marks

b. Which nutrient provides us with energy? _____

2 marks

c. Why are Vitamins and Minerals important in our diet?

2 marks

d. Why are Proteins important in our diet?

2 marks