

MATERIAL AND PAINT TECHNOLOGY2
5165

CAMEROON GENERAL CERTIFICATE OF EDUCATION BOARD

Technical and Vocational Education Examination



JUNE XXXX

INTERMEDIATE LEVEL

Subject Title	MATERIAL AND PAINT TECHNOLOGY
Subject Code No.	5165
Paper No.	TWO

Duration: Two and a half hours

You are reminded of the necessity for good English and orderly presentation in your answers.

SECTION A

1. Definition of terms

1.1 Define the following terms

(a) Dinging OFF

(1 mark)

(b) Direct shock

(1mark)

1.2 Name four elements in a paint product.

(2 marks)

1.3 Define paint sagging.

(1 mark)

1.4 Give FIVE reasons why it is important to prepare a surface for painting.

(2.5 marks)

1.5 State the role of white mastic on a prepared surface.

(1 mark)

1.6 Name in a chronological order of application, three coats of products on the vehicle surface.

(1.5 mark)

2. Coating

To avoid breathing toxic air and paint particle in the spraying shop, it is recommended to improvise safety apparatus for the working post.

2.1 Name THREE safety elements a painter must use during painting.

(1.5 marks)

2.2 Define a painting post.

(0.5 mark)

2.3 State two roles of paint on a car body.

(1mark)

2.4 Give the function of an exhaust fan.

(1mark)

2.5 State SIX maintenance checks expected in the spray booth to achieve good results.

(6 marks)

3 Restoration

3.1 Define a respirator.

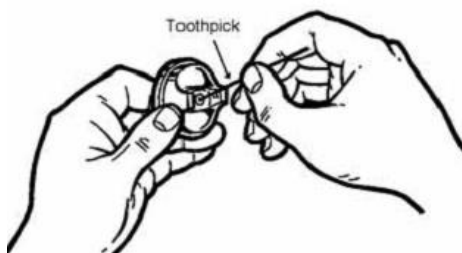
(2 marks)

3.2 Name THREE types of painter respirators.

(3marks)

3.3 Describe the activity being carry out on the picture below.

(1mark)



3.4 How will a repairer notice dents on the repaired surface

(1mark)

3.5 Give the part of the chassis which is called the survival cell

(1mark)

3.6 State two elements to be used for repairing a secondary shock

(2marks)

4. Knowledge

- 4.1 Define a colour wheel (1marks)
- 4.2 State five (5) scientific purposes for painting a vehicle (2.5marks)
- 4.3 List two (2) paint ingredient and define them (2marks)
- 4.4 State the role of putty on the work body structure (0.5 mark)
- 4.5 State two (02) correct grade of sand paper used in grinding putty (1mark)
- 4.6 Give three (3) causes of runs on the worked body structure (3 marks)

5. The motor manufacturer carries out continuous research to ameliorate the Cx of a vehicle, in this light, the motor mechanics body work repairer can ameliorate the vehicle structure in adding elements on the body structure like the « spoiler»

- 5.1 Give the meaning of Cx (2marks)
- 5.2 Describe what happens when the Cx of the vehicle is low (2marks)
- 5.2 Give the function of the spoiler (2marks)
- 5.3 State four (4) common damages on vehicle body structure and their causes (4marks)

Reproduce the table below and fill

sn	Types of body damage	causes
1		
2		
3		
4		

SECTION B:**1 Materials for repairs and finishing**

Various sizes of paper grit are available for all types of material, the size is referred to by a number which represents the number of holes per square inch in a sieve screen.

- 1.1** Choose from the bracket and complete the table below with a correct grit of paper according to their application.

(2marks)

(Very fine P220, coarse 60-80, fine 150-180, medium 100-120)

	For light sanding between stain and sealer
	For final sanding or cleaning of mastic surfaces
	For moderate removal of surface imperfections

	For heavy removal of mastic and coatings
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1.2 Identify on the **figure 1** below the various names of tools used in body work and repairs by filling on the table below.

FIGURE: 1



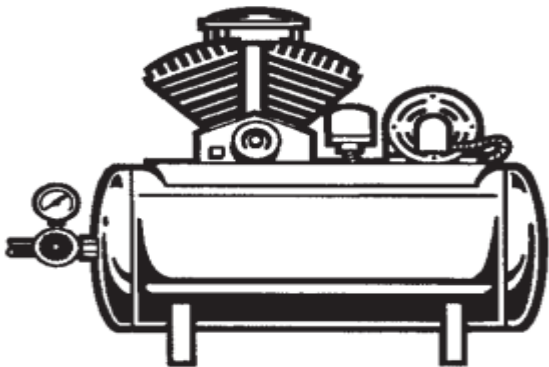
(Leather gloves, welding post, painting gun, cutting file proprietary panel-beating kits, pick-hammer, shrinking-hammers, heavy roughing hammers, cross-peen-hammer, spoons, Disc sander, abrasive paper, robber mallet, ear protector, welding shield, dollies, bumping/panel-beating hammers)

SN	NAME OF TOOL	SN	NAME OF TOOL	SN	NAME OF TOOL
A		F		K	
B		G		L	
C		N		M	
D		I		O	
E		J		P	

1.3 Give the function of the mixing cup during painting (0.5 mark)

2. Identify the **figure 2** below
- 2.1 State the function of figure 2 below
- 2.2 Give the function of a spray booth
- (1mark)
- (2marks)
- (2marks)

Figure 2

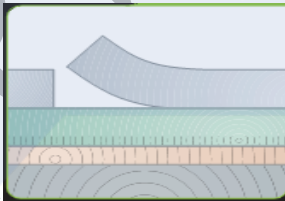
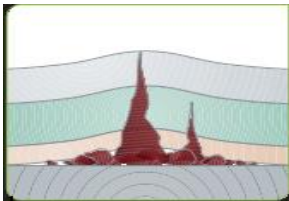
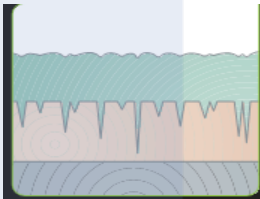
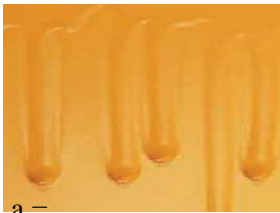


- 2.3 Describe the operating principle of the **figure 2**(two) above
- (5 mks)

3 Painting defects

- 3.1 Identify the following images observed on a finished surface on figure 3 below
- (6marks)

FIGURE 3



- 3.2 State one cause and one solution to each of these painting defects below
- (4marks)

Reproduce the table below and fill

Nber	Name of painting defect	causes	solution
1	runs		
2	sanding scratches		
3	adhesion problems between base and clear coats		
4	orange peel		

4. **Welding**

(10 marks)

4.1 Define the term Dinging ON

(1mark)

4.2 Explain the term **autogenous** welding.

(2marks)

4.3 Define the following abbreviations.

(3marks)

a) SMAW,

b) GTAW,

c) GMAW

4.4 How can a non- removable element on the vehicle be assembled.

(1mark)

4.5 Describe the most common method of repairing a deformed crumple zone.

(2marks)

4.6 State the importance of metal heat treatment

(1marks)
