## **PROVISIONAL ANSWER KEY**

Question 92/2025/OL

Paper Code:

Category 320/2024

Code:

Exam: Junior Instructor (Mechanic Auto Body Painting)

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**Department Industrial Training** 

Question1:-About a standard general purpose outside micrometer, which one of the following is wrong statement?

A:-Pitch of the spindle thread is 0.5 mm

B:-Ratchet stop is used for ensuring uniform pressure between measuring faces

C:-Thimble has 50 equal divisions

D:-Smallest measurement in the barrel scale is 1 mm

Correct Answer:- Option-D

Question2:-Least count of a English micrometer is

A:-0.01 inch

B:-0.01 mm

C:-0.001 inch

D:-0.001 mm

Correct Answer:- Option-C

Question3:-While checking the zero error of a micrometer, the thimble scale zero is in 3 division below the datum line. When reading with this micrometer, the reading get 23.33 mm. The actual reading is

A:-20.33 mm

B:-23.30 mm

C:-23.36 mm

D:-23.63 mm

Correct Answer:- Option-B

Question4:-In a vernier 1 main scale division is 1 mm and vernier scale have 20 divisions and it is equal to 19 main scale divisions. The least count of this vernier caliper is

A:-0.05 mm

B:-0.04 mm

C:-0.02 mm

D:-0.01 mm

Correct Answer:- Option-A

Question5:-While riveting, the tool used for support the head of the rivet which is already formed is A:-Rivet set B:-Dolly C:-Rivet snap D:-Drift Correct Answer:- Option-B Question6:-Cutting angle of flat cold chisel for chipping copper is A:-35° B:-45° C:-60° D:-70° Correct Answer:- Option-B Question7:-A file is specified by its A:-Length and shape B:-Cut and grade C:-Length, cut and shape D:-Length, cut, shape and grade Correct Answer:- Option-D Question8:-The drilling machine that can be able to drill a number of holes in a work piece simultaneously is A:-Gang drilling machine B:-Multiple spindle drilling machine C:-Radial drilling machine D:-Upright drilling machine Correct Answer:- Option-B Question9:-Name the headless screw used for prevent pulleys from slipping on a shaft A:-Set screw

B:-Cap screw

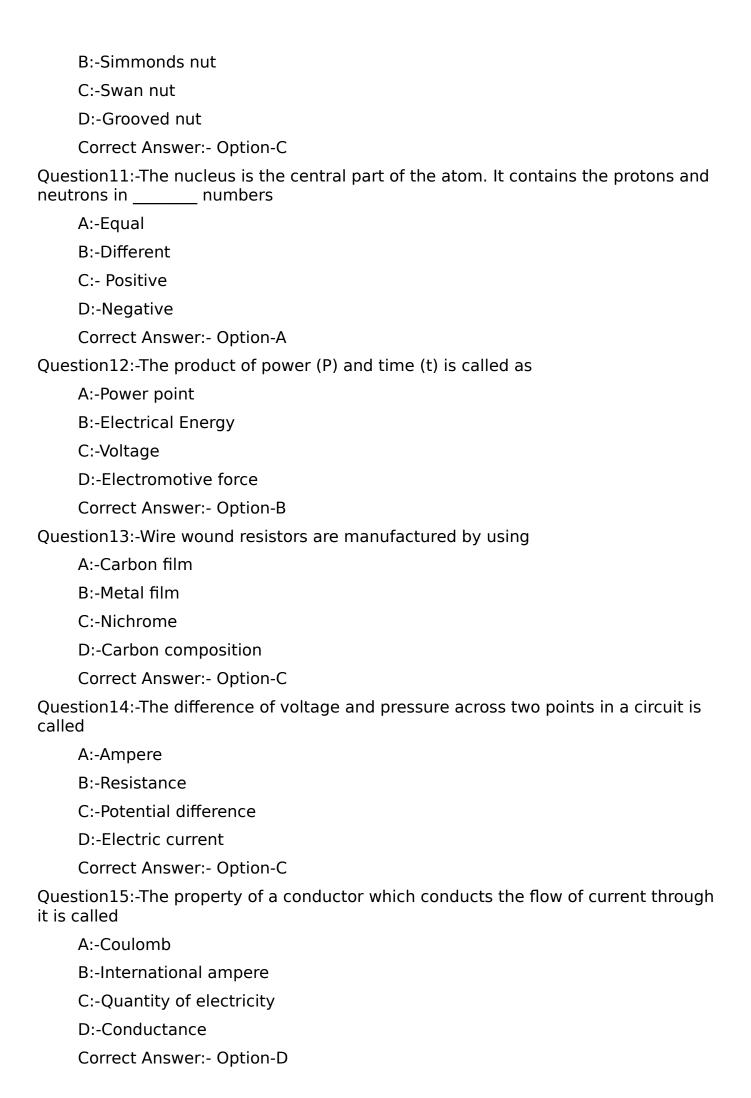
C:-Machine screw

D:-Driver screw

Correct Answer:- Option-A

Question10:-Name the locking nut which has a slot cut half way across the nut and a screw is fitted with a clearance hole on top part and thread on lower part of the nut

A:-Slotted nut



Question16:-The product of true power and time is known as
A:-Power factor
B:-Energy
C:-Reactive power
D:-Apparent power
Correct Answer:- Option-B
Question17:-Single phase energy can be measured by
A:-Powerfactor meter
B:-Watt meter
C:-Volt meter
D:-Energy meter
Correct Answer:- Option-D
Question18:-Which type measuring instrument is no polarity marking on the terminals?
A:-Moving iron
B:-Moving coil
C:-Electrodynamic quotient instrument
D:-Moving coil instrument with rectifier
Correct Answer:- Option-A
Question19:-When the dynamometer instrument is to be converted as an ammeter to measure large currents, the moving coil is connected both AC and DC
A:-A uniform scale
B:-Series a shunt
C:-Small guage wire
D:-Across a shunt
Correct Answer:- Option-D
Question20:-When an ohm meter must not be connected to a circuit?
A:-The pointer is full right
B:-The circuit's power is on
C:-The pointer is full left
D:-The circuit's power is off
Correct Answer:- Option-B
Question21:-Which of the following statement is/are correct about external combustion engines?  i. The products of combustion of air and fuel transfer heat to a second fluid which is the working fluid of the cycle
ii. Open cycle gas turbine is an external combustion engine.

A:-only i

B:-only ii
C:-all of the above (i & ii)
D:-both (i & ii) are not correct
Correct Answer:- Option-A

Question22:-Which of the following statement is/are correct about internal combustion engines?

- i. Lesser requirement of water for dissipation of energy through cooling system
- ii. Closed type gas turbine is an internal combustion engine
- iii. Internal combustion engines are not self-starting

A:-only (ii & iii)
B:-only (i & ii)
C:-All of the above (i, ii & iii)
D:-Only (i & iii)
Correct Answer:- Option-D

Question23:-Which of the following is not a criteria of classification of IC engines?

A:-Working cycle

B:-Firing order

C:-Valve or port design and location

D:-Method of cooling

Correct Answer:- Option-B

Question24:-Which of the following statement is/are correct about 2 stroke diesel engine?

- i. one power stroke is obtained in each revolution of crank shaft
- ii. 2 stroke diesel engines used in very large sizes for ship propulsion
- iii. In 2 stroke diesel engines there is no loss of fuel and no difficulty at idling.

A:-only i

B:-only ii

C:-only (i & ii)

D:-all of the above (i, ii & iii)

Correct Answer: - Option-D

Question25:-Which of the following statement is/are correct about 4 stroke diesel engine?

- i. 4 stroke diesel engines have high compression ratio
- ii. In 4 stroke diesel engine heat supplied at constant volume
- iii In 4 stroke diesel engine compression ratio and expansion ratio are equal

A:-only i

B:-all of the above (i, ii & iii)

C:-only (i & ii)

D:-only ii

Correct Answer: - Option-A

Question26:-Which of the following statement is/are correct about 4 stroke engine?

- i. Turning movement is more uniform and hence lighter flywheel is used.
- ii. Thermal efficiency is lower
- iii. Volumetric efficiency is more

A:-Only i

B:-Only ii

C:-Only iii

D:-All of the above (i, ii & iii)

Correct Answer:- Option-C

Question27:-Which of the following is not true in CI engines?

A:-Works with dual combustion cycle

B:-Quantity governing

C:-Compression ratio range 13-22

D:-Weight per unit power is high

Correct Answer:- Option-B

Question28:-Which of the following is not true is SI engines?

A:-High cranking effort required

B:-Power per unit displacement is high

C:-Works with Otto cycle

D:-Super charging is limited due to detonation

Correct Answer:- Option-A

Question29:-Which of the following statement is/are correct?

- i. The ratio of the volume of the cylinder between the BDC and the cylinder head to the clearance volume is the compression ratio
- ii. The volume of the cylinder in between the TDC and the cylinder head is the total volume
- iii. The volume of the cylinder in between the two dead centres is the swept volume

A:-only (i & ii)

B:-only (ii & iii)

C:-only (i & iii)

D:-all of the above (i, ii and iii)

Correct Answer:- Option-C

Question30:-The cross-sectional area of one cylinder of an engine multiplied by its stroke is called

A:-Total volume

B:-Swept volume

C:-Engine capacity

D:-Clearence volume

Correct Answer:- Option-B

Question31:-Which of the following statement is/are correct about an IC engine?

- i. The exhaust valve usually starts opening before BDC.
- ii. Valve overlap occures between exhaust and intake strokes

A:-only i

B:-only ii

C:-both (i & ii)

D:-none of the above

Correct Answer:- Option-C

Question32:-The ratio of energy in the indicated horse power to the fuel energy is known as

A:-Mechanical efficiency

B:-Volumetric efficiency

C:-Indicated thermal efficiency

D:-Relative efficiency

Correct Answer:- Option-C

Question33:-Which one of the following is not an advantage of unibody construction?

A:-Lightness and greater torsional rigidity

B:-Less body rattle and squeaks

C:-Improved vehicle performance and road holding

D:-None of these

Correct Answer: - Option-D

Question34:-In which type of chassis engine is mounted completely inside the driver's cabin?

A:-Full-forward control

B:-Semi-forward control

C:-Quarter-forward control

D:-Conventional control

Correct Answer: - Option-A

Question35:-Statement 1: The compressor's intake filter removes particulate contaminants from incoming air before it is compressed into the tank. Statement 2: The oiler in the service unit removes residual oil from the compressed air to provide oil-free air for painting and tyre inflation. Which one is correct?

A:-Both statements are correct

B:-Only statement 1 is correct

C:-Only statement 2 is correct

D:-Both are wrong

Correct Answer:- Option-B

Question36:-Which of the following pairs comprises only positive-displacement compressors?

A:-Roots blower and Vane blower

B:-Centrifugal and Axial-flow

C:-Axial-flow and Roots Blower

D:-Vane blower and Centrifugal

Correct Answer:- Option-A

Question37:-Technician A: When both Roots blower and Vane type air compressors operate, back pressure develops on their respective outlet ports

Technician B : The increase in pressure in Roots blower type air compressor is entirely due to back pressure.

Who is correct?

A:-Only Technician A is correct

B:-Only Technician B is correct

C:-Both are correct

D:-Both are wrong

Correct Answer:- Option-C

Question38:-Which is the correct statement on multistage air compressors compared to single stage ones?

Statement 1: High volumetric efficiency can be achieved

Statement 2 : Smaller size flywheel can be used.

A:-Both statements are correct

B:-Both statements are wrong

C:-Only statement 1 is correct

D:-Only statement 2 is correct

Correct Answer:- Option-A

Question39:-Technician A: Actual volume of air delivered by the compressor when reduced to the normal temperature and pressure condition is called Free air delivery

Technician B: The capacity of an air compressor is generally given in terms of free air delivery

A:-Only Technician A is correct

B:-Both are correct

C:-Only Technician B is correct

D:-Both are wrong

Correct Answer:- Option-B

Question 40:-Which is the correct statement on mean effective pressure? Statement 1: It can be calculated by dividing the work done by the compressor per cycle to the stroke volume.

Statement 2: It is the ratio of discharge pressure to the inlet pressure.

A:-Both Statements are correct

B:-Only statement 1 is correct

C:-Both statements are wrong

D:-Only statement 2 is correct

Correct Answer:- Option-B

Question41:-A "differential" or "bias" regulator in an FRL assembly is specifically designed to

A:-Provide a sub-circuit at lower pressure than the main circuit

B:-Maintain a constant output pressure despite large inlet-to-outlet swings

C:-Sustain a fixed pressure difference between two points in the system

D:-Shut off flow completely when downstream demand drops to zero

Correct Answer:- Option-C

Question42:-When selecting a regulator for precise control of pressures below 15-20 psi, the most appropriate choice is a

A:-General-purpose regulator

B:-High-pressure regulator

C:-Low-pressure regulator

D:-Differential (bias) regulator

Correct Answer:- Option-C

Question43:-In a deliquescent dryer, which maintenance action is required periodically to ensure continued performance?

A:-Regenerating the desiccant bed with heated purge air

B:-Draining the liquid solution and replenishing the hygroscopic medium

C:-Backflushing the membrane module with sweep gas

D:-Cleaning and defrosting the refrigeration coils

Correct Answer:- Option-B

Question44:-What is the main difference between primer and sealer?

A:-Primer gives gloss, sealer gives colour

B:-Primer builds thickness, sealer improves adhesion and blocks stains

C:-Primer is for topcoat protection, sealer removes old paint

D:-Both are the same

Correct Answer:- Option-B

Question45:-Why must primers and sealers be compatible with the topcoat?

A:-To reduce the cost of repainting

B:-To increase the drying time

C:-to prevent peeling, cracking or poor adhesion

D:-To improve glossiness only

Correct Answer:- Option-C

Question46:-What is the main advantage of using polyurethane (PU) paint in automotive refinishing?

A:-Low gloss finish

B:-Quick drying

C:-Easy to clean with water

D:-Excellent gloss and UV resistance

Correct Answer: - Option-D

Question47:-What are the major components of liquid paint?

A:-Red oxide and solvent

B:-Pigment, solvent, binder and additives

C:-Resins and pigments

D:-None of these

Correct Answer:- Option-B

Question 48:-Why is wet sanding preferred in some repainting processes?

A:-It reduces dust and gives a smoother finish

B:-It is cheaper than dry sanding

C:-It removes paint faster

D:-It requires no abrasive materials

Correct Answer: - Option-A

Question49:-Which of the following is a key characteristic of a good-quality body filler?

A:-Brittle texture

B:-Long curing time

C:-Easy sanding

D:-Low adhesion

Correct Answer:- Option-C

Question 50:-What is the main difference between body filler and glazing putty?

A:-Body filler is used for painting plastic parts, while glazing putty is only for metal

B:-Glazing putty is used for deep dents, while body filler is for scratches

C:-Body filler contains more solvent than glazing putty

D:-Glazing putty is used for minor surface imperfections, while body filler is used for filling deeper dents and shaping

Correct Answer:- Option-D

Question51:-What is the main base resin used in most automotive body fillers?

- A:-Epoxy resin
- B:-Polyester resin
- C:-Polyurethane
- D:-Acrylic resin

Correct Answer:- Option-B

Question52:-Why must body filler be applied on a clean, sanded metal surface?

- A:-To help the paint dry faster
- B:-To prevent the metal from changing colour
- C:-To ensure proper adhesion and prevent filler failure
- D:-To make the surface shiny and smooth

Correct Answer:- Option-C

Question53:-What type of mask should be worn when spraying paint in a closed area?

- A:-Cloth mask
- B:-Dust mask
- C:-Surgical mask
- D:-Respirator with chemical filters

Correct Answer:- Option-D

Question54:-What should be done immediately after a small paint spill in the shop?

- A:-Cover it with cloth
- B:-Mop it with water
- C:-Absorb with inert material and ventilate the area
- D:-Ignore if no one steps on it

Correct Answer:- Option-C

Question55:-Which standard unit is used to measure the rate of corrosion of metals?

- A:-Millimetres per year (mmpy)
- B:-Metal density g/cm3
- C:-Volume concentration (VC)
- D:-None of these

Correct Answer:- Option-A

Question 56:-Which of the following factors does not cause corrosion?

- A:-Physical
- **B:-Electro Chemical**
- C:-Microbiological
- D:-None of these

Correct Answer:- Option-D

Question57:-Which of the following is not considered an anti-corrosion method?

A:-Galvanization

B:-Epoxy coating

C:-Sanding the surface

D:-Anodizing

Correct Answer:- Option-C

Question58:-Car requires repainting on 2 doors and the rear bumper. The cost per panel is Rs. 1,500 and the workshop adds a 10% overhead on the total? What is the total repainting cost including overhead?

A:-Rs. 4,950

B:-Rs. 5,000

C:-Rs. 4,500

D:-Rs. 5,250

Correct Answer:- Option-A

Question59:-A job required 2 coats of paint. Each coat requires 0.8 litres per sq. meter. If the surface area is 3 sq. meters, how much paint is needed in total?

A:-2.4 litres

B:-4.8 litres

C:-3.6 litres

D:-1.6 litres

Correct Answer:- Option-B

Question60:-What is the main advantage of using HVLP spray guns in autobody repainting?

A:-Requires no air compressor

B:-Uses more paint for better coverage

C:-Reduces overspary and saves paint

D:-Applied thicker coats faster

Correct Answer:- Option-C

Question61:-What is the purpose of the fluid needle in a spray gun?

A:-To mix air and paint

B:-To open and close the fluid (paint) passage

C:-To regulate air pressure

D:-To control fan pattern

Correct Answer:- Option-B

Question62:-Which spray gun is best suited for applying thick coatings like primers?

A:-HVLP gun

B:-LVLP gun

C:-Suction feed spray gun

D:-Pressure feed spray gun

Correct Answer:- Option-D

Question63:-What happens if the spray gun nozzle is clogged?

A:-The spray pattern becomes smoother

B:-Paint flow increases

C:-The spray becomes uneven or starts to sputter

D:-The gun automatically cleans itself

Correct Answer:- Option-C

Question64:-Which type of spray gun is designed to create a vaccum and draw the material from the container?

A:-Pressure feed spray gun

B:-Gravity feed spray gun

C:-Suction feed spray gun

D:-Airless spray gun

Correct Answer:- Option-A

Question65:-What does a spray gun produce during operation?

A:-Only pressure and heat

B:-Atomization and vaporization

C:-Condensation and filtration

D:-Compression and ignition

Correct Answer:- Option-B

Question66:-Which of the following are the three main types of spray guns?

A:-Airless, centrifugal, hydraulic

B:-Electric, pneumatic, mechanical

C:-Manual, automatic, robotic

D:-Suction feed, gravity feed, pressure feed

Correct Answer:- Option-D

Question67:-What is the primary advantage of an airless paint sprayer?

A:-Only works with water-based paints

B:-Uses compressed air to atomize paint

C:-Provides a finer finish than brushes

D:-Delivers paint at high pressure without compressed air

Correct Answer:- Option-D

Question68:-Why is electrostatic painting *not* suitable for non-conductive surfaces

like plastice or wood?

A:-The paint dries too quickly

B:-The surface cannot hold an electrical charge to attract paint

C:-It requires high-pressure air

D:-The gun clogs easily

Correct Answer:- Option-B

Question69:-What type of filter is commonly used in spray booths for capturing overspray?

A:-HEPA filters

B:-Carbon filters

C:-Dry particulate filters

D:-UV filters

Correct Answer:- Option-C

Question70:-Which booth type is typically used for painting large aircraft?

A:-Cross draft booth

B:-Semi-downdraft booth

C:-Open-face booth

D:-Portable booth

Correct Answer:- Option-B

Question71:-The base coat in a spray-painting process is responsible for

A:-Providing corrosion protection and adhesion to metal surfaces

B:-Giving colour and visual effects

C:-Adding UV resistance and long-term gloss

D:-Building film thickness to level sanding scratches

Correct Answer:- Option-B

Question72:-What is the purpose of wet sanding during refinishing?

A:-To remove rust

B:-To reduce dust and smooth the surface

C:-To dry the surface

D:-To apply paint faster

Correct Answer:- Option-B

Question73:-In refinishing, which spray gun is commonly used for base coat application?

A:-Airless spray gun

B:-Electrostatic gun

C:-HVLP spray gun

D:-Roller gun

Correct Answer:- Option-B

Question74:-What is one advantage of using single stage paint over base coat/clear coat systems?

A:-Longer drying time

B:-Requires more paint material

C:-Faster application and fewer steps

D:-Cannot be polished

Correct Answer:- Option-C

Question75:-Which of the following acids is commonly used in the pickling process?

A:-Acetic acid

B:-Hydrochloric acid

C:-Boric acid

D:-Citric acid

Correct Answer:- Option-B

Question76:-Which of the following statements about Orbital Wire Brushing are correct?

i. it is a mechanical power sanding system

ii. it is used to remove rust, mill scale paint, and foreign matter

iii. it is done manually without machines

A:-only i and ii

B:-only ii and iii

C:-only i and iii

D:-all of the above

Correct Answer:- Option-A

Question77:-Which of the following statements are correct about the phosphating process?

i. Phosphating improves corrosion resistance of metals.

ii. It enhances paint adhesion on the metal surface

iii. It is only used for cleaning aluminum surfaces

A:-only ii and iii

B:-only i and ii

C:-all of the above i, ii nd iii

D:-only i and iii

Correct Answer:- Option-B

Question78:-Which of the following statements are correct about scrapers used in metal surface preparation?

i. Scrapers are used to remove old paint, glue or adhesives from the metal surface

- ii. Scrapers are used for applying putty.
- iii. Scrapers and sharp blades help in removing layered materials from surfaces

A:-only i and ii

B:-only i and iii

C:-only ii and iii

D:-all of the above

Correct Answer:- Option-B

Question79:-What does a higher grit number indicate?

A:-Coarser abrasive

B:-Smoother finish

C:-Larger abrasive particles

D:-Lower quality sandpaper

Correct Answer:- Option-B

Question80:-Consider the following about grit size in sandpaper:

- i. Grit size refers to the size of abrasive particles
- ii. It is measured by the number of abrasive grains per square inch
- iii. Finer grit means coarser sanding

A:-only i and ii

B:-only ii and iii

C:-only i

D:-all of the above

Correct Answer:- Option-A

Question81:-What is one key feature of dry sanding?

A:-Uses water as lubricant

B:-Uses foam instead of sand paper

C:-No liquid is required for lubrication

D:-It only works on wood

Correct Answer:- Option-C

Question82:-Which of the following statements about wet sanding is correct?

A:-Water is used to increase sanding speed

B:-Water adds color to the sanded surface

C:-Water acts as a lubricant between the metal surface and sanding material

D:-Water is mainly used to remove old paint

Correct Answer:- Option-C

Question83:-What should be done after applying masking paper and spraying liquid mask?

A:-Apply paint immediately

B:-Fold masking paper back and wipe area C:-Heat the surface D:-Peel off the mask Correct Answer:- Option-B Question84:-What should be done before any operation on a metal surface? A:-Directly apply paint B:-Heat the surface C:-Ensure the surface is cleaned with compressed air and degreaser D:-Apply oil to the surface Correct Answer:- Option-C Question85:-Colour is a property of A:-Sound B:-Temperature C:-Light D:-Shape Correct Answer:- Option-C Question86:-Which three colours are known as Primary Colours? A:-Green, Orange, Violet B:-Red, Green, Blue C:-Red, Yellow, Blue D:-Cyan, Magenta, Yellow Correct Answer:- Option-C Question87:-Which of the following is a secondary colour? A:-Blue B:-Red C:-Yellow D:-Green Correct Answer:- Option-D Question88:-What does 'Value' refer to in colour theory? A:-The cost of the paint B:-The colour's name C:-The lightness or darkness of a colour D:-The thickness of the pigment Correct Answer:- Option-C Question89:-The term "Saturation" in colour theory refers to

A:-The brightness of a light source

B:-The lightness or darkness of a colour C:-The purity or intensity of a colour D:-The thickness of paint Correct Answer:- Option-C Question90:-What is a "Tint"? A:-A colour mixed with black B:-A colour mixed with grey C:-A colour mixed with white D:-A dull version of a colour Correct Answer:- Option-C Question91:-What is the main cause of "orange peel" in automotive painting? A:-Excessive humidity during drying B:-Incomplete curing of primer C:-Improper spray gun adjustment or paint viscosity D:-Use of coarse sandpaper Correct Answer:- Option-C Question92:-"Runs" or "Curtains" in paint occur when : A:-The surface is too hot B:-Too much paint is applied in one area C:-The spray pressure is too high D:-The paint is too thick Correct Answer:- Option-B Question93:-What is the visual appearance of the defect called "sagging"? A:-Dry and chalky finish B:-Wavy or dripped-down paint surface C:-Surface with air bubbles D:-Cracks and blisters Correct Answer:- Option-B Question94:-Which of the following causes sand scratch swelling? A:-Excessive topcoat thickness

B:-Use of coarse sandpaper without proper sealing

C:-Spraying at high humidity

D:-Poor air circulation

Correct Answer:- Option-B

Question95:-What preventive measure helps avoid orange peel?

A:-Applying paint with a roller

B:-Using a fast hardener

C:-Correct spray gun setup and thinning ratio

D:-Applying fewer coats

Correct Answer:- Option-C

Question96:-Runs and sags in paint usually occur due to

A:-Undercoating not dried

B:-Thin application of paint

C:-Low humidity conditions

D:-Excessive film thickness and poor application technique

Correct Answer:- Option-D

Question 97:-Which one of the following tools is commonly used to detect sagging immediately after spraying?

A:-Viscometer

B:-Surface guage

C:-Inspection lamp/light

D:-Paint stirrer

Correct Answer:- Option-C

Question 98:- Sand scratch swelling appears when

A:-Basecoat is over-cured

B:-The topcoat shrinks into the sanded areas below

C:-There is too much pigment in the paint

D:-The thinner used is too fast

Correct Answer:- Option-B

Question 99:-What is the primary purpose of a rubbing compound?

A:-To remove wax

B:-To apply a basecoat

C:-To remove surface imperfections and scratches

D:-To seal the surface

Correct Answer:- Option-C

Question 100:-Buffing is performed after rubbing compound to

A:-Apply a primer coat

B:-Create a glossy and smooth finish

C:-Remove all paint layers

D:-Apply masking

Correct Answer:- Option-B