

**Multiple Choice
Practice
Questions
for
ONLINE/OMR
AITT-2020
WELDER
Trade Theory**

ELEMENTARY FIRST AID, IMPORTANCE OF WELDING, SAFETY PRECAUTION

1. which of the following is used for eliminating the fire caught due to electricity ?
A) Using CTC FIRE EXTINGUISHER B) using sand /oil C) using water D) using foam
2. For what type of fire water is used?
A) class-A b)class-B C)class-c D) class-D
3. which of the following belongs to class D fire?
A) Gas B) electricity C) wood D) combustible material
4. which type of head a chisel should not have ?
A) plain B) round C) mushroomed D) octagonal cut
5. Co2 fire extinguisher is used for-----?
A) fire caught by paper B)fire caught by wood C)fire caught by electricity D) all the above
6. fire is a mixer of-----?
A) temperature, light and heat B)fuel, temperature and gas
C) oxygen, temperature and fuel D) wood, carbon dioxide and temperature
7. Which of the following is a chemical hazard?
A)noise B)vibration C)explosion D)Radiation
8. which tube is kept in the first aid to heal an injury?
A) soframycin B) boroline C) beta dine D) penicillin
9. Which of the following is used to separate a person who is stuck to an electric current?
A) dry wood or rubber gloves B) holding his hand C) using wet wood D) using iron rod
10. The person who is a victim of electric shock should be given----- to drink.
A) water B)tea C) hot milk D)nothing
11. The best method to prevent accident is -----
A) wearing safety equipment B) following precaution regarding job, machine and workplace
C)working according to one's own method D) work like a skill worker
12. ----- is used to prevent the hazardous rays of electric arc.
A) Leather apron B) welding shield C) leather gloves D) goggles with plain glass
13. What is effect of electric shock if the current is low?
A) will lose balance and fall B) a mild burn at the contact area
C) will lose consciousness D) excessive burn on the skin.
14. Which type of gloves are suitable for hand during welding?
A) Heavy flame resistance B) latex gloves C) mechanic gloves D) all of these
15. What will happen if the welding floor is wet?
A)Eye injury B) burn injury C) electric shock D) cut on the legs
16. To prevent the danger of harmful rays from the electric arc we should use -----.
A) a leather apron B) a welding shield C) leather gloves D) a goggles with plain glass
17. What will happen in un safe welding practice, handling the hot welded objects with bare hand?
A) electric shock B) eye injury C) hand burn injury D) cut on hand
18. A welder should wear ----- during welding.
A)welding helmet B) protective cloth C) fire resistance cloth D) leather apron
19. What is safety so as to cultivate ?
A) concept B) habit C) culture D) discipline
20. In first aid ,applying pressure to stop a bleeding becomes -----.
A) safe B) unsafe C) dangerous D) un dangerous
21. When moving a gas cylinder-----
A) lift it using the protective valve cap B) keep regulator in place
C) secure it to a wheeled hand cart D) use grease if it must be fitted into tight space
22. An arc welding equipment should never be operated while-----.
A) Standing on wet place B) in poorly lighted area
C) someone is standing nearby D) in a confined space with proper ventilation
23. Oxygen and acetylene cylinders must -----.

- A) Have the cap on when not in use B) be squired in upright position both during storage and use
 C) be protected from being bumped when regulator is on D) all of those
24. what are some short term symptoms of 'arc eye' or 'weld flash' ?
 A) dry eye ball B) Extreme eye pain ,headache, nausea
 C)infection, conjunctivitis, excessive winking D) blindness
25. In case of arc welding ,one should protect his eye by using -----.
 A) dark glass screen B) sun glass C) mask D)clear glass
26. Which is the cause of electric fire?
 A) Loose connection B) over loading of the wire C) electric short circuit D) all of those
27. Which is the safest cloth used in welding workshop ?
 A) Silk B) leather C) cotton D) nylon

ANSWER-Elementary First Aid, Importance of welding, Safety precaution

1.A, 2.A, 3.B, 4.C, 5.C, 6.C, 7.C, 8.C, 9.A, 10.C, 11.B, 12.B, 13.c, 14.a, 15.c, 16.b, 17.c, 18.d, 19.d, 20.a,
 21.c, 22.a, 23.d, 24.b, 25.a, 26.d, 27.b

COMMON TOOLS AND EQUIPMENT

- Which metal is used in making of a standard steel rule?
A) Stainless steel B) carbon steel C) mild steel D) brass
- There is a undercut beneath the blade of try square---
A) For beauty B)for correct measurement C) to accommodate the corner of job D) for marking
- The accuracy of measurement with a steel rule is -----
A) 1.0 B)0.5 C)0.2 D) 0.05
- which of the following is used for drawing lay out markings on a job?
A) scraper B) scriber C) hacksaw blade D) punch
- The angle of the point of scriber is-----
A) 30 B) 60* C)5* to 10* D) 12 to 15*
- The legs of a divider are-----
A) Equal and pointed B) un equal
C) one is straight and other is bent inwards D) one is 45* and other is 60*
- Scriber is made out of -----
A) Mild steel B) high carbon steel C) brass D) cast iron
- Which of the following term do not indicate the grade of file?
A) Bastard B) first cut C) second cut D) smooth
- The standard length of the commonly used blade is -----
A) 100mm B) 150mm C)200mm D)250mm
- Why a hacksaw blade looses after operation?
A) Due to wearing of wing nut B) due to wrongly chosen nut set
C) due to tension in the blade D) due to wrong pitch of the blade
- The size of the engineers vice is specified according to the following---
A) As per maximum length of jaw B) as per the width of jaw
C) as per the length of movable jaw D) according to the height of the jaw
- The main use of try square is-----
A)to check the flatness B)to check the squareness C)to check the length D) to check the squareness
- How can a file be particularly specified?
A) on the basis of its length B) on the basis of its size C) on the basis of its graze and cut D) all of these
- The cross-section of a chisel is usually---
A) square B) triangular C)rectangular D) octagonal
- Which metal is used for making hammer head?
A) drop forged carbon steel B) high carbon steel C) mild steel D) cast iron
- Which instrument is used for checking the squareness of field surface?
A) Straight edge B) try square C) universal surface gauge D) steel rule
- Hacksaw blade is made out of ----- metal
A) High carbon steel B) medium carbon steel C) low carbon steel D) cast iron
- Which part of file is used for fitting handle?
A) heel B) shoulder C) tang D) face
- Which part of file has tooth?
a) shoulder b)heel c) face d) tang
- Which is the soft part of hammer?
a) eye hole b)peen c)face d) cheek
- What kind of thread is there in spindle of bench vice ?
a) BSW b) BSF c) square thread d) knuckle thread
- A ball peen hammer is specified by -----
a) its weight b) the length of handle b) the shape of face d) the material of the head
- Shield and helmet are of black color because -----
a) It gives pleasant appearance b) it increase the reflection of light
c)it reduces the reflection of light rays d) it rejects the light rays
- Which kind of tool is used for holding electrode?

- a) chipping hammer b) ball peen hammer c) electrode holder d) earth clamp
25. Try square is specified by -----
 a) angle checked b) length of blade c) length of stock d) material of the blade and stock
26. To what angle the center punch is grounded?
 a) 30* b)40* c) 50* c)60*
27. Which tool is used to remove slag?
 a) ball peen hammer b) earth clamp c) chipping hammer d) electrode holder
28. The instrument used to measure the squareness of a surface is called-----
 a) bevel protector b) set square c) try square d) steel rule
29. Bench vice is also called -----
 a) engineers vice b) fitters vice c) table vice d) workshop vice
30. How is that thickness of thin metal sheets measured?
 a) by micrometer b) by gauge c) by caliper d) all of these
31. TPI belongs to -----
 a) hacksaw blade b) hammer c) try square d) tongs
32. Which tool is used to remove spatter on the weld bead?
 a) file b) chisel c) chipping hammer d) wire brush

Answer-(Common Tools and Equipment)

- | | | | | | | | | | |
|-------|------|------|------|------|-------|------|------|------|-------|
| 1. a | 2.c | 3.b | 4.b | 5.d | 6.a | 7.b | 8.b | 9.d | 10.c |
| 11.b | 12.b | 13.d | 14.d | 15.a | 16. b | 17.a | 18.c | 19.c | 20.d |
| 21.c | 22.a | 23.c | 24.c | 25.b | 26.d | 27.c | 28.c | 29.b | 30. b |
| 31. a | 32.c | | | | | | | | |

METAL JOINING METHOD

- Brazing joint is -----
 - Weaker than silver brazing
 - stronger than the welded joint
 - weaker than the solder joint
 - stronger than the solder joint
- How many types of metal joining are there ?
 - 2
 - 3
 - 4
 - 5
- The melting point of shelter is -----
 - 122*
 - 356*
 - 423*
 - 650*
- Soldering joint is -----
 - is stronger than welded joint
 - can with stand the heavy weight
 - weaker than the brazed joint
 - can with stand the high temperature
- A good acidic flux for the soldering of zinc and galvanized iron is-----
 - zinc chloride
 - ammonium chloride
 - hydrochloric acid
 - borax
- A non corrosive flux for soldering is -----
 - resin
 - ammonium chloride
 - hydrochloric acid
 - zinc chloride
- The diluted hydrochloric acid is used as flux for the soldering of -----
 - copper sheet
 - brass sheet
 - stain less steel sheet
 - galvanized sheet
- Copper is used as soldering iron because .
 - it has high melting point
 - it can with stand high resistance
 - IT CAN PREVENT THE DAMAGE
 - it is a good conductor of heat
- The flux used for the soldering of stainless steel is ----
 - zinc chloride
 - ammonium chloride
 - hydrochloric acid
 - all of those
- is done first in soldering.
 - tacking
 - floating
 - tinning
 - applying flux
- soft solder is a mixer of -----
 - tin and lead
 - copper and lead
 - brass and lead
 - phosphorus and lead
- the melting temperature of hard solder is -----
 - 250°
 - 450°
 - 850°
 - 1050°
- Which of the following is used as flux ?
 - Copper
 - zinc oxide
 - zinc sulphate
 - zinc chloride
- Which component is used to spread the shelter along the entire length of joint?
 - borax
 - braze
 - hot spoon
 - blow lamp
- Brass is an alloy of -----
 - copper and tin
 - copper and lead
 - copper and zinc
 - copper and silver
- Which is the ancient method of joining metals permanently?
 - Forging
 - welding
 - brazing
 - machining
- There are ----- type of standard weld joint.
 - 8
 - 5
 - 10
 - 7
- Selection of specific welding process depends on -----
 - material of the base metal
 - availability of equipment
 - quality required
 - all of these
- The welding cable is made out of -----
 - Aluminum
 - copper
 - steel
 - brass
- Brazing is known as -----
 - Soft solder
 - hard soldering
 - medium soldering
 - none of these
- The ratio of lead and tin in soft solder is –
 - 40 :60
 - 50:50
 - 60:40
 - 70:30
- A flux has the ability to dissolve –
 - Nitrides
 - oxides
 - sol hides
 - bromides
- The weight of an electrode holder should be with in –
 - 500gm
 - 600gm
 - 300gm
 - 400gm

24. The metals are brought in to molten stage in –
a) Fusion welding b) forge welding c) seam welding d) thermit welding
25. Which of the following joint have high corrosion resistance .
A) Bolted joint b) rivet joint c) welding joint d) none of these

ANSWER - METAL JOINING METHOD

; 1.d, 2.a, 3.d, 4.c , 5.c, 6.a, 7.d, 8.d, 9.d, 10.c, 11.a, 12.b, 13d, 14.c, 15.c, 16.a, 17.b, 18.d, 19.b, 20.b, 21.a, 22.b, 23.b, 24.a, 25.c

HEAT AND TEMPERATURE

1. What is the unit of temperature of any object?
a) Degree angle b) degree temperature c) calorie d) joule
2. Which of the following is in context with temperature?
a) it is form of heat b) this denotes the state of heat c) its unit is calorie d) it is measure with calorie meter
3. The boiling point of water in Fahrenheit scale is -----
a) 32* b) 100* c) 212* d) 273*
4. The two temperature scale with same range are-----
a) Celsius and Fahrenheit b) Fahrenheit and Kelvin c) Kelvin and Celsius d) none of these
5. What happens to the boiling point of water with the increase in height above the sea level?
a) it decreases b) increases c) remain constant d) changes with the initial temperature of water
6. Absolute zero is equal to -----
a) -273°F b) -273 * k c) -273*c d) -273*R
7. Best conductor of heat and electricity is -----
a) nickel b) copper c) chromium d) aluminum
8. Temperature is measured by a unit -----
a) liter b) degree c) kg d) amps
9. The measure of charge is -----
a) volt b) ampere c) ohm d) coulomb
10. Heat is measured in -----
a) joule b) kilogram c) calorie d) both a and b

ANSWERS OF HEAT AND TEMPERATURE

1.b, 2.b, 3.c, 4.c, 5.a, 6.c, 7.b, 8.b, 9.d, 10.d

PROPERTIES OF METAL AND HEAT TREATMENT

1. Which heat treatment process is required to make the iron soft?
a) normalizing b) annealing c) tempering d) hardening
2. Tempering is done to -----
a) Improve the strength b) increase hardness c) reduce stress d) increase machinability
3. Which heat treatment process is applied to make a job machinable?
a) hardening b) tempering c) normalizing d) annealing
4. Case hardening is usually performed for steel with -----
a) low carbon steel b) high carbon steel c) high chromium d) HSS
5. The process of heating high carbon steel at critical temperature and then eventually cooling is known as -----
a) normalizing b) annealing c) hardening d) tempering
6. A chisel has to undergo the process of ----- so as to remove excessive brittleness.
a) Tempering b) hardening c) carburizing d) annealing
7. Carbon steel is tempered at -----
a) 200*c to 300*c b) 100*c to 150*c c) 500*c to 600*c d) 400*c to 500*c
8. Which of the following method makes a scale free surface on the component?
a) Flame hardening b) case hardening c) nitriding d) induction hardening
9. The purpose of steel hardening is -----
a) to improve casting capacity b) to increase wear and tear resistance c) to increase hardness d) all of those
10. The maximum temperature of metal where its internal structure begins to change.
a) critical temperature b) high critical temperature c) low critical temperature d) all of these
11. Prime benefit of flame hardening is -----
a) required part of job can be heated b) required part of job can be hardened c) it saves time d) all of those
12. Hardness of steel depends upon -----
a) percentage amount of carbon b) temperature at which it is heated c) rate of cooling d) all of these.
13. Which property of steel gets enhanced when carbon steel is heated above high critical point and is cooled immediately?
a) hardness b) malleability c) ductility d) elasticity
14. High carbon steel has the following critical temperature.
a) 900* c b) 960*c c) 560*c d) 723*c
15. Heating a metal below 400*c and cooling it in water is called -----
a) normalizing b) case hardening c) annealing d) tempering
16. Which of the following is a non-ferrous cutting material?
a) high carbon steel b) high speed steel c) tool steel d) carbide
17. Which of the following material is highly ductile?
a) copper b) ceramic c) mica d) cast iron
18. The main feature of an electrically insulated material is -----
a) excessive electric current flow b) low mechanical capacity c) high dielectric capacity d) low melting point
19. The ductility of which non-ferrous metal can be increased by hammering or rolling?
a) lead b) copper c) tin d) zinc
20. If a material easily breaks then it is known as -----
a) magnetic b) conductive c) brittle d) sustainability
21. Which is the following mechanical property of metal resist forces of stress ?
a) hardness b) tensile strength c) toughness d) ductility

22. Which of the metal has the highest thermal conductivity?
a) zinc b) copper c) mild steel d) aluminum
23. What is the melting point of steel?
a) 6408c b) 900*c c) 1082*c d) 1426*c
24. What is the melting point of aluminum?
a) 640*c b) 900*c c) 1082*c d) 1426*c
25. What is the preheating temperature of metal if an alloy steel with 0.3%carbon and 0.5% molybdenum.
a) 100*c to 130*c b) 150*c to 260*c c) 270*c to 425*c d) above 425*c
26. In case of cast iron welding ,preheat is done to avoid -----
a) cracks b) oxidation c) blow holes d) nitrides
27. If a metal regains its original shape when a stress acting upon it is removed , the metal id said to have -----
a) ductility b) plasticity c) malleability d) elasticity
28. Heat affected zone is that portion of metal which -----
a) melts and becomes plastic b) neither melts nor becomes plastic c) melts but does not become plastic d) does not melt but becomes plastic.
29. ----- is the ability of metal to be pulled into wires.
a) malleability b) conductivity c) luster d) ductility
30. Heating of a joint immediately after welding is called -----
a) preheating b) post heating c) late heating d) delayed heating.
31. The need for pre and post heating carbon steels may be indicated by -----
a) ferrite number b) carbon equivalent c) matensite content d) austenite content
32. The property by which metal can be rolled into steels is -----
A) elasticity b) malleability c) ductility d) tenacity
33. Which of the following is a chemical property of metal ?
a) corrosiveness b) conductivity c) hardness d) elasticity
34. Steel is an alloy of -----
a) chromium and iron b) sulphur and phosphorous c) iron and carbon d) manganese and nickel
35. Post heating of weld is applied -----
a) immediately after welding b) before welding c) during welding d) none of these
36. What is to be added to increase the hardness of metal?
a) sulphur b) carbon c) manganese d) phosphorus
37. What is the purpose of annealing ?
a) to control distortion b) to obtain brittleness c) to soften the metal d) to harden the metal

ANSWERS- PROPERTIES OF METAL AND HEAT TREATMENT

1.B, 2.A, 3.D, 4.A, 5.A, 6.A, 7.A, 8.D, 9.D, 10.B, 11.d, 12.d, 13.a, 14.b, 15.d, 16.d,
17.a, 18.c, 19.b, 20.c, 21.b, 22.b, 23.d, 24.a, 25.c, 26.a, 27.d, 28.b, 29.d, 30.b, 31.b, 32.b, 33.a, 34.c,
35.a, 36.b, 37.c

GAS WELDING

- How many types of welding are there depending upon the source of heat?
a) 3 types b) 4 types c) 2 types d) 5 types
- In gas welding source of heat is -----
a) gas b) electricity c) chemical d) any other source
- In oxy-acetylene gas welding heat is generated from mixer of ----- gases
a) hydrogen and oxygen b) oxygen and acetylene c) air and acetylene d) argon and helium
- While transporting the gas cylinder—
a) it should be lifted using preventive valve cap b) place the regulator at right place
c) placed it at a wheeled cart d) grease should be used in case it is to be kept in a narrow place.
- The color of oxygen gas cylinder is -----
a) black b) white c) maroon d) grey
- Acetylene is a ----- gas
a) supporter of combustion b) combustible c) heavier than air d) none of these
- The main purpose of keeping hydrogen outside the weld metal is to prevent the metal from -----
-
a) Cracking b) slow cooling c) fast cooling d) extending
- Which gas flame is widely used in welding field ?
a) air –acetylene b) oxy- acetylene c) oxy –hydrogen d) oxy –LPG
- The hose pipe connected to the gas cylinder with the help of -----
a) union nut b) regulator b) cable connector d) none of these
- For what purpose mild steel filler rods are coated with copper.
a) to avoid rusting /oxidizing b) to increase the strength of the weld joint c) to avoid weld defects
d) to increase welding speed.
- The oxygen and acetylene cylinders -----
a) must have covers closed when not in use b) should be kept upright during storage and usage
c) must have appropriate measures for preventing blast after turning on the regulator d) all of these
- In chemical cleaning which solvent is used to wash the trimming surface?
a) nitric acid b) kerosene c) sulphuric acid d) diluted hydrochloric acid
- In a welded joint, the fusion zone is heated to the melting of the metal. Which zone is adjacent to the fusion zone?
a) heat affected zone b) cooler zone c) weld zone d) local zone
- What type of flame is used to weld grey cast-iron?
a) neutral b) carburizing c) oxidizing d) air ace flame
- Which gas flame combination is suitable to weld both ferrous and non-ferrous metal?
a) oxy-acetylene b) air- acetylene c) oxy- hydrogen d) oxy-LPG
- What type of flame is used for lind welding of pipes?
a) oxidizing b) neutral flame c) carburizing flame d) air acetylene
- Acetylene cylinders are painted with ----- color?
a) black b) maroon c) red d) brown
- Why cracking is done before fixing the regulator to the cylinder ?
a) to clean the cylinder valve b) for proper setting of regulator c) to keep the pressure constant of the regulator d) none of these
- The charging pressure of acetylene cylinder is-----
a) 15 – 16 kg/cm² b) 120 -150 kg/cm² c) 100 -150 kg/cm² d) 10 -15kg/cm²
- If cylinder trolley is not available ,cylinder should be moved by -----
a) rolling b) sliding c) dragging d) tilting and moving
- The charging pressure of oxygen gas cylinder is -----
a) 1800 -2000 kg/cm² b) 120 -150 kg/cm² c) 120-140 kg/cm² d) 90 -100 kg/cm²
- The volume of oxygen gas cylinder is -----

- a) 7 m³ b) 5m³ c) 6m³ d) 4m³
23. In gas welding the angle of torch to the work in right ward welding technique is -----
 a) 30 -40° b) 40° -50° c) 50°-60° d) 60°-70°
24. Which type of blow pipe can be used in both low pressure and high pressure welding system?
 a) high pressure blow pipe b) low pressure blow pipe c) non injector blow pipe d) equal pressure blow pipe
25. A groove or channel formed along the toe of the weld on one or both side is due to -----
 a) Lack of penetration b) under cut c) heat affected zone d) crack
26. What should be done in cutting blow pipe to allow a stream of high pressure oxygen to pass?
 a) open the oxygen valve in the blow pipe b) oxygen cutting lever c) screw the oxygen regulator
 d) decrease the oxygen volume of gas
27. To ignite a oxy –acetylene flame which gas to open first ?
 a) oxygen b) acetylene c) both in same time d) none of these
28. Name the solution used for cleaning the copper sheets during pickling.
 a) diluted nitric acid b) diluted sulphuric acid c) diluted hydrochloric acid d) diluted carbon tetra chloride
29. The porous substance packed inside the acetylene cylinder is -----
 a) plaster of Paris b) sponge c) long , fiber, asbestos d) lime
30. The substance in which the acetylene is dissolved in a DA cylinder is -----
 a) benzene b) centime c) liquid acetone d) ethyl
31. Nozzle orifice should be cleaned with -----
 a) tip cleaner b) steel wire c) copper wire d) small drill
32. Name the method of welding in which metal plates are joined by their similar filler metal to base metal without application of pressure?
 a) fusion welding b) non fusion welding c) forge welding d) resistance welding

ANSWERS-(GAS WELDING)

1.C 2.A 3.B, 4.C, 5.A, 6.B, 7.A, 8.B, 9.A, 10.A, 11.D, 12.D, 13.A, 14.A, 15.A, 16.C, 17.B, 18.A, 19.A, 20.A, 21.B, 22.A, 23.B, 24.C, 25.B, 26.B, 27.B, 28.B, 29.C, 30.C, 31.A, 32.A

DISTORTIONS IN GAS WELDING

1. What is the main reason for selecting copper alloy for making an electrode holder?
 - A. it is a good flexible metal
 - B. it can hold the electrode firmly
 - C. it is good conductor of heat and electricity
 - D. it is very easy to make the electrode holder
2. What is the effect of carburizing flame on welding in steel?
 - A. carbon content increase
 - B. Carbon content decrease
 - C. Heat increase
 - D. crack develops
3. Which kind of flame will you select to weld brass sheet by oxy-ace process?
 - A. Neutral flame
 - B. carburizing flame
 - C. oxidizing flame
 - D. air-acetylene flame
4. While gas cutting, the nozzle should be _____
 - A. touches the work
 - B. 2mm away from work
 - C. 5mm away
 - D. 10mm away from
5. What is the purpose of tacking?
 - A. To keep the part in alignment
 - B. to avoid over-lapping
 - C. to avoid heat affected zone
 - D. to avoid are blow
6. In he base method which one of the following the reason for poor fusion of bead?
 - A. Electrode travel too slow
 - B. current too high
 - C. current too low
 - D. Arc too short
7. Which one of the defect is caused by low current in arc welding?
 - A. Porosity
 - B. Undercut
 - C. lack of fusion
 - D. excessive penetration
8. By using proper size filler rod, which welding effect will be observed on joint?
 - A. Good penetration can be obtained
 - B. proper alignment of the joint can be obtained
 - C. excess convexity defect can be avoided
 - D. incomplete penetration can be obtained
9. What kind of flame will you select to weld copper sheet by oxy-acetylene process?
 - A. oxidizing flame
 - B. carburizing flame
 - C. neutral flame
 - D. air-acetylene flame
10. What type of flame do you select for bronze welding of cast iron?
 - A. oxidizing flame
 - B. neutral flame
 - C. carburizing flame
 - D. acetylene flame
11. Oxygen hoses are manufactured in _____
 - A. Black colour
 - B. yellow colour
 - C. maroon colour
 - D. orange colour
12. Acetylene cylinder should always be kept in upright/vertical position in order _____
 - A. to save floor space
 - B. to get uniform rate of gas
 - C. to help in welding in vertical position
 - D. to avoid flow of acetone liquid along with the gas
13. Which problem can be reduced by wrapping of the welding cable around the work?
 - A. Distortion
 - B. arc blow
 - C. weld crack
 - D. fatigue to the welder
14. The size of nozzle to be selected fo gas welding process varies according to the _____
 - A. Welding position
 - B. size of the filler rod
 - C. pressure of the gas
 - D. thickness of the metal to be welded

15. The weld made from left to right is called _____
 A. forehand welding
 B. backhand welding
 C. vertical welding
 D. horizontal welding
16. One important function of flux coating is to _____
 A. prevent rusting
 B. increasing welding current
 C. stabilizing arc
 D. reduce the arc temperature
17. Which one of the impurities is removed from the acetylene gas using pumice stone?
 A. sulphurated hydrogen
 B. phosphurated hydrogen
 C. lime dust
 D. moisture
18. What type of filler rod you select for welding of mild steel?
 A. copper coated mild steel
 B. supper silicon cast iron
 C. high carbon steel
 D. columbium steel
19. What is the standard distance to be maintained between conduct tip and filler wire?
 A. 17-20mm
 B. 14-16mm
 C. 6-13mm
 D. 1-5mm
20. What is the effect if the tungsten electrode tip melts and deposit on the weld metal?
 A. stabilizing the arc
 B. to get good strength
 C. to ensure uniform bead
 D. contamination in the weld metal
21. What treatment should be given after stellingiting to avoid cracking?
 A. slow cooling
 B. suddenly dipping in the water
 C. suddenly dipping in the oil
 D. slowly dipping in the oil
22. Residual stress present in a welded job will _____
 A. increase hardness of the weld
 B. decrease ductility of the weld
 C. crack the joint when load is applied
 D. increase the life of welded joint
23. The Chemical formula for acetylene is _____
 A. C_3H_2
 B. C_2H_2
 C. CH_3
 D. C_2H_3
24. What type of pipes is used for the D.A. manifold system?
 A. copper pipes
 B. steel pipes
 C. brass pipes
 D. Aluminum pipes
25. The main reason for back fire is _____
 A. the gas pressure is low
 B. nozzle size is more
 C. nozzle size is less
 D. nozzle not tightened properly
26. While cleaning the work piece we should not use _____
 A. cleaning cloth
 B. cleaning solvents
 C. wire brush
 D. emery sheet
27. The gas welding flame is generated is generated by-
 A. oxygen
 B. acetylene
 C. hydrogen
 D. both (a) and (b)
28. During gas welding, nozzle no 1 is used when the thickness of the job is-
 A. less than 1mm
 B. 1 to 2mm
 C. 2 to 3mm
 D. more than 3mm
29. The main function on flux is to –
 A. stabilize the arc
 B. shield the weld deposit from oxidation
 C. remove impurities
 D. all of these
30. Forge welding is done in –
 A. machine shop
 B. welding shop
 C. fitting shop
 D. smithy shop
31. _____ is a groove melted into the base metal next to the weld toe or weld root and has not been filled in.

- A. crack
B. crater
C. under fill
D. undercut
32. If the weld does not combine with another weld or the base metal, it is referred to as _____
A. incomplete penetration
B. incomplete fusion
C. incomplete bonding
D. incomplete inclusion
33. The maximum safe working pressure for acetylene is _____
A. 5 psi
B. 10 psi
C. 15 psi
D. 20 psi
34. Fuel gas hoses are usually coloured _____
A. Green
B. Red
C. Blue
D. yellow
35. The area of a welded joint outside the weld metal that has undergone micro structural changes is called _____
A. heat affected zone
B. weld zone
C. fusion zone
D. bond zone
36. Oxygen is a _____
A. combustible gas
B. non-combustible gas
C. flammable gas
D. explosive gas
37. Gas welding torch should be lighted only with _____
A. matches
B. cigarette lighter
C. striker
D. welding arc
38. Which oxy-acetylene flame has an excess of fuel gas?
A. Oxidizing
B. Neutral
C. Carburizing
D. none of these
39. What is the storage medium used to store acetylene gas in the cylinder at high pressure?
A. Water
B. Acetone
C. kerosene oil
D. petroleum jelly
40. Which one of the following is a temporary joint?
A. welded joint
B. riveted joint
C. soldered joint
D. press fit joint
41. The tips of blow pipes are made of _____
A. copper
B. brash
C. acetylene
D. carbon dioxide
42. Leftward gas welding technique is used for welding of mild steel plates upto a thickness of _____
A. 1.5 mm
B. 5.0mm
C. 3.0 mm
D. 10.0 mm
43. A device intended to keep the parts to be welded in alignment is called _____
A. Welding jig
B. welding fixture
C. welding positioner
D. welding manipulator
44. For oxy-acetylene welding of aluminum, the flame used is _____
A. Neutral flame
B. oxidizing flame
C. neutral flame with a little haze of excess oxygen
D. neutral flame with a little haze of excess acetylene
45. Which welding procedure is safe to perform in wet conditions?
A. oxy-ace welding
B. arc welding
C. MIG welding
D. TIG welding
46. Select incorrect statement about MIG welding-

- A. MIG uses a consumable wire electrode
 - B. MIG is one of the most affordable arc welding applications
 - C. MIG is extremely clean welding process
 - D. MIG is created with a consumable electrode
47. Using oil or grease on an oxygen regulator is likely to _____
- A. cause grease to burn
 - B. cause the regulator burn
 - C. cause the cylinder to explode
 - D. all of these
48. In the IG position for welding pipes, the pipe must be _____
- A. rotated
 - B. angled
 - C. horizontal
 - D. vertical
49. The circle used in a welding symbol means that welding is _____
- A. to ensure that subsequent deposits are sound
 - B. to be all around the joint
 - C. to remove any excess flux
 - D. to relieve stresses in the first place
50. The graphic description of any type of weld is called as _____
- A. tail
 - B. reference line
 - C. weld symbol
 - D. arrow
51. Neutral flame in gas welding contains _____
- A. oxygen and acetylene in equal proportion
 - B. more oxygen than acetylene
 - C. less oxygen than acetylene
 - D. none of these
52. The size of cutting nozzle used in oxy-acetylene cutting process depends mainly on _____
- A. thickness of metal to be cut
 - B. purity of oxygen
 - C. duration of cut
 - D. type of cutting blow pipe
53. Cast iron is used for manufacturing machine beds because-
- A. it can resist more compressive stress
 - B. it is heavy in weight
 - C. it is a cheaper metal
 - D. it is a brittle metal
54. Aluminium in its pure form is not used for engineering work because-
- A. it is brittle
 - B. it is very light
 - C. it is costly
 - D. it lacks strength
55. The size of a welding machine is determined by -
- A. input amperage
 - B. output amperage
 - C. open circuit voltage
 - D. closed circuit voltage
56. The position in which it is easiest to weld is -
- A. flat
 - B. vertical
 - C. horizontal
 - D. overhead
57. in an acetylene cylinder, the acetylene is dissolved in -
- A. water
 - B. carbon dioxide
 - C. acetone
 - D. mercury
58. What should never be used on gas cylinders, regulators and hoses?
- A. wrenches
 - B. Teflon tapes
 - C. leak detectors
 - D. oil
59. Metal particles expelled during welding are called-
- A. porosity
 - B. overlap
 - C. spatter
 - D. undercut
60. The purpose of backing material at the root of a weld is-
- A. to support molten weld metal
 - B. a heat sink

- C. to prevent lack of fusion
D. all of these
61. A triangular- shaped weld symbol represents what type of weld?
A. fillet weld
B. bevel groove
C. flare groove
D. V- groove
62. In which welding position the rate of filler metal deposition is more?
A. flat position
B. vertical position
C. over head position
D. horizontal position
63. Which fuel gas that gives the maximum flame temperature is used for gas welding?
A. acetylene gas
B. coal gas
C. hydrogen gas
D. L.P.G
64. What caution has to be taken before welding cast iron plates to avoid weld cracks?
A. set low current
B. preset the plates
C. preheat the plates to 250 degree celcius
D. keep a uniform root gap of 2.5mm
65. Which one of the following is distinguishing features of a carburizing flame?
A. two inner flame cones and outer envelope
B. three flame cones and outer envelope
C. short yellow flame and outer envelope
D. long yellow, smoothy flame envelope
66. The impure acetylene gas enters the purifier at the bottom and passes through three compartments. What does the first compartment contain in the purifier?
A. purifying material
B. pumice stone
C. filter wool
D. water
67. The impure acetylene gas enters the purifier at the bottom and passes through three compartments. What does the second compartment contain in the purifier?
A. water
B. filter wool
C. pumice stone
D. purifying material
68. Acetylene is a fuel gas which produces a very high temperature flame with the help of oxygen. Which one of the following elements is available more in acetylene?
A. argon
B. carbon
C. acetone
D. hydrogen
69. The flame starts burning away from the tip, this can be corrected by-
A. the pressure of gases is to be reduced
B. the orifice of the nozzle is to be cleaned
C. cool the torch
D. decrease the volume of oxygen
70. Why an oxidizing flame is most suitable to weld brass and bronze?
A. brass and bronze are having higher melting points
B. to retain the colour of brass and bronze
C. it avoids evaporation of zinc
D. to speed up the welding
71. Which welding is similar to projection welding?
A. sub merged arc welding
B. flashed but welding
C. spot welding
D. seam welding
72. Which gas is produced from calcium carbide?
A. hydrogen
B. acetylene
C. oxygen
D. L.P.G
73. 1 KG of calcium carbide generate _____ liter of acetylene gas.
A. 157 liter
B. 247 liter
C. 347 liter
D. 447 liter
74. What is the colour of oxygen cylinder?
A. RED
B. BROWN
C. BLACK
D. GREEN

75. Acetylene gas is composed of -
- A. carbon and salt
B. carbon and hydrogen
C. calcium and carbon
D. calcium and flux
76. What is the ratio of water and aluminium flux powder used in welding of aluminium?
- A. 2:3
B. 2:1
C. 3:2
D. 1:2
77. What is the name of imaginary line passing through length wise in the weld centre?
- A. weld slope
B. axis of weld
C. face of weld
D. weld rotation
78. What is the name of semi-circular deposit on the weld bead
- A. leg length
B. sealing run
C. reinforce men
D. depth of fusion
79. What is the advantage of water to carbide type acetylene gas generators?
- A. water consumption is less
B. Higher gas generation
C. pressure of gas is high
D. sludge disposal easy
80. What is the name of the irregular grooves and channel in the welding?
- A. under cut
B. cracking
C. porosity
D. lack of fusion
81. In order to get good result, welder has to manipulate the blow pipe metal if welder does not raise the blow pipe at the end of the joint?
- A. move blow pipe slowly in weaving motion
B. molten metal slashes away
C. weld metal collapse
D. increase the strength of weld metal
82. The best flame to gas weld a mild steel job is -
- A. carburising flame
B. oxidizing flame
C. neutral flame
D. none of these
83. Double 'V' butt joint is adopted for-
- A. thin plates
B. medium plates
C. thick plates
D. none of these
84. Incomplete fusion during welding is due to -
- A. very high current
B. very low current
C. very wide weld bead
D. none of these
85. How would you prepare 25 mm low carbon steel flat bar for a butt weld?
- A. Give it a quick grind to make sure the metal is clean
B. Grind a single bevel preparation
C. no edge preparation
D. Grind a double V preparation
86. Welding of carbon steel is being done using an oxy-acetylene flame with a long feathered inner cone. What will be its effect?
- A. The weld would be hard and brittle
B. The weld would be too soft
C. There will be no effect on the weld
D. The weld will have undercut
87. What does light, medium and heavy classification of steel pipes depend upon?
- A. Nominal diameter of pipe
B. Outside diameter of pipe
C. inside diameter of pipe
D. wall thickness of pipe
88. Weld backing is used with a process that uses a separate flux and electrode to -
- A. make the welded joint stiffer
B. provide more weight to the weldment
C. make the material thicker where it is needed
D. support the highly fluid weld pool so it will not fall through the joint
89. Preheating a low carbon steel prior to welding minimizes the risk of -
- A. porosity
B. excessive distortion
C. HAZ cracking
D. lack of fusion

61.A	71.C	81.C	91.D	101.C
62.A	72.B	82.A	92.D	
63.A	73.C	83.C	93.B	
64.C	74.C	84.B	94.D	
65.A	75.B	85.D	95.B	
66.B	76.D	86.A	96.C	
67.D	77.B	87.D	97.D	
68.B	78.C	88.D	98.B	
69.A	79.A	89.C	99.A	
70.C	80.A	90.B	100.B	

GAS CUTTING

- While oxy-acetylene cutting, the oxygen working pressure is _____
 - greater than the acetylene working pressure
 - equal to the acetylene working pressure
 - less than the acetylene working pressure
 - a constant 20psi
- If an excessive amount of preheat is used when doing oxy-acetylene cutting, then
 - the side of the cut may be gouged
 - top edge may be melted
 - the cut may be incomplete
 - the sides of the kerf may be dished
- The device used to control the pressure in oxy-fuel cutting torch is called _____
 - valve
 - handle
 - adjusting screw
 - regulator
- The width of the cut produced by oxy-acetylene cutting is called _____
 - drag line
 - kerf
 - wrap round
 - slag
- _____ can be cut with oxy-acetylene cutting torch.
 - Stainless steel
 - Carbon steel
 - Aluminium
 - Copper- nickel alloy
- In gas cutting, if too little cutting oxygen is supplied-
 - the metal will be cooled down
 - the kerf will be narrow
 - the kerf will be wide
 - the metal will fail to cut completely
- In a gas cut plate, the cut is high quality although there is some surface roughness caused by vertical drag lines. This is due to -
 - less preheating flame
 - impure cutting oxygen
 - too slow cutting speed
 - smaller size cutting nozzle
- In a gas cut plate, the cut is high quality although there is some surface roughness caused by vertical drag lines. This is due to -
 - tip too closed to the cut surface
 - too much travel speed
 - less oxygen pressure
 - smaller size cutting nozzle
- If the blowpipe is moved to and fro frequently while cutting the kerf will-
 - be more
 - of correct size
 - be less
 - not be affected
- Cast iron contains two elements, which make it difficult to cut it by gas cutting. What are these elements?
 - Sulphur and phosphorous
 - silicon and graphite
 - Graphite and phosphorous
 - silicon and sulphur
- What is the problem faced in gas cutting aluminium?
 - No change in colour when aluminium is heated
 - higher melting point of aluminium oxide
 - low melting point of aluminium

ELECTRIC ARC WELDING

- Voltage difference is measured with the help of -
A. Ammeter B. Ohmmeter C. voltmeter D. wattmeter
- Which law explains the relationship between current, voltage and resistance in a closed circuit at constant temperature?
A. Kirchhoff's first law C. joules law
B. Kirchhoff's second law D. ohms law
- Ampere second is the measure of which of the following?
A. power C. energy
B. conductivity D. charge
- The measure of electrical energy is -
A. KW B. KWh C. KV D. KVAR
- The resistance of a material depends on -
A. length
B. area of the cross section
C. material
D. all of these
- Shield metal arc welding is categorized under _____ process.
A. electric arc welding C. thermic welding
B. electro gas welding D. electric resistance
- How the size of the electrode holder is specified?
A. By the metal used in its manufacturing C. by its weight
B. On the basis of its current carrying capacity D. by its size
- The measure of charge is -
A. volt B. ampere C. ohm D. coulombs
- The function of earth clamp in arc welding is -
A. to hold the electrode firmly during welding
B. to connect the earthing cable with electrode
C. to connect the earthing cable with working material
D. to supply current to the electrode through earthing cable
- Which joint is most appropriate for welding a 12mm thick plate with the help of arc welding?
A. single 'V' joint C. single 'U' joint
B. double 'V' joint D. square butt joint
- The small metal particles produced during arc welding are known as
A. porosity C. over deposited metal
B. undercut D. spatter
- In what way arc blow can be prevented in arc welding?
A. By using AC welding machine D. Keeping the welding away from the contact of the earth
B. By increasing the arc length
C. By using bare electrodes
- What is the use of pre-heating before welding cast iron?
A. cracks B. oxidation C. blow hole D. nitriding
- In which type of arc welding machine, the parts of the commutators are fixed?
A. motor generator set B. rectifier set

- C. transformer set
D. engine driven set
15. What is the effect of arc length used for the short arc?
A. Poor control of molten metal
B. correct fusion and penetration
C. higher metal deposit with narrow bead width
D. eve burning of the electrode
16. What should be the shade number of the filter class to be used for arc welding with 150 amps current?
A. shade number-6
B. shade number-8
C. shade number-10
D. shade number-22
17. Which one of the following electrode can be used both in AC and DC welding machines?
A. carbon electrode
B. aluminium electrode
C. Bare metal electrode
D. mild steel coated electrode
18. What is the value of open circuit voltage of a welding transformer?
A. 90
B. 110
C. 120
D. 150
19. What are the effects of arc length used for the long arc?
A. unstable arc
B. correct metal deposition
C. even burning of the electrode
D. wastage due to melting of electrode
20. Which one is suitable to reduce or increase the welding current?
A. regulator
B. armature
C. commutator
D. carbon brush
21. Which one of the welding machine is used to avoid arc blow?
A. Generator
B. Transformer
C. rectifier
D. Engine drive generator set
22. Which one of the following metals can NOT be welded metal arc welding machine in manual metal arc welding process?
A. cast iron
B. mild steel
C. Aluminium
D. high carbon steel
23. Which process is used to control the arc blow in D.C. welding machine?
A. use smaller diameter electrode
B. use run or runoff plate
C. use heavy coated electrode
D. weld towards the each connections
24. Which one of the following is the cause for sticking of electrode on the job?
A. too low welding current
B. poor quality electrode
C. wrong polarity setting
D. short arc length
25. Which one of the following electrode is used to weld broken cast iron parts?
A. rutile coated mild steel electrode
B. Deep penetration electrode
C. nickel coated electrode
D. low hydrogen electrode
26. Which one of the following is the cause for excessive spatter in arc welding?
A. arc blow
B. use of short arc
C. use of damp electrode
D. welding current too high
27. The effect of arc blow is totally absent in _____
A. DCSP
B. DCRP
C. arc welding
D. welding with short arc
28. Calcium carbide is produced in an electric furnace by melting _____
A. pumice stone and ammonia
B. calcium and potassium
C. coke and lime
D. coke and water
29. In which type of arc welding machine, the parts of the primary winding is fixed in the arc welding machine?
A. transformer set
B. motor generator set
C. rectifier set
D. engine driven set
30. Which one of the following metals can NOT be welded by AC welding machine?

- A. Brass
B. mild steel
- C. cast iron
D. high carbon steel
31. One of the disadvantages of using DC for welding is _____
- A. skilled welder is required
B. trouble of arc blow during welding
C. higher speed of welding is not possible
- D. large diameter electrode cannot be used
32. Which one of the following factor should be considered while selecting nozzle for gas welding?
- A. flux melting point
B. base metal thickness
- C. filler metal thickness
D. temperature of flame to be set
33. The purpose of flux coating on an electrode is to -
- A. shield the weld bead
B. remove impurities
- C. to form a protective coating
D. all of these
34. The capacity of an arc welding machine is indicated by -
- A. input current in amps
B. closed circuit voltage
- C. output current in amps
D. open circuit voltage
35. Mostly the arc blow happens during welding with -
- A. D.C welding machine
B. A.C welding
- C. bare electrode
D. both (a) and (b)
36. The selection of an electrode diameter depends on _____ of weld.
- A. length
B. position
C. thickness
D. quantity
37. Where there is no power supply, the machine used for arc welding is -
- A. motor generator set
B. diesel generator set
- C. rectifier set
D. engine driven set
38. The supply voltage required for a welding transformer is -
- A. 110 volts
B. 230 volts
- C. 330 volts
D. none of these
39. During arc welding, under cut happens due to -
- A. low current
B. low voltage
- C. high current
D. high voltage
40. in a submerged arc welding process there will not be any
- A. arc flash
B. slag
- C. spatter
D. both (a) and (c)
41. The unit for measurement of electrical pressure of EMF is -
- A. Ohm
B. Volt
C. Ampere
D. Watt
42. Arc time is -
- A. the time the arc is on during the arc welding operation
B. the total time the welder is clocked into work
- C. the non-arc time
D. the total of arc time and non-arc time
43. What will happen if medium carbon steel welding joint is allowed to cool in air immediately after arc welding?
- A. the joint will get annealed
B. the bead will be porous
- C. the joint will crack
D. the joint will bend
44. When hydrogen control is specified for a manual metal arc welding project the electrode would normally be -
- A. cellulosic
B. iron oxide
C. acidic
D. basic
45. Pre-heating a carbon steel manual metal arc welding is carried out to minimise the risk of -
- A. scattered porosity
B. worm hole porosity

- C. parent metal cracking
46. Arc blow is caused by -
 A. strong winds
 B. magnetic forces
 C. too high an amperage for the size of the electrode
 D. lack of penetration
47. The term used to indicate amount of current flowing in a circuit is called -
 A. Volt
 B. ampere
 C. ohm
 D. farad
48. Which type of flux covered electrode is used in fusion welding of cast iron?
 A. basic type flux covered
 B. rutile type flux covered
 C. cellulose type flux covered
 D. iron oxide type flux covered
49. In coding of electrodes, radiographic quality electrodes is indicated by the letter _____
 A. A
 B. X
 C. Y
 D. Z
50. An electrical circuit is a path taken by flow of current. A path with no breaks is called _____
 A. closed circuit
 B. open circuit
 C. continuous circuit
 D. limited circuit
51. Which defect is caused by gas entrapment in arc welding process?
 A. crack
 B. porosity
 C. lack of fusion
 D. slag inclusion
52. Welding is not done directly from the supply mains because -
 A. it is impractical to draw heavy currents
 B. its voltage keeps fluctuating
 C. it is customary to use welding machines
 D. its voltage is too high
53. In an arc welding process, which of the following is the correct term used for the amount of weld metal deposit per minute?
 A. filling rate
 B. deposition rate
 C. weld deposition
 D. weld duty cycle
54. When welding thin plates, distortion can be minimized by -
 A. welding from both sides
 B. using U preparations rather than V type
 C. using strong backs
 D. using back step welding
55. Increase in carbon content of the metal will-
 A. increase hardness and strength
 B. improve ductility and toughness
 C. reduce weldability
 D. both (a) and (c)
56. What does the term 'ripple' refers to as regards welding joint?
 A. shape of weld bead
 B. depression in base metal
 C. depth of fusion in metal
 D. distance from electrode metal
57. Slag inclusion may be present in _____
 A. manual metal arc welds
 B. metal inert gas welds
 C. metal active gas welds
 D. all of these
58. The welding machine, which is used to convert AC welding supply to DC welding supply is -
 A. motor generator set
 B. engine generator set
 C. rectifier set
 D. welding transformer
59. The electrode size refers to -
 A. diameter of if core wire
 B. diameter(overall) of electrode
 C. thickness of flux coating
 D. length of electrode
60. In a transformer, the winding to which electric supply is given as input is called-
 A. primary winding
 B. secondary winding

- C. main winding
D. auxiliary winding
61. According to ohm's law-
A. $V=I/R$ B. $R=V I$ C. $I=V/R$ D. $I= V R$
62. The are utilized in electric arc welding is a -
A. high voltage, high current discharge C. low voltage, high current discharge
B. low voltage, low current discharge D. high voltage, low current discharge
63. The electrodes are manufactured in two standard lengths namely -
A. 350 mm and 250mm C. 400 mm and 500 mm
B. 350 mm and 450 mm D. 12" and 10"
64. In DC welding heat distribution is possible between electrode and the base metal due to the change of polarity. The distribution of heat is -
A. positive 2/3 and 1/3 C. positive 3/4 and 1/4
B. positive 1/3 and 2/3 D. positive 1/4 and 3/4
65. In atomic hydrogen welding a single phase AC arc is maintained between two _____ electrodes.
A. carbon steel C. tungsten
B. copper D. aluminium
66. Which method of arc welding is used to control distortion?
A. Back step welding C. Chain intermittent welding
B. Planned wandering method D. all of these
67. What is the effect of long arc?
A. in this type of joint is strong C. it consume more electrode
B. it will give lack of fusion of base metal D. the joint will develop crack
- An electrode code as per Indian standard contains 2 letter followed by 4 digit number. What does the first digit of the code indicate?
A. Welding position D. welding current and voltage condition
B. tensile strength
C. percentage of elongation
68. A.W.S. code of electrode starts with the letter E followed by a 4 digit number. What does the 3rd digit represent?
A. polarity C. type of flux coating
B. welding position D. tensile strength of the weld metal
69. Which one of the low heat input electrode is used to cast iron for repair work?
A. monel electrode C. low hydrogen electrode
B. Tungsten electrode D. silicon bronze electrode
70. The size of the electrode suitable for welding 'T' fillet joint of 4 mm thick mild steel plate in arc welding is -
A. 2.50 mm B. 3.15 mm C. 4.00 mm D. 5.0 mm
71. What is the main advantage of using an iron power electrode?
A. avoids crack in the joint
B. increases the strength of the flux coating
C. reduce the time required to complete the weld
D. easily conducts the electricity through the electrode
72. In resistance welding, the electrodes are made of -
A. bronze B. iron C. Aluminium D. copper
73. Which one of the following metal can only be welded by D.C. welding machine?
A. cast iron B. mild steel C. Aluminium D. alloy steel
74. Name the harmful rays from an electric arc in arc welding which creates the 'arc eye' to the welder.
A. x-ray B. ultra violet

- C. gamma ray
 75. Which of the following rays is not produced during arc welding?
 A. visible light rays
 B. gamma rays
 76. What does the 3rd digit number "2" represent in the classification of electrode EB5426HIJX?
 A. Polarity
 B. welding position
 77. What is the name of the last bit of an electrode discarded?
 A. Red end
 B. Waste end
 78. Which one is used for classifying an electrode used in shielded metal arc welding?
 A. type of flux coating
 B. length of the core wire
 79. What will happen unsafe welding practice viewing the arc directly?
 A. electric shock
 B. burn injury
 80. An electrode code as per Indian standard contains 2 letter followed by 4 digit number. What does the first digit of the code indicate?
 A. Welding position
 B. tensile strength
 C. percentage of elongation
 81. Welding transformers are always _____
 A. step up
 B. both step up and step down
 82. What is the colour of tungsten mixed with 2% thorium?
 A. yellow
 B. black
 83. Rectifier welding set provide _____welding supply.
 A. A.C.
 B. D.C.
- D. none of these
 C. ultraviolet rays
 D. infrared rays
 C. welding current
 D. type of flux coating
 C. Dead end
 D. Stub end
 C. diameter of the core wire
 D. baking temperature of the electrode
 C. arc eye
 D. cut on the legs and hands
 D. welding current and voltage condition
 C. step down
 D. none of these
 C. red
 D. orange
 C. variable A.C.
 D. high voltage D.C.

ANSWER- (ELECTRIC ARC WELDING)

- | | | | |
|-------|-------|-------|-------|
| 1. C | 22. C | 43. C | 64. B |
| 2. D | 23. B | 44. D | 65. C |
| 3. D | 24. A | 45. C | 66. D |
| 4. B | 25. C | 46. B | 67. B |
| 5. D | 26. D | 47. B | 68. B |
| 6. A | 27. C | 48. A | 69. B |
| 7. B | 28. C | 49. B | 70. B |
| 8. D | 29. A | 50. A | 71. B |
| 9. C | 30. A | 51. B | 72. C |
| 10. A | 31. B | 52. A | 73. D |
| 11. D | 32. B | 53. B | 74. C |
| 12. A | 33. D | 54. D | 75. B |
| 13. A | 34. C | 55. D | 76. B |
| 14. A | 35. D | 56. A | 77. B |
| 15. C | 36. C | 57. A | 78. D |
| 16. C | 37. B | 58. C | 79. A |
| 17. D | 38. B | 59. A | 80. C |
| 18. B | 39. C | 60. A | 81. B |
| 19. A | 40. D | 61. C | 82. C |
| 20. A | 41. B | 62. C | 83. C |
| 21. B | 42. A | 63. B | 84. B |

MIG/MAG WELDING

1. What is an advantage of pulsed arc transfer in GMAW?
A: Heat input is less than spray transfer
B: Heat input is more
C: Heat input is less
D: Non-of the above
2. What does the wire feeder control?
A: Filler wire feeding only
B: Gas control
C: Input voltage
D: Speed of the feed motor and - starting / stopping electrode feed
3. In which welding process constant current (CC) power sources designed to be used with?
A: SMAW
B: GTAW ,
C: THERMIT WELDING
D: FORGING
4. What does voltage do in an electrical circuit?
A: Voltage is the force that overcomes resistance to allow amperage
B: Flow the current
C: Flow the resistance
D: Non-of the above
5. What is the purpose of the shielding gas used in GMAW?
A: Shielding the molten weld metal from atmospheric contamination
B: Protect machine
C: Protect gas cylinder
D: Non-of the above
6. What type of operation is generally used in GMAW?
A: Automatic
B: Semi-automatic
C: Fully automatic
D: Manual method
7. List the factors that determine the mode of metal transfer
A: Welding Current - Filler wire diameter - arc length - type of shielding - position of the weld
B: Current
C: Voltage
D: Resistance
8. What is the minimum % value of argon that must be present to use the spray transfer method of GMAW?
A: 66%
B: 85%
C: 99%
D: 56%
9. What is the range of electrode for MAG / CO₂ welding?
A: 0.8 to 1.6 mm
B: 0.7 to 1.3 mm
C: 0.6 to 0.9 mm
D: 0.5 to 0.7 mm
10. List the basic equipment requirements for the GMAW process
A: Cable,
B: Welding torch,
C: Power source - wire feeder - welding gun - Spooled filler wire - Shielding gas,
D: Wire feeder
11. What term is used to describe when the work piece is hooked to the negative pole on the power source?
A: (DCEP) Direct Current Electrode Positive or Reverse polarity

- B: Pulse
 C: DCEP
 D: All of the above
12. What is the preferred drive roll design for solid wires?
 A: Flat groove
 B: Z groove
 C: T groove
 D: V groove or U groove
13. Give a brief description of the GMAW process
 A: Uses by electric resistance
 B: Electric inductance
 C: Both A&B
 D: Welding process that joins metals by heating them with an electric arc
14. What current and polarity is generally used with GMAW?
 A: DCEP (Direct Current Electrode Positive) Reverse Polarity
 B: DCEN
 C: Only voltage
 D: Only resistance
15. What output on the welding machine is used to rate the duty cycle?
 A: Minutes of elapse by 60min
 B: Minutes of elapsed time continually run (out of 10 minutes)
 C: Minutes of elapsed by 30 min
 D: Minutes of elapsed 55 min
16. What is the purpose of a regulator and what does it indicate on its gauges?
 A: It increases gas flow, \
 B: Reducing the gas pressure to a constant working pressure,
 C: It purifies the gas,
 D: Non-of the above
17. What is the main purpose of 'slope'?
 A: To limit the short circuiting current so that spatter is reduced
 B: To increase penetration
 C: Reduce current consumption
 D: Both A, B & C
18. What does a flow meter do and what does it measure?
 A: It purifies gas
 B: It control the pressure
 C: Controls the rate of flow of a shielding gas to the gun nozzle
 D: Non-of the above
19. What would be an indication that the drive roll pressure is adjusted correctly?
 A: Wire feeds smoothly (yet will slip should a problem occur in the gun)
 B: Wire feeder vibrates
 C: Increases wire feed speed
 D: Non-of the above
20. What is the required arc voltage used for short circuit transfer?
 A: 12 to 22 arc volts
 B: 24-26 volts
 C: 45 volts
 D: 90 volts
21. GMAW guns are rated?
 A: By voltage
 B: By electric resistance
 C: Both A&B
 D: By their current carrying capacity
22. What is a typical flow rate of CO₂ for short circuit transfer?
 A: 10-15 lit/min
 B: 9-11lit/min

- C: Correct Answer: 5.8 to 12.5 L/min
D: 14-18lit/min
23. What is the key advantage of short circuiting transfer?
A: Minimum distortion due to low heat input
B: It control distortion
C: It increases penetration
D: None of the above
24. What type of power source is commonly used with a voltage sensing wire feeder?
A: Constant current (CC)
B: Constant voltage
C: Constant resistance
D: None of the above
25. What does inductance control?
A: The time rate of response for the current rise and fall
B: The time rate of response is decrease
C: The time rate of response parallel
D: None of the above
26. What controls the wire speed on a voltage sensing wire feeder?
A: Welding speed
B: Increases gas flow
C: Both A&B
D: The Arc voltage
27. What does the abbreviation NEMA stand for?
A: National Electricity Manufacturing Agency
B: National Electricity Manufacturing Board
C: National council for Vocational Training
D: National Electrical Manufactures Association
28. What is a solenoid valve and what is the function of it?
A: Wire feed speed - Voltage control
B: Arc voltage
C: Electric operated valves that control the flow of shielding gas to the weld zone. The control switch located on the gun
D: Electric resistant
29. What 2 controls are found on a GMAW set- up?
A: Arc control
B: Wire feed speed - Voltage control
C: gas control
D: None of the above
30. Why a line heater is required when using GMAW?
A: To prevent drawing of liquid CO₂ (Carbon Dioxide)
B: To avoid cooling and blockage of CO₂ gas,
C: It heats the filler wire
D: none of the above
31. List 3 forms compressed gases may be supplied for welding
A: Compressed gas cylinder - Liquid filled cylinder - or a Liquid bulk system
B: Compressed gas cylinder - Liquid filled cylinder-or a can
C: Compressed gas cylinder - Liquid filled cylinder-or a gas bucket
D: None of the above
32. Which type of electrodes are used in MAG/CO₂ welding?
A: Flux coated electrodes
B: Bare wire electrode

- C: Flux cored electrodes,
D: Tungsten electrode
33. In the GMAW process what does amperage control?
A: Short- circuiting transfer - Globular transfer - Spray transfer
B: Penetration and burn - off rate of the electrode
C: Dip transfer
D: Globular transfer
34. A machine with a 70% duty cycle can run at its max for 7 minutes with a cooling cycle of only _ minutes.
A: 3min B: 2min C: 8min D: 6min
35. List the three methods of metal transfer with GMAW
A: Wire is fed by a set of drive rolls located in the wire feed unit - Pull type
B: Drive rolls mounted in the gun itself - Push- pull type,
C: Both A & B
D: Short- circuiting transfer - Globular transfer - Spray transfer
36. Why is a fibre washer required and what cylinder gas requires it?
A: Duty cycle
B: Duty time
C: To prevent leakage - Carbon Dioxide (CO₂)
D: Non-of the above
37. Regulators control _____ and flow meter show _____.
A: Pressure - The rate of flow of a shielding gas
B: Voltage & flow rate
C: Current & flow rate
D: Pressure
38. How the filler wire is fed in the GMAW welding process?
A: Manually B: Mechanically C: Automatically D: Semi-automatic
39. What happens when the electrode extension is increased?
A: The resistance to electrical current flow increases with it. Causing the electrode to heat
B: Electric resistance
C: Conductance
D: Non-of the above
40. Why CO₂ cylinders are kept in the vertical position?
A: To prevent drawing of liquid CO₂ (Carbon Dioxide)
B: To prevent moisture entrapment
C: Prevent rusting
D: Non-of the above
41. What is the purpose of fitting clear glasses on either side of colored glass in a helmet?
A: Protect from rays
B: Protect from heat
C: Protect from spatters
D: Protect from radiation
42. How the welder observes welding area of the joint in electron beam welding?
A: Safe optical mirror
B: Safe optical helmet
C: Safe optical hand screen having correct shade
D: Safe optical viewing system containing optical mirror
43. How to protect from the toxic fumes during welding operation?
A: Wear helmet
B: Use hand screen

- C: Use leather
D: Use respirator pad
44. What is the angle of inclination of weld torch for flat position in GMAW welding process?
A: 5° - 10° B: 10° - 15° C: 15° - 25° D: 25° - 35°
45. Which is adjusted in electron beam welding to eliminate the defect of porosity?
A: Spot size
B: Deflection
C: Weld penetration
D: Focal position / focus current
46. What amperage required for setting 1.2mm filler wire for welding mild steel in MIG/MAG welding?
A: 50 - 100 Amps B: 70 - 120 Amps C: 90 - 150 Amps D: 100 - 225 Amps
47. What is the name of welding process if the arc produced by a consumable metal electrode is protected by inert gas?
A: MAG welding B: MIG welding C: TIG welding D: Plasma welding
48. How arc is ignited in GMAW process?
A: Petrol B: Diesel C: Fire stick D: By pressing the start switch.
49. What are the gases mixed for shielding in FCAW?
A: Argon and O₂
B: Argon and CO₂
C: Helium and CO₂
D: Argon and helium
50. How many types of flux cored wires are used in FCAW
A: 2 types B: 3 types C: 4 types D: 5 types
51. Which type of electrode provides protective slag in flux cored arc welding?
A: Tubular cored flux electrode
B: External cored electrode
C: Additional cored flux electrode
D: Shielding gas type only
52. What device is used to protect face from UV and Infra-red radiation during GMA Welding
A: Blue goggles B: Plain goggles C: White goggles D: Helmet with filtered colour glass
53. What protective equipment (PPE) is used to protect hand from burning injury?
A: Apron B: Goggles C: Protective shield D: Leather gloves
54. Which gas is generated during GMAW on using CO₂ as shielding gas?
A: Helium B: Carbon monoxide C: Argon D: Oxygen
55. What type of lens shade is to be fixed in helmet while doing MIG WELDING?
A: A # 09 B: A # 10 C: A # 11 D: A # 12
56. What is the lens shade fitted in a helmet as per the recommendation of welding code for setting of 150 Amps for MMAW?
A: A # 10 B: A # 11 C: A # 12 D: A # 13
57. Which type of apron is suitable to protect from heat and radiation during welding?
A: Silk apron B: Cotton apron C: Leather apron D: Asbestos apron
58. Which angle of pre-setting is to compensate distortion on horizontal single V butt joint metal thickness 10 mm and root gap 2mm?
A: 173° B: 178° C: 180° D: 183
59. How many types of basic welding positions in GMA welding?
A: 2 types B: 3 types C: 4 types D: 5 types
60. Which is the weld position of GMA welding if the weld is deposited underside of the job?
A: Vertical position B: Horizontal position C: Overhead position D: Down head position
61. What type of joints are made by the groove welds in GMA welding?
A: Butt weld B: T weld C: Corner weld D: Lap weld
62. Which shielding gas is used in MIG WELDING?
A: Argon B: Argon + 20% CO₂ C: Argon + 1% oxygen D: Argon + 10% hydrogen

63. How many types of metal transfer in GMAW/CO₂ welding process?
 A: One B: Two C: Three D: Four
64. What is the ability of metal to cut another metal?
 A: Creep B: Fatigue C: Hardness D: Strength
65. What is the temperature produced in GMAW?
 A: 2000° C B: 5000° F C: 2500° C D: 3000° F
66. Which polarity used in GMAW
 A: AC, B: DCEN, C: DCEP, D: PULSE
67. Why GMAW is called MIG/MAG?
 A: Atmosphere C: Welding gun
 B: Power source, D: A shielding gas used in both welding process
68. What is the source of heat to melt the work piece in a GMAW?
 A: By heat B: By high speed electrons C: By current D: By beam heat
69. Which welding process is done by an active gas?
 A: GTAW B: SMAW C: GMAW D: SAW.
70. What are the positions used in GMAW?
 A: Flat B: Vertical C: Overhead D: ALL of the above
71. Which types of welds are often used to assist assembly or to maintain edge alignment during welding?
 A: Root run B: Level weld C: Tack weld D: Stringer bead
72. What is the usual torch angle tilt on either side of vertical in GMAW?
 A: 10° - 20° B: 20° - 25° C: 25° - 30° D: 30° - 35°
73. What defects occur to a weld joint, if it is provided with insufficient heat input?
 A: Lack of fusion C: Lack of metal deposit
 B: Lack of penetration D: Uneven bead deposit
74. What is the solution if burn back occurs due to irregular wire feeding in GMAW process?
 A: Cut out kink wire C: Cut the kink wire and replace spool
 B: Replace of spool D: Adjusted to kinked wire again
75. Which metal surfacing method is ideal for thin layers that can flow to corner and edges of the job?
 A: TIG welding C: Oxy-acetylene welding
 B: MIG welding D: Submerged arc welding
76. Which type of core wire is suitable for welding carbon steel, alloy steel and stainless steel under FCAW?
 A: Flux cored electrode C: Used flux core and gas shielded
 B: Gas shield flux wire D: Flux is external and shielded
77. What are the distinct differences between GMAW and FCAW equipment?
 A: Nozzle and torch C: Machine and torch
 B: Construction of torch and feed rollers D: Feed rolls and gas cylinders
78. What is the name of metal transfer system in FCAW?
 A: Dip transfer C: Globular transfer
 B: Free flight transfer D: Pulse transfer
79. Why the argon and CO₂ mixture is used in FCAW?
 A: Smooth spray transfer, with minimum slag C: Smooth pulsed transfer
 B: Smooth globular transfer D: Smooth dip transfer
80. Why different type of pressure rollers is used in FCAW?
 A: Knurled rollers C: With pressure of tubular wire
 B: Without roller of travel wire D: Positive feeding without pressure on tubular wire
81. What type of hand tool is used to open a gas cylinder in welding practice?
 A: X key B: Allen key C: DE spanner D: Spindle key
82. Why the welder's cloth should be free from oil, grease etc., while welding?
 A: To protect the job B: To deflect the arc rays

TIG WELDING

1. For welding of a pipe, the tungsten inert gas welding is most suitable for
 - A: filler passes in the groove
 - B: cover passes near the surface
 - C: root pass welding \
 - D: tack welding for good fit up
2. The weld bead width in the case of tungsten inert gas welding is decided by the
 - A: welding current
 - B: electrode polarity
 - C: shielding gas
 - D: welding voltage
3. The main advantage in using thoriated tungsten electrode for tungsten inert gas welding process is
 - A: thorium helps in overhead position welding
 - B: thorium improves the emission of electrons when heated thus ensuring stable arc
 - C: thorium prevents tungsten inclusion defect during welding
 - D: thorium minimizes the shielding gas consumption
4. Why HPU is used in GTAW machine?
 - A: To ignite the arc without touching the base material
 - B: to help the welder to locate the stud accurately
 - C: to remove surface contaminants
 - D: to stabilize the arc
5. The cleaning of aluminium oxide during tungsten inert gas welding is
 - A: better with DC reverse polarity as the job surface is bombarded by ions
 - B: better with DC straight polarity as the job surface is bombarded by electrons
 - C: better with DC straight polarity as the job surface is bombarded by ions
 - D: better with AC current
6. The re ignition in the case of sinusoidal wave AC welding during tungsten inert gas welding is achieved by
 - A: the use of a high voltage high frequency power
 - B: the use of a material with low ionization potential as a filler metal
 - C: the use of a power source with constant voltage characteristics
 - D: the use of a flux on the job surface
7. The arc stability during AC welding of tungsten inert gas welding is
 - A: worse with square wave AC than with sinusoidal wave AC current
 - B: same with both square wave AC and sinusoidal wave AC
 - C: better with square wave AC than sinusoidal wave AC current
 - D: Arc stability is not an issue with AC current
8. The electrode which is used during tungsten inert gas welding is
 - A: throated tungsten electrode is used for DC and pure tungsten is used for AC
 - B: throated tungsten electrode is used for DC and zirconated electrode is used for AC
 - C: Pure tungsten is used for DC and throated tungsten electrode is used for AC
 - D: Pure tungsten electrode is used for DC and zirconated electrode is used for AC
9. The flow rate of shielding gas during tungsten inert gas welding is
 - A: more for helium than argon since helium is a heavy gas compared to argon
 - B: less for helium than argon since helium is a very light gas compared to argon

- C: less for helium than argon since helium is a heavy gas compared to argon
 D: more for helium than argon since helium is a very light gas compared to argon
10. When helium is used as a shielding gas in place of argon during tungsten inert gas welding, then
- A: the arc temperatures are equal for helium and argon gases
 B: the arc temperature does not depend on the type of shielding gas
 C: the arc temperatures are lower with helium than with argon
 D: the arc temperatures are higher with helium than with argon
11. Select the false statement on tungsten inert gas welding
- A: A higher flow rate of the shielding gas than optimum value, results in porosity
 B: Lack of fusion defect is encountered during welding of aluminium with DCEP polarity
 C: There is no chance for slag inclusion in TIG welding
 D: A higher current during root pass welding may lead to burn through defect
12. Which of the following welding process uses non-consumable electrode?
- A: Gas tungsten arc welding (TIG)
 B: Shielded metal arc welding
 C: CO₂ shielded welding
 D: Gas metal arc welding (MIG)
13. In Gas tungsten arc welding (TIG) the following polarity is used
- A: Direct current straight polarity (DCSP)
 B: Direct current reverse polarity (DCRP)
 C: Alternating Current high frequency (ACHF)
 D: All of the above
14. What is also referred as a GTAW?
- A: TIG welding
 B: MIG welding
 C: STUD welding
 D: GAS welding
15. What is the full form of GTAW?
- A: Groove tungsten arc welding
 B: Grip tungsten arc welding
 C: Gas tungsten arc welding
 D: Galvanized tungsten arc welding
16. What is the angle of electrode tip by setting DCEN for SS welding by TIG welding process?
- A: 50° c B: 40° c C: 45° c D: 60°c
17. What is the non-consumable electrode of high melting point used in TIG welding?
- A: Carbon electrode
 B: Copper electrode
 C: Tungsten electrode
 D: Aluminium electrode
18. Which welding process is effective for nickel and titanium?
- A: Arc welding B: TIG welding C: Gas welding D: MIG welding
19. Which is the welding process that maintains electric arc between non-consumable tungsten electrode and the base metal?
- A: SAW B: MMAW C: MIG D: TIG

20. What is the name of the defect in which the weld metal did not melt with base metal in TIG process?
 A: Porosity B: Lack of penetration C: Lack of fusion D: Under cut
21. What is the bore diameter of ceramic nozzle to avoid porosity while doing TIG, welding?
 A: Small sized B: Large sized C: Correct sized D: Too small sized
22. What type of metals joined in friction welding?
 A: Similar metal
 B: Dissimilar metal
 C: Non-metal group
 D: Any metal flat type
23. How to avoid fast burning of tungsten in TIG welding process?
 A: Long arc length
 B: By using DCEP
 C: By not using shielding gas
 D: By using contaminated base metal
24. Which gas is inactive or deficient is active chemical properties in TIG welding?
 A: Argon B: Oxygen C: Hydrogen D: Acetylene
25. How much temperature GTAW process can produce?
 A: 3000°C B: 3500°C C: 4000°C D: 4500°C
26. How current is supplied to the work piece from power source in TIG welding?
 A: Cable current B: By Torch C: By tube D: By electrode
27. How heat effected zone is covered and protected from atmospheric contaminations in GTAW?
 A: Argon gas B: Oxygen gas C: Fuel gas D: Active gas
28. What is the function of a little hydrogen added to argon for welding of stainless steel in GTAW process?
 A: Improves heat
 B: Improves heat transfer
 C: Improves good welding
 D: Improves metal property
29. What is the purpose of inert gas used in TIG welding?
 A: Contamination in the weld metal
 B: To protect the molten metal from the atmospheric contamination
 C: To stabilize the Arc
 D: To get more spatters
30. 30: How molten metal is shielded from the atmospheric contamination as a blanket in GTAW?
 A: By using inert gas
 B: By using fuel gas
 C: By using supportable gas
 D: By using fuel and supportable gas
31. How is the inert gas directed to flow over weld pool, in TIG welding?
 A: Through copper nozzle
 B: Through brass nozzle
 C: Through ceramic nozzle
 D: Through metal nozzle
32. What is the name of the part of TIG torch for holding tungsten electrode?

- A: Collet B: Adaptor C: Ceramic nozzle D: Electrode cap
33. Which electrode is used in TIG welding process?
 A: Zinc electrode B: Carbon electrode C: Tungsten D: Magnesium electrode
34. What is the device used to show the volume of the inert gas allowed to go to the welding torch in TIG welding?
 A: Flow meter B: CO2 regulator C: Pressure meter D: Argon regulator
35. Which gas is chemically inactive with any metals in hot or cold condition in TIG welding?
 A: Argon B: Oxygen C: Nitrogen D: Hydrogen
36. Which type of tungsten electrode is suitable for welding of SS by TIG process with DC?
 A: Pure tungsten electrode
 B: Cerium tungsten electrode
 C: Thoriated tungsten electrode
 D: Zirconium tungsten electrode
37. What is the purpose of H.F. unit in TIG welding?
 A: To produce the AC
 B: To change AC to DC
 C: To produce power supply
 D: To initiate the arc without touching the electrode on the base metal
38. What is the process of replacing the air in a pipe with argon gas that will not react with the root of the weld?
 A: Pouring B: Purging C: Pre filling D: Pool weld
39. Which electrode is used to produce arc in GTAW process?
 A: M.S electrode
 B: Cast iron electrode
 C: Tungsten electrode
 D: Stainless steel electrode
40. Which will not be present on the weld bead due to use of shielding gas in TIG welding process?
 A: Slag B: Overlap C: Under cut D: Penetration
41. Why argon gas is used in welding of stainless steel welding in TIG welding process?
 A: Inert gas protects the weld
 B: It helps in melting the electrode
 C: It prevents porosity
 D: It is cheap
42. Which welding machine is to be used for welding of aluminium by TIG welding process?
 A: AC welding machine
 B: DC welding machine
 C: AC DC transformer
 D: DC transformer
43. What is the defect caused by high current in TIG welding?
 A: Crack B: Porosity C: Under cut D: Lack of penetration
44. What is the defect while TIG welding if the current is too low?
 A: Crack B: Porosity C: Under cut D: Lack of fusion
45. What is right about DCRP electrode TIG welding?

- A: Improper tungsten size
 B: Improper shielding gas flow
 C: Improperly prepared tungsten
 D: Weld circuit polarity is incorrect
46. Which process can easily weld thin metal?
 A: MIG welding
 B: Tungsten inert gas welding
 C: Submerged arc welding
 D: Manual metal arc welding
47. What is the cause for poor weld bead colour in TIG welding process?
 A: Too much arc length
 B: Excessive heating in torch
 C: Tungsten melting into weld puddle
 D: Contaminated or improper filler metal
48. Which gas is used as inert gas in GTAW for increased speed?
 A: Oxygen B: Helium C: Acetylene D: Hydrogen

Answer

- | | | | | |
|-------|--------|--------|--------|--------|
| 1. C; | 11. B; | 21. C; | 31. C; | 41. A; |
| 2. A; | 12. A; | 22. B; | 32. A; | 42. A; |
| 3. B; | 13. A; | 23. B; | 33. C; | 43. C; |
| 4. A; | 14. A; | 24. C; | 34. A; | 44. D; |
| 5. D; | 15. C; | 25. A; | 35. A; | 45. D; |
| 6. A; | 16. D; | 26. A; | 36. C; | 46. B; |
| 7. D; | 17. C; | 27. A; | 37. D; | 47. D; |
| 8. B; | 18. B; | 28. B; | 38. B; | 48. D; |
| 9. D; | 19. D; | 29. B; | 39. C; | |
| 10. D | 20. C; | 30. A; | 40. A; | |

FRICION WELDING

1. Which welding process does not require the supply of external heat?
A: Seam welding B: Friction welding C: Flash butt welding D: Spot welding
2. What type of metal section can be welded by friction welding?
A: Pipe and round rods B: Flats and square roof C: Thin sheet D: Heavy sheet
3. What is principle of friction welding?
A: One member stationary and another rotating type B: Both members rotates C: Both members are heated D: One member is heated and another rotating
4. What is the source of heat in friction welding process?
A: Chemical heating B: Electrical heating C: Mechanical friction D: Thread heating
5. Which of the following properties of metal will not allow the application of friction welding?
A: Metals with high compressive strength B: Metals with low compressive strength C: Metals with high tensile strength D: Metals with low carbon content
6. Which type of material friction welding is more suitable, for joining?
A: Similar metal B: Dissimilar metals C: Non-metal group D: Any metal flat type
7. In friction welding process, materials are joined by _____ motion between materials?
a) Rectilinear b) rubbing) translator) Brownian
8. All metallic engineering materials which are _____ can be friction welded?
a) Soft b) weldable c) forgeable d) materials
9. Friction welding is _____ process?
A) Costly b) cost saving c) time consuming d) highly material selective
10. Friction welding produces quality joints, with a 100% in _____ weld?
a) Lap joint b) tee-joint c) butt joint d) edge joint
11. Which of the following is not true about friction welding?
a) Dissimilar metals cannot be joined b) This technique is relatively faster as compared to the other techniques c) This technique is suitable for any parts of shape or sized) Sheared surfaces can also be joined by the process
12. Which of the following holds true for friction welding?
a) Hazardous fumes are generated during the process
b) Argon is used as a shielding gas
c) It is a power consuming process
d) There are no solidification defects in the welded parts
13. In inertia friction welding _____ energy of welding machine is used?
a) Electrical b) potential c) rotational d) frictional

14. In inertia friction welding, one work piece is connected to _____?
a) Flywheel b) the pin tool c) rotor d) generator
15. In friction welding the metal at the interface when joining occurs is in _____
a) Elastic state
b) plastic state
c) liquid state
d) inter critical state
16. In which welding process ends of thick cylindrical section can be welded without any edge preparation
a) Friction welding
b) electron beam welding
c) electron slag welding
d) plasma welding

ANSWERS

- | | | |
|------|-------|-------|
| 1. B | 7. B | 13. C |
| 2. A | 8. C | 14. A |
| 3. A | 9. B | 15. B |
| 4. C | 10. C | 16. A |
| 5. B | 11. A | |
| 6. A | 12. D | |

THERMIT WELDING

1. In an iron thermit, how many moles of aluminium reacts with three moles of iron oxide to give nine moles of iron?
A: 6 B: 7 C: 8 D: 9
2. What is the temperature produced in a thermit reaction?
A: 2500°C B: 2700°C C: 3500°C D: 4000°C
3. Which type of welding is to be used to make joint of Railway tracks?
A: Thermit welding B: Pressure Thermit welding
C: Pressure Thermit welding D: Fusion Thermit welding
4. What is the temperature produced by chemical reaction in thermit welding?
A: 5000° C B: 5000° F C: 4000° C D: 4000° F
5. How thermit mixture ignite?
A: Petrol B: Diesel C: Fire stick D: By match of magnesium ribbon
6. In which welding method welding is done by using iron oxide powder?
A: THERMIT WELDING B: GTAW C: GMAW D: MMAW
7. What protective equipment (PPE) is used to protect hand from burning injury in thermit welding?
A: Apron B: Goggles C: Protective shield D: Leather gloves
8. Thermit, used in Thermit welding process is a mixture of.....?
A: Charcoal and Aluminium B: Aluminium and Iron oxide
C: Charcoal and Iron oxide D: Charcoal, Aluminium and Iron oxide
9. In which welding process, a mould is used?
A: GTAW B: GMAW C: PAW D: THERMIT WELDING
10. Thermit welding process is a.....?
A: Electric welding process B: Gas welding process
C: Resistance welding process D: Chemical reaction process
11. The advantage of Thermit welding is that
A: All parts of the weld section are molten at the same time
B: Weld cools almost uniformly
C: All of the above
D: Results in a minimum problem with internal residual stresses

ANSWER

- | | | | |
|------|------|------|-------|
| 1. C | 4. B | 7. D | 10. D |
| 2. B | 5. D | 8. B | 11. C |
| 3. A | 6. A | 9. D | |

SUBMERGED ARC WELDING

- 1) ____ is a type of pressurized welding method.
 - a) Friction welding
 - b) submerged Arc Welding,
 - c) Electro-slag welding,
 - d) resistance welding
- 2) In which of the welding process arc is hidden by a flux ?
 - a) Submerged Arc welding
 - b) TIG Welding
 - c) MIG Welding
 - d) Resistance welding
- 3) Which of the following welding process is not suitable for sheet metal ?
 - a) Submerged Arc welding
 - b) TIG Welding
 - c) Spot Welding
 - d) Gas welding
- 4) Which welding method starting of arc done by using steel wool or iron powder?
 - a) SAW
 - b) GTAW
 - c) GMAW
 - d) MMAW
- 5) Which welding process granulated flux is fed through hopper to the welding spot?
 - a) SAW
 - b) GTAW
 - c) GMAW
 - d) MMAW
- 6) What are the positions used in SAW ?
 - a) Flat
 - b) Vertical
 - c) Overhead
 - d) flat and horizontal
- 7) Which of the following is not automatic control in semi-automatic SAW ?
 - a) Arc length
 - b) Flux feeding
 - c) Electrode feed
 - d) speed of travel
- 8) ____ is not weldable by SAW ?
 - a) Copper
 - b) M.S
 - c) Stainless steel
 - d) Wrought iron
- 9) SAW is applicable for welding of metal thickness above ____ ?
 - a) 3 mm
 - b) 8mm
 - c) 5mm
 - d) 2 mm
- 10) Flux used in SAW are ____ ?
 - a) In paste form
 - b) in powder form
 - c) granulated fusible mineral
 - d) non of these
- 11) When SAW flux is in cool condition, it is ____ ?
 - a) Conductive
 - b) non-conductive
 - c) both conductive and non conductive
 - d) highly conductive
- 12) Which type of electrode is used in SAW ?
 - a) Bare copper coated
 - b) flux coated
 - c) both 'a' & 'b'
 - d) Non of these
- 13) SAW electrodes are available in ____ ?
 - a) Coil or reel form
 - b) 350mm
 - c) 450 mm
 - d) Non of these
- 14) In which welding process no spatter occurs during welding ?
 - a) SAW
 - b) MIG
 - c) GMAW
 - d) MMAW
- 15) In which welding process no smoke occurs during welding ?
 - a) SAW
 - b) MIG
 - c) GMAW
 - d) MMAW
- 16) In which welding process welding Arc is not visible ?
 - a) SAW
 - b) MIG
 - c) GMAW
 - d) MMAW
- 17) In which process a wire feeder is used to supply electrode ?
 - a) Gas Welding
 - b) MMAW
 - c) GTAW
 - d) SAW

- 18) Flux is supplied to the arc through _____ in SAW ?
a) Electrode b) hopper c) by the welder externally d) non of these
- 19) Positional welding cannot be done by _____ process ?
a) SMAW b)SAW c) GMAW d) GTAW
- 20) In which welding process ultraviolet rays are not affected to the welder ?
a) GMAW b) MMAW c) SAW d) GTAW

Answer Sheet

- | | | | |
|-------|--------|--------|--------|
| 1. d, | 6. d, | 11. b, | 16. a, |
| 2. a, | 7. d, | 12. a, | 17. d, |
| 3. b, | 8. a, | 13. a, | 18. b, |
| 4. a, | 9. b, | 14. a, | 19. b, |
| 5. a, | 10. c, | 15. a, | 20. c |

RESISTANCE WELDING

- 1) What material is used to make electrode in spot welding ?
 - a) Iron electrode b) copper alloy electrode c) silicon electrode d) cast iron electrode
- 2) Which resistance welding machine is provided with an electrode in wheel shape ?
 - a) Spot welding b) seam welding c) projection welding d) Flash butt welding
- 3) Which welding process effects weld joints under heavy pressure with current supply cut off ?
 - a) Flash butt welding b) fusion welding c) thermit welding d) Spot welding
- 4) Which resistance welding process produces a bulge at weld joint?
 - a) Flash butt b) Spot c) Seam d) Projection
- 5) What is the angle of "Off Set tip" electrode used in spot welding ?
 - a) 30° b) 40° c) 50° d) 60°
- 6) Which electrode is movable in spot welding?
 - a) Both move b) both unmovable c) upper electrode d) lower electrode
- 7) The example of plastic welding is _____?
 - a) Resistance welding b) Gas welding c) Arc Welding d) Thermit Welding without pressure
- 8) The principle of resistance welding is the _____ law of heating ?
 - a) Boyles b) Charles c) Joules d) All of them.
- 9) Which one is the resistance welding?
 - a) Spot welding b) Seam welding c) projection welding d) All of above
- 10) The spot welding cycle, the time during which force is maintained to the work after the last impulse of current ends is called as _____?
 - a) Off time b) Squeeze time c) weld time d) hold time
- 11) The time that the welding current is applied to the work in making a weld in single impulse welding is called as _____?
 - a) Hold time b) Weld Time c) Squeeze time d) Off time
- 12) Which welding process where a nugget is formed in the weld joint?
 - a) Arc Welding b) Seam Welding c) Spot Welding d) Percussion welding
- 13) In which of the following welding process heat and pressure is applied on the joint but no filler material or flux is added?
 - a) Arc welding b) Resistance Welding c) Gas Welding d) Thermit Welding
- 14) According to the joules law?
 - a) Electrodes of higher resistivity is used for lower resistive piece
 - b) Electrodes of higher resistivity is used for higher resistive piece
 - c) Electrodes of lower resistivity is used for lower resistive piece

- d) None of the mentioned
- 15) Which one of the following is the simplest type of resistance welding used in making lap welds?
- a) Resistance spot b) Resistance seam c) Projection d) Upset
- 16) The spot formed between the interface of work piece when strong current and pressure is applied is known as?
- a) Joint b) Nugget c) Core d) Tee
- 17) In which of the following welding disc electrodes are used instead of the cylindrical electrode?
- a) Resistance spot b) Resistance seam c) Projection welding d) Upset welding
- 18) In which of the following welding operation the pieces are joined together by butt joint?
- a) Resistance spot welding b) Resistance seam welding c) Projection d) Upset
- 19) In which of the following operation it is possible to weld more than one spot at a given time?
- a) Resistance spot b) Resistance seam c) Projection welding d) Upset welding
- 20) Which of the following is true about electrodes?
- a) Low electrical conductivity and low mechanical strength
b) Low electrical conductivity and High mechanical strength
c) High electrical conductivity and low mechanical strength
d) High electrical conductivity and High mechanical strength
- 21) The time required for electrodes to align and clamp the work piece together under them is known as?
- a) Hold time b) Off time c) Squeeze time d) Weld time
- 22) In which of the following operation embossing is required before welding?
- a) Resistance spot b) Resistance seam c) Projection d) Upset
- 23) Which of the following is true about resistance welding?
- a) Electrodes of higher resistivity is used for lower resistive piece
b) Electrodes of higher resistivity is used for Higher resistive piece
c) Electrodes of Lower resistivity is used for lower resistive piece
d) None of the mentioned
- 24) What is the cause of nugget in spot welding process?
- a) Sufficient current b) Incorrect setting electrode c) insufficient electrode dia d) insufficient heating of base metal
- 25) Which welding process spot welding is belonging?
- a) Gas welding b) Arc Welding c) Resistance Welding d) Tig Welding

Answer Sheet

- | | | | |
|-------|--------|--------|--------|
| 1) b, | 8)c , | 15) a, | 22) c, |
| 2) b, | 9) d, | 16) b, | 23) a, |
| 3) d, | 10)d , | 17) b, | 24) c |
| 4) c, | 11) b | 18) d, | 25) c. |
| 5) a, | 12)C | 19) c, | |
| 6) c, | 13) b, | 20) d | |
| 7) a, | 14) a, | 21) c, | |

PLASMA ARC WELDING AND CUTTING

1. What is the temperature in the weld area during plasma arc welding process ?
a) 15000° c to 20000° c b) 20000° c to 30000° c
c) 30000° c to 35000° c d) 35000° c to 40000° c
2. Which electrode is used in plasma arc Welding ?
a) cast iron b) mild steel c) Tungsten d) Stainless Steel
3. Which welding process is used to weld stainless steel wire mesh and surgical instruments?
a) Electrode beam welding b) Electro slag welding
c) micro plasma welding d) plasma welding
4. Which process is used to cut stainless steel metal ?
a) plasma arc cutting process b) Micro plasma cutting process
c) key hole plasma process d) plasma cutting
5. Which gas is suitable for welding stainless steel , nickel alloy by plasma arc welding ?
a) Argon b) Helium c) hydrogen d) Neon
6. Which gas is suitable for welding of carbon steel and titanium by plasma arc welding process ?
a) Helium b) co2 c) Argon d) Neon
7. which is the process to attain full penetration of weld in 10mm stainless steel ?
a) laser beam b) micro plasma c) Electron beam d) Key hole plasma
8. What is the current range in micro plasma arc welding process?
a) 0.05 to 25 Amps b) 0.05 to 20 Amps c) 0.05 to 15 Amps d) 0.05 to 10Amps
9. Which process cuts the stainless steel, carbon steel with the help of high jet velocity ?
a) Plasma arc process b) micro plasma cutting process
c) Key hole plasma process d) Non transferred plasma
10. When substantial heat is added to a gas , it will change from gas to _____
a) Coma b) vapour c) Plasma d) birefringence
11. _____ is a process of creation of free electrons and ions and among the gas atom.
a) Polarization b) ionization c) Bonding d) Exsolution
12. Plasma arc welding is a _____
a) Friction stir Welding b) fusion welding process
c) Electro slag Welding d) Linear friction Welding
13. How many types of arcs in plasma arc welding ?
a) 2 b) 4 c) 6 d) 8
14. It can be used to weld stainless steel and non ferrous metals above where oxy acetylene flame is failed
a) Non transferred arc b) Transferred arc
c) Electro slag arc d) Linear arc
15. Arc is established between the electrode and water cooled nozzle.
a) Non transferred arc b) transferred arc
c) electrode slag arc d) Linear arc

16. Power is supplied from _____ during plasma arc welding
 a) DC power source b) AC Motor c) Step down transformer d) none of them
17. What will be the maximum thickness of joint in plasma arc welding?
 a) 35 mm b) 25 mm c) 45 mm d) 60mm
18. Non – consumable electrodes are made of _____ .
 a) Carbon b) graphite
 c) Either carbon or graphite d) same material as the metal pieces to be welded
19. _____ Process uses heated gas to cut through metal.
 a) Plasma arc cutting b) fusion welding process
 c) electro slag welding d) Linear friction welding
20. Plasma arc cutter produces temperature up to _____ .
 a) 20,000°C b) 40,000° C c) 80,000° C d) 60,000° C
21. The most common way to make a V –groove in stainless steel is by :
 a) Oxy acetylene cutting b) Carbon arc cutting
 c) Plasma arc cutting d) Pneumatic cutting .
22. Paw – plasma Arc welding is similar to :
 a) SMAW b) GTAW c) FCAW d) SAW

Answer Sheet

- | | | | |
|-------|--------|--------|--------|
| 1) b, | 7) a, | 13) b, | 19) c, |
| 2) c, | 8) c , | 14) a, | 20) a, |
| 3) d, | 9) d, | 15) a, | 21) c, |
| 4) c, | 10)d, | 16) b, | 22) b, |
| 5) c, | 11) b, | 17) b, | |
| 6) c, | 12)b , | 18) a, | |

ELECTRO SLAG WELDING AND ELECTRO GAS WELDING

1. What is the plate thickness joined by electro slag welding ?
a)25mm b)10mm c)8mm d)5mm
2. The electro slag welding process is a _____ process ?
a)manual b)automatic c) semiautomatic d)none of these
3. What is the surface temperature of molten slag in Electro slag welding?
a)850° c b)1650°c c)2000°c d)3500°c
4. What is the inside temperature of molten slag in Electro slag welding?
a) 1650° c b)1930° c c)3500° d) 2800° c
5. The function of flux in electro slag welding is _____ .
a) reduce oxidation b) produce shielding gas c) increase the temperature. d) non of these
6. In which of the following welding process thick metals can be welded with less edge preparation?
a)gas welding b) arc welding c) electro slag welding d)co2 welding
7. In which of the following welding process low distortion will be caused after welding?
a)gas welding b) arc welding c) electro slag welding d)co2 welding
8. Which of the following welding process only used for heavy thickness of plates?
a) SMAW b) GMAW c) GTAW d)electro slag welding
9. Which type of power source is required for Electro slag welding?
a) AC b) DC c) both AC & DC d) Ac with high frequency unit
10. In electro slag welding the electrode guide tube is made of _____ .
a) copper b)brass c) beryllium copper d)stainless steel
11. One of the advantages of beryllium copper alloys used for electrode guide tube in Electrode guide tube in Electro slag welding is _____
a) It can with stand high pressure b) It is a good conductor
c) It cools suddenly d) none of these
12. Which gas is used in Electro gas welding?
a) Acetylene b) co2 c) both Oxygen & Acetylene d) Hydrogen
13. In which electro gas welding process no flux is used ?
a) flux cored arc welding process b) solid electrode process
c) both A & B d) none of these
14. Which gas is used for shielding purpose in solid electrode process of Electro gas welding ?
a)co2 b) Argon c) Helium d) Nitrogen
- 15.16. _____ Welding will be the most suitable for butt welding to 20 cms thick boiler drum mild steel plates.
a) Electrical resistance b) electros slag
c) Plasma torch d) submerged arc
16. Which welding process is used to join two thick plates in one single pass?
a) oxy-acetylene welding b) Gas tungsten arc welding

- c) Gas metal arc welding d) Electro slag welding
17. For under water welding which of the following process is not used ?
a) Electro slag welding b) shielded metal arc welding
c) gas tungsten arc welding d) Gas metal arc welding

Answer Sheet

- | | | |
|--------|---------|--------|
| 1) a, | 7) c , | 13) b, |
| 2) b, | 8) d, | 14) a, |
| 3) b, | 9) a , | 15) b, |
| 4) b, | 10) c , | 16) d, |
| 5) a , | 11) a , | 17) a, |
| 6) c, | 12) b, | |

LASER BEAM WELDING, ELECTRO BEAM WELDING & FLUX CORED ARC WELDING

1. Laser beam welding is a _____ joining process.
a) Fission b) fusion c) coherent d) plastic
2. How many types of laser arc there?
a) 1 b) 2 c) 3 d) 4
3. Which of the following laser is the most efficient ?
a) Co2 laser b) ruby laser c) both A& B d) none of these
4. The electrical energy stored in a capacitor bank is discharged in to a _____
a) focusing lens b) Flash lamp c) both A&B d) none of these
5. The types of laser depends upon the _____
a) Electrical energy b) flash lamp c) lasing source d) none of these
6. The release of laser beam is controlled by the _____
a) welder b) machine c) capacitor d) All of these
7. In EBW machine , just after the cathode there is/ are _____
a) Deflector coils b) a magnetic lens c) Bias grid d) none of these
8. The Electron is accelerated by _____
a) Cathode Cartridge b) Electromagnetic coils c) Both A& B d) Annular anode
9. From the following which is determines the modes of an Electron beam ?
a) Applied voltage b) operating pressure
c) position of Magnetic lens d) The nature of biasing
10. After the mode the electron beam pass through _____
a) Deflector coils b) Bias grid c) cathode cartridge d) A series of lens
11. The EBW process carried out in _____
a) outdoor b) workshop c) vacuum d) none of these
12. The size of vacuum chamber depends upon the _____
a) size of the focusing lens b) size of weldment c) Both A& B d) none of these
13. How many types of FCAW are there ?
a) 1 b) 2 c) 3 d) 4
14. FCAW is similar with welding process?
a) GTAW b) GMAW c) MMAW d) none of these
15. FCAW is stands for _____
a) Flux cored arc welding b) fusion cored arc welding
c) flux covered arc welding d) fusion covered arc welding
16. In FCAW large droplet produce at _____
a) higher current voltage b) lower current voltage
c) both A&B d) none of these
17. How many types of flux cored wire are there ?

- a) 1 b) 2 c)3 d) 4
18. In FCAW the deposition efficiency is _____
 a) Between 93% to 97% b)Between 50% to 60%
 c) Between 80%to 86% d) none of these
19. In FCAW which gas minimize the spatter ?
 a) co2 b) Argon &co2 mixture c) Argon d) none of these
20. In EBW the kinetic energy of Electron converts into which energy?
 a)Heat energy b)Thermal energy c)light energy d)Electric energy

Answer Sheet

- | | | | |
|------|-------|-------|-------|
| 1) b | 6) a | 11) c | 16) b |
| 2) c | 7) c | 12) b | 17) b |
| 3) a | 8) d | 13) b | 18) c |
| 4) b | 9) d | 14) b | 19) b |
| 5) c | 10) d | 15) a | 20) b |