

FINAL ANSWER KEY

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Exam:	Welder
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Question1:-The document which lists out all the essential characteristics for performing a weld is?

- A:-Welding Procedure Qualification
- B:-Welding Performance Qualification
- C:-Welding Procedure Specification
- D:-Procedure Qualification Record

Correct Answer:- Option-C

Question2:-In nick break test, cutting depth is

- A:-3mm to 5mm
- B:-3.5 mm to 6 mm
- C:-3mm
- D:-1.5 mm to 2 mm

Correct Answer:- Option-D

Question3:-Preheating temperature of silicon bronze?

- A:-200° to 260° C
- B:-90° C
- C:-200° C
- D:-260° to 370° C

Correct Answer:- Option-B

Question4:-Which test is used to find out the discontinuities in the weldment?

A:-Magnetic particle test

B:-Ultrasonic test

C:-Liquid penetrant test

D:-Leak or pressure test

Correct Answer:- Option-B

Question5:-Preheating temperature is identified by the metals using

A:-Thermometer

B:-Thermostat

C:-Ice cubes

D:-Temperature indicating crayons

Correct Answer:- Option-D

Question6:-Depositing a layer of hard metal on the soft metal is called

A:-Hard facing

B:-Brazing

C:-Surfacing

D:-Welding

Correct Answer:- Option-A

Question7:-The angle of prick punch is

A:-60°

B:-90°

C:-45°

D:-30°

Correct Answer:- Option-D

Question8:-The gap formed due to an oxy-acetylene cutting operation is called

A:-Reaction gap

B:-Kerf

C:-Cutting zone

D:-Slag

Correct Answer:- Option-B

Question9:-Padding is the method of

A:-Brazing

B:-Hard facing

C:-Cutting

D:-Surfacing

Correct Answer:- Option-D

Question10:-Post-heating temperature of plain carbon steel joints is

A:-100°C to 300°C

B:-350°C to 400°C

C:-400°C to 550°C

D:-550°C to 600°C

Correct Answer:- Option-A

Question11:-In oxy-acetylene cutting, the preheating temperature at the ignition point is

A:-450°C

B:-600°C

C:-900°C

D:-1153°C

Correct Answer:- Option-C

Question12:-DIN is the standardization of which country

A:-USA

B:-Japan

C:-India

D:-Germany

Correct Answer:- Option-D

Question13:-The middle portion of the hammerhead is

A:-Eye hole

B:-Peen

C:-Cheek

D:-Face

Correct Answer:- Option-C

Question14:-Which test is used to detect surface defects as well as sub-surface defects in ferrous metals?

A:-Liquid penetrant test

B:-Ultrasonic test

C:-Magnetic particle test

D:-X-Ray test

Correct Answer:- Option-C

Question15:-The pitch of the dots in punch marking is

A:-3 mm

B:-4 mm

C:-2.5 mm

D:-5 mm

Correct Answer:- Option-B

Question16:-Which of the following statements is/are correct about oxy-acetylene gas flame is used for gas welding?

1. It has a well-controlled flame with high temp
2. The flame can be easily manipulated for proper melting of the base metal
3. It does not change the chemical composition of the base metal/weld?

A:-Only 1 and 2

B:-Only 2 and 3

C:-Only 1 and 3

D:-All of the above (1, 2 and 3)

Correct Answer:- Option-D

Question17:-The temperature of oxy-hydrogen flame is

A:-950-110°C

B:-1800-200°C

C:-2400-2700°C

D:-2700-2800°C

Correct Answer:- Option-C

Question18:-What is Chemical symbol of calcium carbide?

A:-CaC₂

B:-CaC

C:-CaC₃

D:-CaC₅

Correct Answer:- Option-A

Question19:-What is the operating pressure of acetylene gas produced by a Low-Pressure Acetylene plant?

A:-0.17 kg/cm²

B:-0.0017 kg/cm²

C:-1.07 kg/cm²

D:-0.017 kg/cm²

Correct Answer:- Option-A

Question20:-How many pressure gauges are in an oxy-acetylene high pressure welding plant

A:-4 Nos

B:-2 Nos

C:-One

D:-6 Nos

Correct Answer:- Option-A

Question21:-Which gas welding technique was developed to assist the production work on thick plates (above 5 mm) so as to produce economical welds of good quality?

A:-Inter mitant welding technique

B:-Left ward welding technique

C:-Back Step welding technique

D:-Right ward welding technique

Correct Answer:- Option-D

Question22:-According to which Indian Standard is the size of gas welding filler rods specified?

A:-Is 1278-1972

B:-Is 1287-1972

C:-Is 1378-1973

D:-Is 1387-1973

Correct Answer:- Option-A

Question23:-What is the welding fault called when excessive penetration during gas welding causes a local collapse of the weld pool, resulting in a hole in the root run?

A:-Under cut

B:-Incomplete root penetration

C:-Burn through

D:-Excessive concavity

Correct Answer:- Option-C

Question24:-Which flux is used for brass welding?

A:-Borax

B:-Zinc Chloride

C:-Silver nitrate

D:-Ammonium Hydrate

Correct Answer:- Option-A

Question25:-Which type of flame is used for welding aluminium with the oxy-acetylene welding process?

A:-Oxidizing flame

B:-Neutral flame

C:-Carburising flame

D:-None of these

Correct Answer:- Option-B

Question26:-Why is a stainless steel weldment is heated to 950°C to 1100°C and quenched in water after gas welding?

A:-To avoid weld crack

B:-To avoid weld rusting

C:-For sudden cooling of weld

D:-To avoid weld decay

Correct Answer:- Option-D

Question27:-What is the melting point of copper?

A:-1983°C

B:-1883°C

C:-1083°C

D:-1783°C

Correct Answer:- Option-C

Question28:-Which type of flame is used for welding brass with the oxy-acetylene gas welding process?

A:-Oxidizing flame

B:-Neutral flame

C:-Carburising flame

D:-None of these

Correct Answer:- Option-A

Question29:-Which type of cast iron is most weldable?

A:-White cast iron

B:-Grey cast iron

C:-Nodular cast iron

D:-Malleable cast iron

Correct Answer:- Option-B

Question30:-Which metal joining process is carried out at a temperature above 450°C

A:-Linde welding of pipe

B:-Bronze welding

C:-Soldering

D:-Hard facing

Correct Answer:- Option-B

Question31:-Welding processes are broadly classified into:

A:-Hot and Cold welding

B:-Fusion welding and Pressure welding

C:-Gas and Electric welding

D:-Manual and Automatic welding

Correct Answer:- Option-B

Question32:-The metal deposited in a single pass is called:

A:-Weld bead

B:-Root face

C:-Flux coating

D:-Tack weld

Correct Answer:- Option-A

Question33:-The main purpose of flux coating in SMAW electrodes is to:

A:-Increase current

B:-Produce shielding gases and protect the molten weld pool

C:-Reduce electrode length

D:-Increase voltage

Correct Answer:- Option-B

Question34:-Which electric welding process provides the deepest penetration and highest productivity for long butt joints in thick plates?

A:-SMAW

B:-TIG (GTAW)

C:-GMAW (MIG)

D:-Submerged Arc Welding (SAW)

Correct Answer:- Option-D

Question35:-Which statement is correct about arc welding?

A:-Heat is produced by the combustion of fuel gas

B:-Heat is produced by an electric arc between the electrode and the workpiece

C:-Heat is produced only by friction

D:-Heat is produced by sunlight

Correct Answer:- Option-B

Question36:-Which condition is most important for maintaining a stable electric arc?

A:-Increasing electrode diameter only

B:-Maintaining the correct arc length

C:-Increasing welding speed continuously

D:-Using a longer welding cable

Correct Answer:- Option-B

Question37:-What is the primary purpose of metal preparation before welding?

A:-To increase the weight of the workpiece

B:-To ensure sound weld quality and proper penetration

C:-To change the colour of the metal

D:-To reduce the electrode length

Correct Answer:- Option-B

Question38:-Which of the following is not a basic welding joint?

A:-Butt joint

B:-Lap joint

C:-Tee joint

D:-Riveted joint

Correct Answer:- Option-D

Question39:-Which statement is correct?

A:-A groove weld is generally used in prepared butt joints

B:-A fillet weld can only be used in butt joints

C:-A lap joint is formed by placing plates edge to edge

D:-An edge joint is mainly used for heavy load-bearing structures

Correct Answer:- Option-A

Question40:-Which welding joint is least suitable for heavy structural loads?

A:-Butt joint

B:-Tee joint

C:-Edge joint

D:-Lap joint

Correct Answer:- Option-C

Question41:-Excessive arc length generally results in:

A:-Better penetration

B:-Increased spatter and poor weld quality

C:-Lower arc voltage

D:-Higher deposition efficiency

Correct Answer:- Option-B

Question42:-Which statement about arc length is incorrect?

A:-A long arc increases spatter

B:-A short arc may cause the electrode to stick

C:-Arc length has no influence on weld quality

D:-Proper arc length give a stable arc

Correct Answer:- Option-C

Question43:-During overhead welding, the arc length should generally be:

A:-Longer than normal

B:-Equal to the plate thickness

C:-As short as possible while maintaining a stable arc

D:-Twice the electrode diameter

Correct Answer:- Option-C

Question44:-In an arc welding machine, the Open-Circuit Voltage (OCV) is mainly required to:

A:-Melt the base metal directly

B:-Strike and maintain the welding arc

C:-Reduce electrode diameter

D:-Increase cable resistance

Correct Answer:- Option-B

Question45:-Which statement is correct regarding an inverter welding machine?

- A:-It is heavier than a transformer welding machine
- B:-It has lower electrical efficiency
- C:-It provides stable arc characteristics with compact size
- D:-It can operate only on DC generators

Correct Answer:- Option-C

Question46:-Which polarity generally provides deeper penetration in SMAW?

- A:-DCEP (Reverse Polarity)
- B:-DCEN (Straight Polarity)
- C:-AC only
- D:-Both DCEN and DCEP always produce

Correct Answer:- Option-B

Question47:-Which factor can help minimize arc blow during DC welding?

- A:-Using a shorter arc length
- B:-Increasing welding speed only
- C:-Using a larger electrode only
- D:-Increasing open-circuit voltage

Correct Answer:- Option-A

Question48:-Which welding technique is commonly used to minimize distortion in long welds?

- A:-Continuous welding from one end to the other only
- B:-Back-step welding
- C:-Increasing the electrode diameter only
- D:-Increasing arc length

Correct Answer:- Option-B

Question49:-In the electrode classification E7018, the digit "1" indicates:

- A:-Flat position only
- B:-Flat and horizontal positions only
- C:-All welding positions
- D:-Vertical position only

Correct Answer:- Option-C

Question50:-In a fillet weld symbol, the dimension shown to the left of the symbol specifies the:

- A:-Length of the weld
- B:-Size (leg length) of the weld
- C:-Pitch of the weld
- D:-Root gap

Correct Answer:- Option-B

Question51:-Which of the following statements is correct regarding MIG/GMAW power source?

- A:-MIG welding uses AC power supply only
- B:-MIG welding power source converts mains power into constant voltage DC
- C:-MIG welding produces variable frequency current
- D:-MIG welding uses constant resistance power source

Correct Answer:- Option-B

Question52:-Which statement correctly describes Constant Voltage (CV) power source in GMAW?

- A:-A large change in voltage causes a large change in current
- B:-Current remains exactly zero when voltage changes
- C:-A small change in voltage results in a large change in current
- D:-Voltage and current both remain completely constant

Correct Answer:- Option-C

Question53:-Which of the following statements about the liner in MIG torch is correct?

- A:-The liner is used to control shielding gas flow to the welding area
- B:-The liner carries electrical current from the power source to the electrode
- C:-The liner guides the wire electrode from the feeder to the welding torch
- D:-The liner holds the contact tip in place during welding

Correct Answer:- Option-C

Question54:-Which of the following statements about the gas preheater in CO₂ welding is correct?

- A:-It reduces the temperature of the gas to prevent overheating during welding
- B:-It increases the temperature of the gas to avoid freezing and blockage in the regulator
- C:-It controls the speed of wire feeding in MIG welding
- D:-It stores shielding gas before supplying it to the welding torch

Correct Answer:- Option-B

Question55:-What is the main function of the drive rollers in a MIG/MAG welding wire feeder?

- A:-To control the gas flow rate
- B:-To hold the wire spool in position
- C:-To regulate welding voltage
- D:-To grip and feed the wire electrode into the torch

Correct Answer:- Option-D

Question56:-Which type of roller groove is suitable for aluminium and other soft wires?

- A:-U-grooved rollers
- B:-V-knurled rollers
- C:-V-grooved rollers
- D:-Flat rollers

Correct Answer:- Option-A

Question57:-What is the purpose of the purge switch in some wire feeders?

A:-To increase wire speed

B:-To allow gas flow without feeding wire

C:-To stop the welding current

D:-To control burn back of the wire

Correct Answer:- Option-B

Question58:-In AWS classification ER70S-6, what does the number 70 indicate?

A:-Diameter of the electrode wire in mm

B:-Chemical composition of manganese

C:-Type of shielding gas used

D:-Tensile strength of weld metal in PSI

Correct Answer:- Option-D

Question59:-Which factor is NOT considered in the selection of wire electrodes in MIG/MAG welding?

A:-Composition of the metal being welded

B:-Joint design

C:-Colour of the electrode wire

D:-Welding indoors or outdoors

Correct Answer:- Option-C

Question60:-Which shielding gas is generally preferred for welding thicker metals in GMAW due to its higher thermal conductivity?

A:-Helium

B:-Argon

C:-Carbon dioxide (CO₂)

D:-Oxygen

Correct Answer:- Option-A

Question61:-In GMAW welding what is the recommended gas flow rate for medium weld pools?

A:-5 L/min

B:-10 L/min

C:-15 L/min

D:-25-30 L/min

Correct Answer:- Option-C

Question62:-What happens if the stick out is too long in GMAW welding?

A:-Deep penetration and narrow bead

B:-Excess weld metal deposition and shallow penetration

C:-No effect on weld quality

D:-Increased arc stability and better fusion

Correct Answer:- Option-B

Question63:-What parameter directly controls the welding current in GMAW?

A:-Arc voltage

B:-Shielding gas

C:-Travel speed

D:-Wire feed speed

Correct Answer:- Option-D

Question64:-In GMAW welding what is a correct remedy for excessive spatter?

A:-Select lower wire feed speed

B:-Use higher voltage range

C:-Increase wire feed seed

D:-Increase electrode extension (stick out)

Correct Answer:- Option-A

Question65:-What is the main cause of burn-through defect in GMAW welding?

A:-Insufficient heat input

B:-Excessive heat input

C:-Improper electrode angle

D:-Low travel speed only

Correct Answer:- Option-B

Question66:-What is the major disadvantage of GTAW?

A:-Only thicker metal can weld

B:-High metal deposition rate and slag inclusion

C:-Cannot weld non-ferrous metals

D:-High skill required but very slow welding speed

Correct Answer:- Option-D

Question67:-Which gas is mixed with Argon to achieve greater speed and penetration when performing GTAW on Aluminium?

A:-Helium

B:-Oxygen

C:-Nitrogen

D:-CO₂

Correct Answer:- Option-A

Question68:-What is the common welding defect that occurs in GTAW if proper gas shielding is not achieved?

A:-Undercut

B:-Cracks

C:-Burn through

D:-Porosity

Correct Answer:- Option-D

Question69:-Which type of tungsten electrode is best suited for welding copper alloys using GTAW in DCSP?

A:-Zirconiated Tungsten

B:-Ceriated Tungsten

C:-Pure Tungsten

D:-Lanthanated Tungsten

Correct Answer:- Option-B

Question70:-What is the main function of High Frequency of HF unit in GTAW?

A:-To increase welding speed

B:-To increase welding current

C:-To increase welding penetration

D:-To provide non-contact arc starting

Correct Answer:- Option-D

Question71:-What is the effect of welding speed too fast in GTAW?

A:-Deeper penetration

B:-Increases deposition

C:-Lack of penetration

D:-Wider weld bead

Correct Answer:- Option-C

Question72:-Which is the colour code for a pure tungsten electrode according to AWS?

A:-Green

B:-Red

C:-White

D:-Orange

Correct Answer:- Option-A

Question73:-Which type of metal is welded using Zirconiated tungsten?

A:-Copper alloys in DCSP

B:-Carbon steel and Alloy steel in DCSP

C:-Titanium and Nickel alloys in DCSP

D:-Aluminium alloys and magnesium alloys in AC/HF

Correct Answer:- Option-D

Question74:-Which parameter mainly depends on the tungsten electrode diameter selection in GTAW?

A:-Arc length

B:-Welding speed

C:-Welding current

D:-Gas flow rate

Correct Answer:- Option-C

Question75:-In GTAW why DCRP is generally not selected?

A:-Electrode over heated and burn away

B:-Deeper penetration

C:-No oxide cleaning action

D:-Narrow weld bead

Correct Answer:- Option-A

Question76:-If grinding traces lie perpendicular to the tungsten electrode lengthways, what will cause?

A:-Better and stable arc

B:-Good bead profile

C:-Instable and wandering arc

D:-Deeper penetration

Correct Answer:- Option-C

Question77:-What is the name of the process of removing air from inside the pipe and filling it with argon gas during pipe welding?

A:-Purging

B:-Deburring

C:-Pouring

D:-Prefilling

Correct Answer:- Option-A

Question78:-What defect is caused by touching the tungsten electrode to the weld pool?

A:-Tungsten inclusion

B:-Undercut

C:-Burn through

D:-Blow hole

Correct Answer:- Option-A

Question79:-In GTAW Undercut defect is mainly caused by:

A:-Insufficient current and wrong polarity

B:-Contaminated filler wire

C:-Current too high and incorrect welding speed

D:-Low gas flow

Correct Answer:- Option-C

Question80:-What is the main advantage of pulsed current used in GTAW?

A:-Increase arc voltage

B:-Increase deposition rate

C:-Faster welding speed

D:-Better penetration with less heat and less distortion

Correct Answer:- Option-D

Question81:-Why is a pointed tip used on tungsten electrode for DCEN?

A:-To provides confined and stable arc and get better penetration

B:-To increase cleaning action

C:-To reduce gas flow and prevent porosity

D:-To increase bead width

Correct Answer:- Option-A

Question82:-What is the main function of collet in the TIG welding torch?

A:-Provide shielding gas improve cleaning action

B:-Increase deposition rate

C:-Gripped and easily re-position the electrode

D:-Regulate welding current

Correct Answer:- Option-C

Question83:-How can Argon provide good shielding or coverage the weld pool with lower gas flow than Helium?

A:-It is heavier than air

B:-It is partially active gas

C:-It is lighter than air

D:-It flow rate is high

Correct Answer:- Option-A

Question84:-What is the colour code of 1% Lanthanum tungsten electrode?

A:-Green

B:-Orange

C:-Black

D:-Red

Correct Answer:- Option-C

Question85:-What type of power source used for GTAW?

A:-Constant Power

B:-Constant Voltage

C:-Constant Current

D:-Constant Resistance

Correct Answer:- Option-C

Question86:-Which one of the method is starting of welding done by using steel wool or iron powder?

A:-SAW

B:-SMAW

C:-GMAW

D:-GTAW

Correct Answer:- Option-A

Question87:-In thermit welding, what is the temperature produced by chemical reaction?

A:-4000°C

B:-4000°F

C:-5000°C

D:-5000°F

Correct Answer:- Option-D

Question88:-Which type of weld is developed in electroslog welding?

A:-Resistance welding

B:-Electron beam welding

C:-Submerged arc welding

D:-Shielded metal arc welding

Correct Answer:- Option-C

Question89:-Which welding position only in electroslog welding?

A:-Downhand

B:-Horizontal

C:-Vertical

D:-Overhead

Correct Answer:- Option-C

Question90:-Why manganese and carbon are added to plain thermit mixture on rail welding?

A:-To get good fusion

B:-To get hardness

C:-To get smooth finishing

D:-To get fine welding

Correct Answer:- Option-B

Question91:-What is the approximate weight of thermit is required against one kg of wax is _____?

A:-9 to 11 kg

B:-10 to 12 kg

C:-11 to 13 kg

D:-12 to 14 kg

Correct Answer:- Option-D

Question92:-Which part of the equipment electron beam is direct and controlled in electron beam welding process?

A:-Electron gun

B:-Electron beam

C:-Vaccum chamber

D:-Atmosphere

Correct Answer:- Option-C

Question93:-Which type of gas laser is used to laser beam welding?

A:-Neon laser

B:-CO₂ laser

C:-Argon laser

D:-Oxygen laser

Correct Answer:- Option-B

Question94:-Which of the following statement is/are correct about advantages of SAW?

- (i) High deposition rate and speed
- (ii) Welding in all position
- (iii) No arc flash

A:-Only (i) and (ii)

B:-Only (i) and (iii)

C:-Only (ii) and (iii)

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

Correct Answer:- Option-B

Question95:-The work pieces are melted and joined by narrow beam of intense monochromatic source in welding process is _____?

A:-Plasma arc welding

B:-Electron beam welding

C:-Laser beam welding

D:-Micro plasma welding

Correct Answer:- Option-C

Question96:-Which welding machine is provided with an electrode in a wheel shape?

A:-Spot welding

B:-Seam welding

C:-Projection welding

D:-Flash butt welding

Correct Answer:- Option-B

Question97:-Which welding process is used mainly in butt welding of large section of round rods, very heavy tubes and pipes?

A:-Friction welding

B:-Resistance welding

C:-Submerged arc welding

D:-Electron beam welding

Correct Answer:- Option-A

Question98:-In projection welding, which metals are not welded?

A:-Galvanised iron

B:-Tin

C:-Aluminium

D:-Copper

Correct Answer:- Option-D

Question99:-Which of the following statements are correct about friction welding?

- (i) Low compressive metals can be welded
- (ii) Only butt joint can be done
- (iii) Welding can be done only inside a factory/shop & not at a site.

A:-(i) and (ii)

B:-(i) and (iii)

C:-(ii) and (iii)

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

Correct Answer:- Option-C

Question100:-In the following statements are the advantages of resistance welding

- (i) No distortion
- (ii) Widely used for joining sheet metal
- (iii) Low electric power is required

A:-(i) and (ii)

B:-(i) and (iii)

C:-(ii) and (iii)

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

Correct Answer:- Option-A