

## [Electric Welding MCQ PDF](#)

**1. Which of the following falls under the category of plastic or non-fusion welding ?**

- (a) Resistance welding.
- (b) Electron beam welding.
- (c) Electro-slag welding.
- (d) Arc welding.

**Answer: (a) Resistance welding.**

**2. Which of the following falls under the category of fusion or non-pressure welding?**

- (a) Resistance welding.
- (b) Metal-arc welding.
- (c) Ultrasonic welding.
- (d) Explosive welding.

**Answer: (b) Metal-arc welding.**

**3. Proper selection of welding depends upon, in addition to cost involved,**

- (a) kinds of metals to be joined.

(b) nature of products to be fabricated.

(c) production technique used.

(d) all of the above.

**Answer: (d) all of the above.**

#### **4. The metal surfaces for electrical resistance welding must be**

(a) cleaned.

(b) lubricated.

(c) moistened.

(d) rough.

**Answer: (a) cleaned.**

#### **5. Resistance welding cannot be used for**

(a) ferrous materials.

(b) non-ferrous materials.

(c) dielectrics.

(d) any of the above.

**Answer: (c) dielectrics.**

**6. In electrical resistance welding the greatest resistance is offered by**

- (a) metal surface.
- (b) contact layer of metals to be welded.
- (c) contact point of electrode with metal top.
- (d) contact point of electrode with metal bottom.

**Answer: (b) contact layer of metals to be welded.**

**7. In electric resistance welding**

- (a) the current required exceeds 100 A.
- (b) the voltage required ranges from 4 to 12 V.
- (c) the amount of power supplied to the weld usually ranges from 60 watts to 80 watts for each square mm of area.
- (d) all of the above.

**Answer: (d) all of the above.**

**8. Resistance to the flow of current is made of**

- (a) resistance of current path in the work.
- (b) resistance between the contact surfaces of the parts being welded.
- (c) resistance between the electrodes and the surface of the parts being welded.
- (d) all of the above.

**Answer: (d) all of the above.**

**9. In resistance welding, the magnitude of current is controlled**

(a) by varying the primary voltage of the welding transformer using an auto-transformer between supply and welding transformer.

(b) by changing the primary turns of the welding transformer.

(c) by varying the magnitude and waveform of the primary as well as secondary current by using thyatron or ignitron.

(d) any of the above.

**Answer: (d) any of the above.**

**10. The main drawback of resistance welding is**

(a) high initial as well as maintenance cost.

(b) difficult shapes and sections cannot be welded.

(c) only similar metals can be welded.

(d) parent metal is affected.

**Answer: (a) high initial as well as maintenance cost.**

**11. Plain and butt welds may be used on materials up to thickness of about**

(a) 5 mm

(b) 10 mm

(c) 25 mm

(d) 40 mm

**Answer: (c) 25 mm**

### **12. In upset butt welding**

(a) the faces of the metal pieces to be joined are prepared for even contact.

(b) heating is obtained by the contact resistance of metal pieces to be welded.

(c) the voltage required is 2 - 8 V and current required ranges from 50 A to several hundred amperes depending upon material and the area to be welded at a time.

(d) all of the above.

**Answer: (d) all of the above.**

### **13. In flash-butt welding**

(a) no special preparation of the faces to be welded is necessary.

(b) clean and pure weld is obtained.

(c) power requirement is less.

(d) all of the above.

**Answer: (d) all of the above.**

**13. Spot welding process basically depends on**

- (a) generation of heat.
- (b) application of forging pressure.
- (c) both (a) and (b).
- (d) ohmic resistance.

**Answer: (c) both (a) and (b).**

**14. In spot welding, composition and thickness of the base metal determines the**

- (a) holding time.
- (b) amount of weld current.
- (c) amount of squeeze pressure.
- (d) all of the above.

**Answer: (d) all of the above.**

**15. The tips of the electrodes, for spot welding are made of**

- (a) carbon.
- (b) copper alloy or pure copper.
- (c) mica.
- (d) porcelain.

**Answer: (b) copper alloy or pure copper.**

**16. The power factor of a spot welding machine is expected to be about**

- (a) 0.3 to 0.5 lagging.
- (b) 0.8 to 0.85 lagging.
- (c) 0.75 to 0.85 leading.
- (d) unity.

**Answer: (a) 0.3 to 0.5 lagging.**

**17. During spot welding, the current flows for**

- (a) fraction of a minute.
- (b) fraction of a second to several seconds.
- (c) few milliseconds.
- (d) few microseconds.

**Answer: (b) fraction of a second to several seconds.**

**18. Spot welding is employed for**

- (a) thin metal sheets (thickness being usually limited to 10 - 12 mm).
- (b) castings only.
- (c) thick sections.
- (d) rough and irregular surfaces.

**Answer: (a) thin metal sheets (thickness being usually limited to 10 - 12 mm).**

### **19. Spot welding**

- (a) makes the weld air tight.
- (b) makes the weld water tight.
- (c) provides mechanical strength.
- (d) all of the above.

**Answer: (c) provides mechanical strength.**

### **20. In spot welding**

- (a) it is desirable to clean the sheets thoroughly before welding.
- (b) the work-pieces being welded are pressed together by mechanical pressure exerted through electrodes.
- (c) current required is above 5,000 A and the voltage between the electrodes is usually less than 2 V (open-circuit voltage less than 12 V).
- (d) all of the above.

**Answer: (d) all of the above.**

### **21. Projection welding can be considered as a mass production form of**

- (a) seam welding.



- (b) spot welding.
- (c) upset welding.
- (d) flash welding.

**Answer: (b) spot welding.**

**22. In comparison to spot welding, projection welding has the advantage(s) of**

- (a) simple welding process, more output and good finished appearance.
- (b) electrode life is increased owing to use of low current density and low pressure.
- (c) it is easy to weld certain parts which cannot be welded by spot welding .
- (d) all of the above.

**Answer: (d) all of the above.**

**23. In seam welding**

- (a) the workpiece is fixed and disc electrodes move.
- (b) the workpiece moves but rotating electrodes are fixed.
- (c) the electrodes used are of disc or roller shape.
- (d) either (a) or (b) and (c).

**Answer: (d) either (a) or (b) and (c).**

**24. In case of seam welding, the flow of current through the electrode should be**

- (a) intermittent.
- (b) continuous.
- (c) either (a) or (b).

**Answer: (a) intermittent.**

**25. In ..... welding it is essential that the surfaces to be welded are clean, dust and dirt free.**

- (a) butt
- (b) spot
- (c) seam
- (d) both spot and seam

**Answer: (b) spot**

**26. Seam welding is normally not recommended for**

- (a) aluminum alloys.
- (b) stainless and coated steels.
- (c) copper and high copper alloys.
- (d) alloys of nickel and magnesium.

**Answer: (b) stainless and coated steels.**

### **27. In percussion welding**

(a) the process used depends on the arc effect for heating and not on the resistance.

(b) the action of process is so rapid that there is little heating effect in the material adjacent to the weld.

(c) the equipment used is quite expensive.

(d) all of the above.

**Answer: (d) all of the above.**

### **28. The basic electrical requirement in arc welding is that there should be**

(a) high open-circuit voltage.

(b) no arc blow.

(c) dc power supply.

(d) coated electrodes.

**Answer: (a) high open-circuit voltage.**

### **29. In arc welding, the temperature of the arc produced is of the order of**

(a) 1,000°C

(b) 3,500 - 4,000°C

(c) 5,000 - 7,500°C

(d) 7,500 - 10,000°C

**Answer: (b) 3,500 - 4,000°C**

### **30. The electric arc has**

(a) linear resistance characteristic.

(b) positive resistance characteristic.

(c) negative resistance characteristic.

(d) highly inductive characteristic.

**Answer: (c) negative resistance characteristic.**

### **31. In an electric arc welding, the voltage required to strike dc arc is about**

(a) 50 - 60 V

(b) 80 - 90 V

(c) 100 - 120 V

(d) 220 V

**Answer: (a) 50 - 60 V**

### **32. In an electric arc welding, the voltage required to strike an ac arc is about**

(a) 50 - 60 V

- (b) 80 - 90 V
- (c) 100 - 120 V
- (d) 230 V

**Answer: (b) 80 - 90 V**

**33. In an electric arc welding, the voltage required to maintain the arc will be**

- (a) 250 - 500 V
- (b) 150 - 250 V
- (c) 20 - 30 V
- (d) below 10 V

**Answer: (c) 20 - 30 V**

**34. For an electric arc welding the current range is usually**

- (a) 50 - 1,000 A
- (b) 30 - 50 A
- (c) 20 - 30 A
- (d) below 20 A

**Answer: (a) 50 - 1,000 A**

### 35. Increased heat due to shorter arc is harmful owing to

- (a) burn through.
- (b) excessive porosity.
- (c) undercutting of base material.
- (d) all of the above.

**Answer: (d) all of the above.**

### 35. Arc blow results in

- (a) non-uniform weld beads.
- (b) shallow weld puddle giving rise to weak weld.
- (c) splashing out of metal from weld puddle.
- (d) all of the above defects.

**Answer: (d) all of the above defects.**

### 36. Arc blow effects occurring with dc welding machines can be reduced by

- (a) shortening the arc column length.
- (b) reducing the welding current or electrode size or rate of travel of the electrode.
- (c) wrapping the welding electrode cable a few turns around the work.
- (d) all of the above.

**Answer: (d) all of the above.**

**37. In an electric welding, major personal hazards are**

- (a) weld spatter.
- (b) flying sparks.
- (c) harmful infrared and ultraviolet rays from the arc.
- (d) all of the above.

**Answer: (d) all of the above.**

**38. During electric arc welding as the thickness of the metal to be welded increases**

- (a) voltage is increased keeping current the same.
- (b) current is increased keeping voltage unchanged.
- (c) current and voltage, both are increased.
- (d) current and voltage, both are reduced.

**Answer: (b) current is increased keeping voltage unchanged.**

**39. In a dc arc welding**

- (a) both electrode as well as workpiece are made +ve
- (b) both electrode as well as workpiece arc made -ve.
- (c) electrode is made -ve and workpiece +ve.
- (d) electrode is made +ve and workpiece -ve.

**Answer: (c) electrode is made -ve and workpiece +ve.**

**40. The length of arc required depends on**

- (a) kind of electrodes used, its coating and its diameter.
- (b) magnitude of current used.
- (c) position of welding.
- (d) all of the above.

**Answer: (d) all of the above.**

**41. Overhead welding position is thought to be the most**

- (a) hazardous.
- (b) economical.
- (c) useful.
- (d) difficult.

**Answer: (a) hazardous.**

**42. In arc welding best results are obtained when arc length is equal to**

- (a) 25 mm.
- (b) 19 mm.
- (c) diameter of electrode.



(d) double the diameter of the electrode.

**Answer: (c) diameter of electrode.**

**43. Flat position welding is considered to be the most**

(a) easiest and economical.

(b) hazardous.

(c) adaptable for welding of both ferrous and non-ferrous metals particularly for cast iron.

(d) both (a) and (c).

**Answer: (d) both (a) and (c).**

**44. In direct current straight polarity (DCSP) or electrode negative welding**

(a) heavily coated electrodes are used.

(b) base metal penetration is narrow and deep.

(c) electrode is the hottest.

(d) workpiece is relatively cooler.

**Answer: (b) base metal penetration is narrow and deep.**

**45. In direct current reverse polarity or electrode positive welding**

(a) workpiece is the hottest.

(b) bare and medium coated electrodes can be used.

(c) electrode is the hottest.

(d) base metal penetration is narrow and deep.

**Answer: (c) electrode is the hottest.**

**46. The electrode is coated in order to**

(a) improve bead quality.

(b) cleanse the base metal.

(c) provide shielding to weld pool.

(d) prevent atmospheric contamination.

**Answer: (a) improve bead quality.**

**47. In DCRP or electrode positive welding, the heat produced at the electrode is.....of total heat produced.**

(a) one-third.

(b) two-third.

(c) three-fourth.

(d) one-fourth.

**Answer: (b) two-third.**

**48. A 10 SWG electrode usually operates in the current range of**

- (a) 95 - 135 A
- (b) 80 - 95 A
- (c) 45 - 70 A
- (d) 20 - 30 A

**Answer: (a) 95 - 135 A**

**49. Electrode of 8 SWG is to be employed for welding two 12.5 mm steel plates. The current required will be of the order of**

- (a) 20 A
- (b) 50 A
- (c) 150 A
- (d) 250 A

**Answer: (c) 150 A**

**50. The purpose of coating on arc welding electrodes is to**

- (a) provide a protective covering.
- (b) provide slag for protection of the molten metal.
- (c) stabilize the arc.
- (d) all of the above.

**Answer: (d) all of the above.**

**51. 20 per cent duty cycle of a welding machine means**

- (a) operation of machine for 2 minutes in a duration of 10 minutes.
- (b) machine output is 20 per cent of rated output.
- (c) machine operates at 20 per cent efficiency.
- (d) operation of machine is for 1 minute in a duration of 5 minutes.

**Answer: (a) operation of machine for 2 minutes in a duration of 10 minutes.**

**52. In carbon arc welding, if the electrode is connected to the +ve terminal of the dc supply**

- (a) arc will not strike.
- (b) arc will be dull.
- (c) carbon arc will have tendency to go in to the weld joint.
- (d) metal will not melt.

**Answer: (c) carbon arc will have tendency to go in to the weld joint.**

**53. Carbon arc welding has the main drawback of**

- (a) occurrence of blow holes owing to magnetic arc blow especially while welding near edges of the workpiece.
- (b) need of separate filler.
- (c) necessity of bare electrodes.

(d) fast consumption of electrodes.

**Answer: (a) occurrence of blow holes owing to magnetic arc blow especially while welding near edges of the workpiece.**

#### **54. Carbon arc welding**

(a) uses carbon or graphite rod as a negative electrode and work to be welded as a positive.

(b) cannot be done with ac supply.

(c) is not suitable for vertical and overhead welding.

(d) all of the above.

**Answer: (d) all of the above.**

#### **55. Carbon arc welding is suitable particularly for .....metals.**

(a) ferrous.

(b) nonferrous.

(c) all.

**Answer: (b) nonferrous.**

#### **56. For metal arc welding**

(a) both dc and ac can be used but ac is preferred.

(b) bare electrodes are no longer used except for automatic welding having arrangement to protect the weld area from the atmosphere.

(c) correct welding current, voltage and speed are very important.

(d) all of the above.

**Answer: (d) all of the above.**

### **57. The atomic hydrogen welding is based on the principle(s) of**

(a) obtaining atomic hydrogen by means of an electric arc between two tungsten electrodes, in an atmosphere of hydrogen at atmospheric pressure.

(b) development of very high temperature by recombination of atoms which occurs in the cooler regions immediately outside the arc.

(c) very large heat conductivity of hydrogen at high temperatures.

(d) all of the above.

**Answer: (d) all of the above.**

### **58. In atomic hydrogen arc welding**

(a) an arc is maintained between two tungsten electrodes.

(b) a stream of hydrogen gas under a pressure of  $0.5 \text{ kg/cm}^2$  is passed through the arc and around the electrodes.

(c) ac supply is used.

(d) all of the above.

**Answer: (d) all of the above.**

**59. In atomic hydrogen welding, electrodes are of long life. It is because**

- (a) of being non-pressure process.
- (b) of arc being in the shape of a fan.
- (c) of ac supply.
- (d) two arcs are used at a time.

**Answer: (c) of ac supply.**

**60. Helium produces**

- (a) faster welding speeds.
- (b) deep penetration.
- (c) narrower heat affected zone in base metal.
- (d) all of the above.

**Answer: (d) all of the above.**

**61. In argon arc welding, argon is used as**

- (a) an agent for heat transfer.
- (b) a shield to protect the work from oxidation.
- (c) a source of heat.
- (d) a flux.

**Answer: (b) a shield to protect the work from oxidation.**

**62. In argon arc welding, the argon is used to**

(a) prevent oxidation of metal by coming in contact with air.

(b) create inert atmosphere around the work.

(c) obviate the necessity for using flux.

(d) all of the above.

**Answer: (d) all of the above.**

**63. Submerged arc process is characterized by**

(a) high welding current.

(b) exceptionally smooth beads.

(d) all of the above.

(c) deep penetration.

**Answer: (d) all of the above.**

**64. Electrode is not consumed in case of**

(a) TIG welding.

(b) atomic hydrogen arc welding.

(c) MIG welding.

(d) all of the above.

**Answer: (a) TIG welding.**



**65. Unlike TIG welding, MIG welding**

- (a) needs no post-weld cleansing.
- (b) needs no flux.
- (c) uses consumable electrodes.
- (d) provides complete protection from atmospheric contamination.

**Answer: (c) uses consumable electrodes.**

**66. MIG welding is becoming more and more popular as it**

- (a) is easy in operation.
- (b) has high metal deposit rate.
- (c) both (a) and (b).
- (d) can be used for both ferrous and nonferrous metals.

**Answer: (c) both (a) and (b).**

**67. In MAG (metal active gas) welding the gas used is**

- (a) argon or helium.
- (b) carbon dioxide or its mixture with other gas.
- (c) hydrogen.
- (d) any of the above.

**Answer: (b) carbon dioxide or its mixture with other gas.**

**68. A weld bead of wineglass design is produced in**

- (a) plasma arc welding.
- (b) MAG welding.
- (c) electron beam welding.
- (d) all of the above.

**Answer: (a) plasma arc welding.**

**69. In electro-slag welding, theoretically there is no limit to the**

- (a) rate of metal deposit.
- (b) thickness of weld bead.
- (c) temperature of salt bath.
- (d) rate of slag consumption.

**Answer: (b) thickness of weld bead.**

**70. In manual arc welding of mild steel, the metal deposition rate will be about**

- (a) 10 - 15 kg per hour.
- (b) 5 - 10 kg per hour.
- (c) 2 - 5 kg per hour.
- (d) below 1 kg per hour.

**Answer: (c) 2 - 5 kg per hour.**

**71. In ultrasonic welding, the frequency range is usually**

- (a) 20 - 60 kHz
- (b) 50 - 100 kHz
- (c) 100 - 200 kHz
- (d) above 250 kHz

**Answer: (a) 20 - 60 kHz**

**72. Welding is not done directly from the supply mains as**

- (a) its voltage is too high.
- (b) it is impracticable to draw heavy currents directly from the supply mains.
- (c) its voltage remains fluctuating.
- (d) none of the above.

**Answer: (b) it is impracticable to draw heavy currents directly from the supply mains.**

**73. AC welding machine cannot be used for**

- (b) submerged arc welding.
- (a) resistance welding.
- (c) MIG welding.

(d) atomic hydrogen welding.

**Answer: (c) MIG welding.**

**74. In electric welding, arc blow can be avoided by**

(a) using ac machines.

(b) increasing arc length.

(c) using bare electrodes.

(d) welding away from ground connections.

**Answer: (a) using ac machines.**

**75. Welding leads have**

(a) high current carrying capacity.

(b) high flexibility.

(c) both (a) and (b).

(d) none of the above.

**Answer: (c) both (a) and (b).**

**76. The welding load**

(a) is always intermittent.

(b) is always continuous and constant.

(c) is always continuous but varying.

(d) may be any one of the above.

**Answer: (a) is always intermittent.**

**77. The load power factor using welding transformer depends on**

(a) arc length.

(b) material to be welded.

(c) type of electrode to be used.

(d) all of the above.

**Answer: (b) material to be welded.**

**78. For power factor correction in a welding circuit, a capacitor is usually connected**

(a) across the mains.

(b) across secondary side of welding transformer.

(c) across primary side of welding transformer.

(d) across arcing electrodes.

**Answer: (c) across primary side of welding transformer.**

**79. Which of the following is different from the remaining ?**

(a) Butt welding.

(b) Electro-slag welding.

(c) TIG welding.

(d) MIG welding.

**Answer: (a) Butt welding.**

### **80. Chipping hammers are used**

(a) for slag welding.

(b) for aligning the pieces to be welded.

(c) for removing slag from welding.

(d) for marking spots to be welded.

**Answer: (c) for removing slag from welding.**

### **81. The danger of electric shock is maximum**

(a) before welding.

(b) during arcing.

(c) while inserting electrode into the holder.

(d) after welding.

**Answer: (c) while inserting electrode into the holder.**

### **82. The eyes of welding operator must be protected against**

(a) infrared radiations.

(b) ultraviolet radiations.

(c) both (a) and (b).

(d) solar radiations.

**Answer: (c) both (a) and (b).**

**83. Which of the following automatic welding processes is likely to give maximum rate of metal deposition ?**

(a) Multiple power submerged arc.

(b) Gas shielded bare wire.

(c) Single wire submerged arc.

(d) Continuous flux covered electrode.

**Answer: (a) Multiple power submerged arc.**

**85. In a welded joint poor fusion is on account of**

(a) improper current.

(b) high welding speed.

(c) uncleaned metal surface.

(d) lack of flux.

**Answer: (a) improper current.**

**86. Which of the following uses consumable electrodes?**

(a) TIG.

- (b) MIG.
- (c) laser.
- (d) None of the above.

**Answer: (b) MIG.**

**87. In which of the following welding methods the molten metal is poured for joining the metals?**

- (a) Gas welding.
- (b) Thermit welding.
- (c) TIG welding.
- (d) Arc welding.

**Answer: (b) Thermit welding.**

**88. The porosity of weld joint may be caused by**

- (a) poor base metal.
- (b) incorrect size of electrode.
- (c) low welding current.
- (d) any of the above.

**Answer: (b) incorrect size of electrode.**



**89. In welding, weld spatter defect is generally because of too.....during welding.**

- (a) high voltage
- (b) high current
- (c) low voltage
- (d) low current

**Answer: (b) high current**

**90. High temperature metals, such as columbium can be easily welded by**

- (a) MIG welding.
- (b) TIG welding.
- (c) electron beam welding.
- (d) flash butt welding.

**Answer: (c) electron beam welding.**

**91. ....welding is used for welding of car body.**

- (a) Gas
- (b) Spot
- (c) Carbon-arc
- (d) Atomic hydrogen

**Answer: (b) Spot**

**92. Grey iron is usually welded by**

- (a) gas welding.
- (b) resistance welding.
- (c) TIG welding.
- (d) arc welding.

**Answer: (a) gas welding.**

**93. The method recommended for the welding of aluminum alloy is.....welding.**

- (a) dc arc
- (b) ac arc
- (c) acetylene-oxygen gas
- (d) tungsten arc

**Answer: (d) tungsten arc**

**94. Steel pipes are manufactured by**

- (a) arc welding.
- (b) argon arc welding.
- (c) resistance welding.

(d) thermit welding.

**Answer: (c) resistance welding.**

**95. Steel rails are welded by**

(a) thermit welding.

(c) gas welding.

(b) argon arc welding.

(d) resistance welding.

**Answer: (a) thermit welding.**

**96. Aluminum is difficult to weld as**

(a) it has an oxide coating.

(b) it conducts away heat very rapidly.

(c) both (a) and (b).

(d) none of the above.

**Answer: (c) both (a) and (b).**

**97. Electronic components are joined by**

(a) spot welding.

(b) soldering.

(c) brazing.

(d) none of the above.

**Answer: (b) soldering.**

**98. Aircraft body is**

- (a) riveted.
- (b) seam welded.
- (c) gas welded.
- (d) spot welded.

**Answer: (a) riveted.**

**99. A seamless pipe has**

- (a) arc welded joint.
- (b) spot welded joint.
- (c) no joint.
- (d) either (a) or (b).

**Answer: (c) no joint.**

**100. The method usually not preferred for welding of chromium molybdenum steel is**

- (a) thermit welding.
- (b) resistance welding.
- (c) submerged arc welding.

(d) oxyacetelyne gas welding.

**Answer: (b) resistance welding.**

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