

PAPER – I
WELDER, WELDER (GAW & GTAW), WELDER PIPE, WELDER STRUCTURAL,
WELDER (WELDING & INSPECTION), WELDER (FABRICATION & FITTING)
(THEORY & EMPLOYABILITY SKILLS)
SEMESTER – I

TIME: 3 HRS.**MARKS: 200**

Note: This paper contains two parts – Part A & Part B.

Attempt all the questions. All questions carry equal marks.

This paper carries negative marking. 25 % marks will be deducted for each wrong answer.

PART – A (THEORY)

(MARKS: 150)

Choose the correct answers:

1. The term used to indicate amount of current flowing in a circuit is called
(a) Volt (c) Ohm
(b) Ampere (d) Farad
2. Earth clamp is used in arc welding to
(a) Hold the electrode firmly during welding
(b) Connect the earthing cable to electrode
(c) Connect the earthing cable to workpiece
(d) Conduct the current from earthing cable to electrode
3. The welding machine, which is used to convert AC welding supply to DC welding supply is ...
(a) Motor generator set (c) Rectifier set
(b) Engine generator set (d) Welding transformer
4. What would be the most appropriate joint preparation of arc welding of 12 mm thick plates?
(a) Single 'V' joint (c) Single 'U' joint
(b) Double 'V' joint (d) Square butt joint
5. Small metal particles which are thrown out of the arc during welding along with the weld are called
(a) Porosity (c) Overlap
(b) Undercut (d) Spatter
6. Which type of flux covered electrode is used in fusion welding of cast iron?
(a) Basic type flux covered (c) Cellulose type flux covered
(b) Rutile type flux covered (d) Iron oxide type flux covered

7. By mixing oxygen and acetylene in different proportions different types of flames can be obtained. What type of flame will it be if these two gases are mixed in equal proportion?
- (a) Oxidizing flame (c) Reducing flame
(b) Carburizing flame (d) Neutral flame
8. A cylinder which contains acetylene will be painted
- (a) Black (c) Maroon
(b) Blue (d) Brown
9. Acetylene can be dissolved in
- (a) Water (c) Calcium hydroxide
(b) Acetone (d) Kerosene
10. The size and type of filler rod for gas welding 3 mm M.S. sheet is
- (a) Ø 3 mm M.S. rod (c) Ø 4 mm manganese steel
(b) Ø 3 mm copper coated mild steel rod (d) C.C.M.S. rod of Ø 5 mm
11. In coding of electrodes, radiographic quality electrodes is indicated by the letter
- (a) A (c) Y
(b) X (d) Z
12. Why is oxidising flame considered suitable for welding of brass and bronze?
- (a) Melting point of brass and bronze is high
(b) This type of flame helps retain colour of brass and bronze
(c) This type of flame avoids vaporisation of zinc
(d) This type of flame helps in increasing speed of welding
13. Welding nearer to the neutral axis of a T-fillet joint helps to reduce the effect of
- (a) Arc blow
(b) Longitudinal contraction
(c) Shrinkage forces in the joint
(d) High thermal expansion of base metal
14. Heat is measured in
- (a) Joules (c) Calories
(b) Kilogram (d) Both (a) and (c)

16. 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
17. What is the most common (maximum percentage) gas in the atmosphere?
- (a) Oxygen
 - (b) Carbon dioxide
 - (c) Nitrogen
 - (d) Methane
18. Welding is not done directly from the supply mains because
- (a) Its voltage keeps fluctuating
 - (b) It is impractical to draw heavy current
 - (c) It is customary to use welding machines
 - (d) None of the above
19. In arc welding, arc blow can be avoided by
- (a) Using AC welding machine
 - (b) Increasing arc length
 - (c) Using bare electrodes
 - (d) Welding away from earth ground connection
20. In electrode – positive welding, of the total heat is produced at the electrode.
- (a) Two – third
 - (b) One – fourth
 - (c) One – third
 - (d) One – half
21. Residual stresses caused due to welding can be decreased by
- (a) Allowing parts to move freely during welding
 - (b) Using “back step” sequence
 - (c) Post weld heat treatment
 - (d) Both (a) and (c)
22. Gas welding torch should be lighted only with
- (a) Matches
 - (b) Cigarette lighter
 - (c) Striker
 - (d) Welding arc
23. can be cut with oxy-acetylene cutting torch.
- (a) Stainless steel
 - (b) Carbon steel
 - (c) Aluminium
 - (d) Copper - nickel alloy

24. Which oxy-acetylene flame has an excess of flue gas?
(a) Oxidizing (c) Carburizing
(b) Neutral (d) None of these
25. An arc welding equipment should never be operated while
(a) Standing on wet floor
(b) In poorly lighted area
(c) Someone is standing nearby
(d) In a confined space with proper ventilation
26. What should never be used on gas cylinders, regulators and hoses?
(a) Wrenches (c) Leak detectors
(b) Teflon tapes (d) Oil
27. Which defect is caused by gas entrapment in arc welding process?
(a) Crack (c) Lack of fusion
(b) Porosity (d) Slag inclusion
28. 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 weldment
29. What is the storage medium used to store acetylene gas in the cylinder at high pressure?
(a) Water (c) Kerosene oil
(b) Acetone (d) Petroleum jelly
30. Which one of the following is a temporary joint?
(a) Welded joint (c) Soldered joint
(b) Riveted joint (d) Press fit joint
31. Heat – affected zone is that portion of the metal which
(a) Melts and becomes plastic (c) Melts but does not become plastic
(b) Neither melts nor becomes plastic (d) Does not melt but becomes plastic

32. Which one of the following gases is supporter of combustion?

- (a) Oxygen
- (b) Acetylene
- (c) Nitrogen
- (d) Carbon dioxide

33. The tips of blowpipes are made of

- (a) Copper
- (b) Brass
- (c) Mild steel
- (d) Bronze

34. Leftward gas welding technique is used for welding of mild steel plates upto a thickness of ...

- (a) 1.5 mm
- (b) 3.0 mm
- (c) 5.0 mm
- (d) 10.0 mm

35. is the ability of a metal to be pulled into wires.

- (a) Malleability
- (b) Conductivity
- (c) Lustre
- (d) Ductility

36. Which of the following is an alloy?

- (a) Lead
- (b) Tin
- (c) Brass
- (d) Aluminium

37. Which one of the following elements has the highest influence on the metallurgical weldability of steel?

- (a) Carbon
- (b) Manganese
- (c) Chromium
- (d) Silicon

38. Which of the following rays are not produced during arc welding?

- (a) Gamma rays
- (b) Visible light rays
- (c) Infrared rays
- (d) Ultraviolet rays

39. Double – V and double – U arc butt welded joints are used for plates of thickness

- (a) 1 – 5 mm
- (b) 5 – 10 mm
- (c) 10 – 15 mm
- (d) Over 15 mm

40. Which of the following is an example of plastic welding?
- (a) Gas welding
 - (b) Arc welding
 - (c) Forge welding
 - (d) Thermit welding
41. Is it OK to wear nylon clothing while doing welding?
- (a) No, because you will sweat too much
 - (b) No, because static electricity can build and cause shock
 - (c) No, because it can easily catch fire
 - (d) It is fine to wear nylon clothing
42. If you find a tool to be faulty and dangerous what should you do?
- (a) Put it back in the store
 - (b) Try using it one more time
 - (c) Take it out of service and report about it
 - (d) Do nothing
43. What treatment is recommended after welding stainless steel?
- (a) No treatment is required
 - (b) Quench in water to remove oxides
 - (c) Apply pickling paste
 - (d) Oil it to stop rust
44. What type of weld would you do to form a T shape between two pieces of flat bar?
- (a) Butt
 - (b) Fillet
 - (c) Edge
 - (d) Outside corner
45. Oxygen and acetylene cylinders must
- (a) Have the cap on when not in use
 - (b) Be secured in upright position both during storage and use
 - (c) Be protected from being bumped when the regulator is on
 - (d) All of the above
46. If the blowpipe is moved to and fro frequently while gas cutting, the kerf will
- (a) Be wide
 - (b) Be of correct size
 - (c) Be narrow
 - (d) Not affect
47. 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

48. For oxy-acetylene welding of aluminium, 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

49. Non-ferrous metals do not contain

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|----------|----------|
| (a) Tin | (c) Zinc |
| (b) Lead | (d) Iron |

50. If a substance breaks easily, it is said to be

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|----------------|-------------|
| (a) Magnetic | (c) Brittle |
| (b) Conductive | (d) Ductile |
