Chapter 25 – Answer Key

**ASE-STYLE REVIEW QUESTIONS**

1. Technician A uses a DA sander to remove heavy surface rust, whereas Technician B says it is better to use a media blaster. Who is correct?

a. Technician A

**b. Technician B**

c. Both A and B

d. Neither A nor B

2. If the original paint surface is in good condition, Technician A simply washes the car to prepare the surface for painting. In the same instance, Technician B also scuff sands the surfaces to be painted. Who is correct?

a. Technician A

**b. Technician B**

c. Both A and B

d. Neither A nor B

3. A body surface has been sanded down to bare metal. Technician A first applies a metal conditioner and then body filler. Technician B applies a self-etch primer to the bare metal. Who is correct?

a. Technician A

**b. Technician B**

c. Both A and B

d. Neither A nor B

4. Which of the following methods can be used to strip paint from the metal surfaces of a vehicle?

a. Sanding

b. Blasting

c. Chemical stripping

**d. All of the above**

5. A fender has tape stripes that must be removed before painting. Technician A says to use a rubber scrub wheel in an air drill. Technician B says that a heat gun might aid stripe removal. Who is correct?

a. Technician A

b. Technician B

**c. Both A and B**

d. Neither A nor B

6. Technician A uses #600-grit sandpaper to remove paint to bare metal. Technician A says to use #36-grit sandpaper for rapid paint removal. Who is correct?

a. Technician A

**b. Technician B**

c. Both A and B

d. Neither A nor B

7. Technician A says that modern paint removers are not harmful to your skin and eyes. Technician B says to wear a face shield and rubber gloves when using chemical paint removers. Who is correct?

a. Technician A

**b. Technician B**

c. Both A and B

d. Neither A nor B

8. Which product should be used to mask next to a part that is being painted around?

a. Narrow masking tape

b. Wide masking tape

**c. Fine line masking tape**

d. Duct tape

9. Technician A says when wiping down a vehicle body, use lint free towels. Technician B says to use one lint free towel to clean each vehicle panel before refinishing. Who is correct?

**a. Technician A**

b. Technician B

c. Both A and B

d. Neither A nor B

10. A new metal bumper is coated with a factory E-coat. Technician A says to remove all of the coating before priming and painting. Technician B says that an E-coat normally can be prepped and painted. Who is correct?

a. Technician A

**b. Technician B**

c. Both A and B

d. Neither A nor B

11. Technician A says spot putties can be painted over without sanding them. Technician B says that a two-part spot putty dries very quickly. Who is correct?

a. Technician A

b. Technician B

**c. Both A and B**

d. Neither A nor B

12. Technician A uses a sanding block and wet sandpaper to scuff and prepare existing painted surfaces for repainting. Technician B uses his fingers and a scuff pad to get inside restricted or inner surfaces of panels. Who is correct?

a. Technician A

b. Technician B

**c. Both A and B**

d. Neither A nor B

13. Technician A says that newspaper can be used to mask right next to panels being painted. Technician B says that a plastic sheet should be used to mask right next to panels being painted. Who is correct?

a. Technician A

b. Technician B

c. Both A and B

**d. Neither A nor B**

**ESSAY QUESTIONS**

1. How do you evaluate the surface condition of a vehicle?

 **Answer:** Evaluate the surface condition of a vehicle as follows:

* Clean the areas to be inspected.
* Look carefully for any signs of paint film breakdown such as checking, cracking, and blistering. Horizontal surfaces usually show the greatest deterioration. Careful inspection of the hood and trunk areas will give a good indication of the overall condition of the paint system.
* Note particularly the gloss level. Low gloss will often indicate surface irregularities caused by defects like checking or microblistering, which will need more thorough investigation with a magnifying glass.
* Any signs of disfigurement or discoloration of the paint film due to attack by industrial fallout/ acid rain must be completely removed.
* Determine whether the old finish has good adhesion and that rust is not developing under the paint film. To test adhesion, sand through the finish, and featheredge a small spot. If the thin edge does NOT break or crumble, it is reasonable to assume that the old paint will stay on when the refinish color is applied over it. Developing rust can be detected by a roughness or pitting of the surface. The paint on those areas where either poor adhesion or rust is found must be removed to bare metal.

2. List some points that must be kept in mind when working with abrasives.

 **Answer:** Keep the following points in mind when working with abrasives:

* Grinding discs should never be run if the edges are nicked, torn, or show excessive wear. Whenever in doubt, do not use the product. Recommended fiber disc grinding speeds are: 5 inch, 7650 rpm; 7 inch, 5500 rpm; 9 inch, 4200 rpm.
* Fiber grinding discs should be seated flat against a backup pad and never overhang a pad by more than inch (6.4 mm).
* When paper discs are used on a slow speed polisher, the recommended speed is 3000 rpm or less.
* Curled discs generally indicate improper storage and should not be used until the shape is corrected. Storage of discs at 65° to 75°F (18° to 40°C) will prevent excessive curling of abrasive products prior to usage.
* Ensure proper ventilation at all times when grinding or sanding and particularly avoid breathing dusts/fumes that are generated by “grinding aid” disc products. Refer to precautions on box labels, discs, or charts for detailed instructions.

3. Describe the purpose of wet sanding.

**Answer:** Wet sanding is used for very find sanding jobs where it is important to keep clean the surface that is being worked on, such as when repairing minor paint surface problems. It is basically the same action as dry sanding except that water, a sponge, and a squeegee are also used. The water is used to prevent the sandpaper from becoming clogged with paint residue, which reduces its abrasiveness, as well as to flush debris from the area being sanded.

4. Explain the use of a guide coat.

**Answer:** A guide coat is very helpful and assists in pointing out unlevel areas. Spray a very light coat of a different color sandable primer over the primer-surfacer. Block sand the area. If you cut through the high spots, and see unsanded low spots, more body work is needed to level the surface. If you sand off the guide coat without cutting through the primer-surfacer, the surface is ready for paint.

5. Explain fine line masking tape.

**Answer:** Fine line masking tape is a very thin, smooth surface plastic masking tape. Also called flush masking tape, it can be used to produce a better paint edge (edge where old paint and new paint meet). When the fine line tape is removed, the edge of the new paint will be straighter and smoother than if conventional masking tape were used.

Fine line tape can be used to protect existing stripes from overspray. Also use fine line tape for precise color separation in two-tone painting and for creating vivid, clean stripes. Its added flexibility makes painting of curved lines easier, with less reworking.

6. How do you mask a vehicle using the liquid masking ­system?

 **Answer:** **Mask a vehicle using the liquid masking system as follows:**

1. Partially mask the area to be painted by going around it with masking paper. Fold the paper over onto the area to be painted. Secure the paper with masking tape.
2. Apply the liquid masking material. Use a heavy, single overlapping coat. Apply the material to all surfaces NOT to be painted. This would include bumpers, grilles, doors, windshields, body panels, wheels, wheel wells, door jambs, and even the entire compartment. An airless spray system is generally recommended for applying the masking material.
3. Fold the masking paper back over the liquid masking material. Wipe away any material from the area to be painted with a damp sponge. Allow the surface to dry.
4. Prepare the surface. Then apply primer and paint according to the manufacturer’s instructions.
5. Allow the paint to dry, then unmask the vehicle. Liquid masking may be used in both air dry or bake conditions.
6. After the paint is cured, wash off the dried liquid masking material with a garden hose or pressure washer.

7. Vehicle surface evaluation involves determining what? Please answer as thoroughly as possible.

 **Answer:** Vehicle surface evaluation involves determining what must be done before painting a body surface. Is the old paint in good condition, requiring only scuffing before painting? Is the old paint badly deteriorated, requiring complete ­removal down to bare metal? You must ask yourself these kinds of questions during vehicle surface evaluation.

Before painting, you must first identify the type of paint and overall condition of the existing paint. Failure to identify defects at this stage can be very expensive to correct. Missing and painting over even a tiny surface flaw could involve resanding and repainting the whole panel.

To evaluate the surface condition, first clean the areas to be inspected. Dust will quickly collect on surfaces while a vehicle is in the body shop.

Look carefully for any signs of paint damage on all panels to be painted. Also check old paint for film breakdown problems, such as checking, cracking, and blistering. Horizontal surfaces usually show the greatest film ­deterioration. Careful inspection of the hood and trunk areas will give a good indication of the overall condition of the paint system

In particular, note the gloss level, or how much shine remains in the paint surface. Low paint gloss will often ­indicate surface irregularities caused by defects such as checking or micro cracking, which will need a more thorough investigation with a magnifying glass. Any signs of disfigurement or discoloration of the paint film due to industrial fallout or acid rain must be completely removed.

Determine whether the old finish has good adhesion—that is, whether the old paint is still bonded tightly to the ­vehicle body. To test adhesion, sand through the finish and featheredge a small spot. If the thin edge does not break or crumble, it is reasonable to assume that the old paint will stay on when the refinish color is applied over it.

**CRITICAL THINKING PROBLEMS**

1. If you are going to spray a two-part paint on a vehicle and there are leaks in the masking paper, what are the implications for the vehicle, for you, and for the shop?

 **Answer:** All will suffer. The glass and other parts will have to be cleaned. This will be a time-consuming task with catalyzed paint. You will be embarrassed and could even lose your job. The shop’s reputation will suffer.

2. What happens if a technician uses too coarse a sand-paper before painting?

**Answer:** The paint will magnify the sand scratches. You will have to resand and refinish the vehicle on your own time.

3. If measurements show a paint to be 24 mils thick, what does that tell you?

 **Answer:** The vehicle has been painted several times and must be stripped.

**MATH PROBLEMS**

1. If a paint measures 6 mils thick and paint buildup should be limited to no more than 12 mils, how much more paint can be applied to the body?

 **Answer:** 6 mils

2. If a pint of material will cover 3 square feet (1.8 square ­meters), how much material would be needed for 23 square feet (6.9 square meters)?

 **Answer:** 7.7 pints