

GOVERNMENT OF MIZORAM
POWER & ELECTRICITY DEPARTMENT

COMBINED COMPETITIVE EXAMINATION FOR
RECRUITMENT TO DIFFERENT TECHNICAL POSTS
(AUGUST-2026)

PAPER-III
(WELDER)

Full Marks : 200
Time Allowed : 3 Hours

Signature of Invigilator _____

CODE :

(For official use)

SUBJECT	MARK CARRIED BY EACH QUESTION / TOPIC	NO. OF CORRECT ANSWERS	MARKS OBTAINED
Welder	2		
TOTAL			

Signature of Examiner : _____

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All questions carry 2 marks.

Put a tick (✓) mark against the correct answer in the space given in each question.

If a candidate gives more than one answer to one question, it will be treated as wrong answer even if one of the given answers happens to be correct.

WELDER - 200 MARKS

1. Which industry sector is the LARGEST consumer of welding technology worldwide?
 - (a) Aerospace ()
 - (b) **Automotive and construction** ()
 - (c) Food processing ()
 - (d) Textile manufacturing ()
2. Welding is preferred over other metal joining methods in heavy industries primarily because it:
 - (a) Is cheaper than all other methods ()
 - (b) Can only be done in a factory ()
 - (c) Requires no skilled labour ()
 - (d) **Produces joints as strong or stronger than the base metal** ()
3. Which of the following best describes the economic importance of welding in modern industry?
 - (a) It is used only for decorative purposes ()
 - (b) **It contributes to manufacturing of ships, pipelines, bridges, and pressure vessels**()
 - (c) It is limited to repair work only ()
 - (d) It adds unnecessary cost to fabrication ()
4. What is the PRIMARY purpose of a welding helmet with the correct shade lens?
 - (a) To improve the welder's appearance ()
 - (b) **To protect the eyes and face from arc radiation and sparks** ()
 - (c) To keep dust away from the face ()
 - (d) To reduce heat felt by the welder ()
5. When storing oxygen and acetylene cylinders, they must be:
 - (a) **Stored separately, chained upright, away from heat sources** ()
 - (b) Laid flat on the floor ()
 - (c) Stored together in the same area ()
 - (d) Kept in direct sunlight for easy identification ()
6. Which of the following is NOT a safe practice during shielded metal arc welding (SMAW)?
 - (a) Wearing dry leather gloves ()
 - (b) Working in a well-ventilated area ()
 - (c) **Welding on containers that held flammable materials** ()
 - (d) Using electrode holders with proper insulation ()

7. Welding is best defined as:
- (a) A process of joining metals using adhesives ()
 - (b) A process that joins materials by applying heat, pressure, or both, with or without filler material ()**
 - (c) A process of cutting metals into desired shapes ()
 - (d) A process of coating metals to prevent corrosion ()
8. Which type of welding produces a permanent joint by melting the base metal and usually a filler material?
- (a) Soldering ()
 - (b) Brazing ()
 - (c) Fusion welding ()**
 - (d) Mechanical fastening ()
9. The term 'base metal' in welding refers to:
- (a) The filler rod used to join metals ()
 - (b) The flux coating on the electrode ()
 - (c) The parent material that is being welded ()**
 - (d) The shielding gas used during welding ()
10. What is the function of a regulator in oxy-acetylene welding equipment?
- (a) To generate the welding flame ()
 - (b) To reduce and control the gas pressure from the cylinder to the working pressure ()**
 - (c) To mix oxygen and acetylene gases ()
 - (d) To filter impurities from the gas ()
11. In SMAW (Shielded Metal Arc Welding), the electrode holder is used to:
- (a) Shield the weld from atmosphere ()
 - (b) Measure the arc length ()
 - (c) Clean the weld bead after welding ()
 - (d) Hold and conduct current to the electrode ()**
12. TIG (Tungsten Inert Gas) welding is most suitable for welding:
- (a) Heavy structural steel sections ()
 - (b) Thin stainless steel, aluminium, and exotic alloys requiring high quality welds ()**
 - (c) Underground pipeline repairs ()
 - (d) Cast iron engine blocks only ()
13. MIG (Metal Inert Gas) welding is widely used in the automotive industry because it:
- (a) Requires no shielding gas ()
 - (b) Is slow and precise ()
 - (c) Offers high deposition rates and is easily automated ()**
 - (d) Uses a flux-coated electrode ()
14. What is the 'arc length' in arc welding?
- (a) The length of the electrode ()
 - (b) The distance between the tip of the electrode and the base metal surface ()**
 - (c) The distance the welder travels during welding ()
 - (d) The length of the completed weld bead ()

15. The term 'slag' in arc welding refers to:
- (a) The filler metal deposited in the joint ()
 - (b) The solidified flux** ()
 - (c) The shielding gas used to protect the weld ()
 - (d) The base metal being welded ()
16. Soldering differs from welding in that:
- (a) Soldering uses higher temperatures than welding ()
 - (b) The base metal is melted during soldering ()
 - (c) Soldering does not melt the base metal** ()
 - (d) Soldering produces stronger joints than welding ()
17. A T-joint is formed when:
- (a) Two plates are placed end to end ()
 - (b) One plate is placed at 90° to another plate**()
 - (c) Two plates overlap each other ()
 - (d) Two plates are placed at 45° angles ()
18. Which type of joint is most commonly used in the fabrication of pipes and pressure vessels?
- (a) Corner joint ()
 - (b) Edge joint ()
 - (c) Lap joint ()
 - (d) Butt joint** ()
19. For a single V-groove butt joint, the standard included angle of the groove is:
- (a) 30° ()
 - (b) 45° ()
 - (c) 60° to 70°** ()
 - (d) 90° ()
20. Which of the following surface contaminants can cause POROSITY in a weld?
- (a) Clean mill scale only ()
 - (b) Moisture, oil, grease, rust, and paint** ()
 - (c) Smooth ground surfaces ()
 - (d) Preheated surfaces ()
21. What is the unit of electrical resistance?
- (a) Ampere ()
 - (b) Volt ()
 - (c) Ohm** ()
 - (d) Watt ()
22. According to Ohm's Law, if voltage is 80V and resistance is 4Ω, what is the current?
- (a) 10 A ()
 - (b) 20 A** ()
 - (c) 40 A ()
 - (d) 320 A ()

23. In arc welding, the welding current primarily determines:
- (a) Arc voltage only ()
 - (b) Depth of penetration and heat input** ()
 - (c) Shielding gas flow rate ()
 - (d) Electrode coating type ()
24. Which electrical term describes the rate at which electrical energy is converted to heat or work?
- (a) Current ()
 - (b) Voltage ()
 - (c) Power (Watt)** ()
 - (d) Resistance ()
25. Pre-heating of the base metal before welding is done primarily to:
- (a) Prevent cracking and improve fusion** ()
 - (b) Increase arc length ()
 - (c) Decrease welding current requirement ()
 - (d) Eliminate the need for filler metal ()
26. An electric arc in welding is produced by:
- (a) Combustion of electrode material ()
 - (b) Flow of high current between electrode and base metal** ()
 - (c) Chemical reaction between flux and base metal ()
 - (d) High-frequency sound waves ()
27. What is 'arc blow' in DC arc welding?
- (a) Extinguishing the arc by blowing compressed air ()
 - (b) Deflection of the arc** ()
 - (c) Excessive spatter caused by high current ()
 - (d) Burn-through in thin base metal ()
28. Which gas produces the highest flame temperature when combined with oxygen?
- (a) LPG (Propane) ()
 - (b) Hydrogen ()
 - (c) Acetylene** ()
 - (d) Natural gas (Methane) ()
29. The approximate flame temperature of an oxy-acetylene flame is:
- (a) 1,500 °C ()
 - (b) 2,000 °C ()
 - (c) 3,100 °C – 3,300 °C** ()
 - (d) 5,000 °C ()
30. Which metal CANNOT be cut effectively by oxy-acetylene cutting?
- (a) Low carbon (mild) steel ()
 - (b) Stainless steel and aluminium** ()
 - (c) Medium carbon steel ()
 - (d) Cast iron (with powder injection) ()

31. Which type of welding machine converts AC supply into DC for welding purposes?
- (a) Transformer ()
 - (b) Rectifier** ()
 - (c) Inverter ()
 - (d) Generator ()
32. What is the primary maintenance requirement for inverter-type welding machines?
- (a) Regular oil changes ()
 - (b) Refilling coolant every week** ()
 - (c) Replacing electrodes daily ()
 - (d) Cleaning cooling fans and checking electrical connections periodically** ()
33. Which is an advantage of DC welding over AC welding?
- (a) Lower equipment cost ()
 - (b) Better arc stability** ()
 - (c) Higher efficiency with all electrode types ()
 - (d) No risk of arc blow ()
34. Which is a disadvantage of AC welding machines?
- (a) Higher equipment cost ()
 - (b) Risk of electric shock is lower ()
 - (c) Arc is unstable** ()
 - (d) Cannot be used for overhead welding ()
35. Which welding position is generally considered the easiest and most productive?
- (a) Vertical (3G) ()
 - (b) Overhead (4G) ()
 - (c) Flat (1G)** ()
 - (d) Horizontal (2G) ()
36. In welding symbols as per BIS/AWS, what does a symbol placed below the reference line indicate?
- (a) Weld on the far side ()
 - (b) Weld on the arrow side** ()
 - (c) Weld on both sides ()
 - (d) No weld required ()
37. What is the effect of using too long an arc length during welding?
- (a) Increased penetration and narrow bead ()
 - (b) Porosity, spatter, and poor fusion** ()
 - (c) Better shielding of the weld pool ()
 - (d) Reduced heat input ()
38. In DCEP (Direct Current Electrode Positive) welding, which gets more heat?
- (a) The electrode** ()
 - (b) The base metal ()
 - (c) Both equally ()
 - (d) The welding table ()

39. What is the visual characteristic of a good quality weld bead?
(a) Irregular width and height with heavy spatter ()
(b) **Uniform width, consistent ripple pattern, and smooth tie-in to base metal** ()
(c) Wide bead with visible porosity ()
(d) High crown with undercut along edges ()
40. What gas is produced when calcium carbide reacts with water?
(a) Oxygen ()
(b) Hydrogen ()
(c) **Acetylene** ()
(d) Carbon dioxide ()
41. What is the primary role of oxygen in oxy-fuel welding?
(a) To act as a shielding gas ()
(b) **To support combustion of fuel gas** ()
(c) To cool the weld pool ()
(d) To prevent oxidation of the weld ()
42. Why should oil or grease never be used on oxygen cylinder fittings?
(a) It damages the regulator threads ()
(b) **It can cause fire or explosion** ()
(c) It causes the gas to leak ()
(d) It reduces gas flow rate ()
43. At what maximum pressure is acetylene stored in dissolved acetylene cylinders?
(a) 150 bar ()
(b) 200 bar ()
(c) **15–19 bar** ()
(d) 50 bar ()
44. What colour is used to identify an LPG (liquefied petroleum gas) cylinder in India?
(a) Blue ()
(b) **Red** ()
(c) Yellow ()
(d) Green ()
45. What does the high-pressure gauge on a gas regulator indicate?
(a) The working pressure delivered to the torch ()
(b) **The remaining gas pressure inside the cylinder** ()
(c) The ambient temperature correction ()
(d) The flow rate of the gas ()
46. For thin sheet metal welding (under 3mm), which technique is preferred to prevent burn-through?
(a) Rightward technique ()
(b) Multi-layer rightward technique ()
(c) Deep penetration technique ()
(d) **Leftward technique** ()

47. In Rightward welding, what is the ideal angle of the filler rod to the plate surface?
- (a) $10^{\circ} - 20^{\circ}$ ()
 - (b) $30^{\circ} - 40^{\circ}$** ()
 - (c) $60^{\circ} - 70^{\circ}$ ()
 - (d) $80^{\circ} - 90^{\circ}$ ()
48. What is the fundamental cause of distortion in both arc and gas welding?
- (a) High voltage settings ()
 - (b) Non-uniform expansion and contraction** ()
 - (c) Using the incorrect type of filler metal ()
 - (d) Inadequate shielding gas flow ()
49. What is the "Skip Welding" technique used for?
- (a) Increasing welding speeds ()
 - (b) Minimizing heat distortion** ()
 - (c) Avoiding the use of filler metal ()
 - (d) Welding across gaps without a backing bar ()
50. What is the main cause of "Undercut" in arc welding?
- (a) Current set too low ()
 - (b) Welding speed too slow ()
 - (c) Excessive welding current or incorrect electrode angle** ()
 - (d) Moisture in the electrode coating ()
51. "Lack of Fusion" in arc welding can be best described as:
- (a) The weld metal cracking down the middle ()
 - (b) Failure of the weld metal to fuse completely with the base metal** ()
 - (c) The presence of gas cavities in the weld zone ()
 - (d) Excessively wide weld profiles ()
52. "Incomplete Penetration" occurs when:
- (a) The weld metal overflows the joint without bonding ()
 - (b) The weld metal does not reach the root or the full thickness of the joint** ()
 - (c) Small cracks develop on the surface of the weld bead ()
 - (d) The electrode freezes fast to the work piece ()
53. Which of the following is a direct remedy for "Incomplete Penetration"?
- (a) Decrease the root gap to zero ()
 - (b) Increase the welding speed significantly ()
 - (c) Root gap adjustment and use proper welding current** ()
 - (d) Use a thicker electrode with lower current ()
54. "Overlap" is an arc weld defect where:
- (a) The weld bead cracks longitudinally ()
 - (b) Face reinforcement is lower than the plate surface ()
 - (c) Weld metal spills over the base metal surface at the toe without fusing to it** ()
 - (d) Slag gets trapped in the root pass ()

55. What causes magnetic "Arc Blow" in DC arc welding?
- (a) High wind speed in the shop floor ()
 - (b) **Unbalanced or distorted magnetic fields around the arc path** ()
 - (c) Low voltage from the mains power supply ()
 - (d) Overheated ground clamps ()
56. What is the remedy to avoid a hollow "Crater" defect?
- (a) Stop the weld abruptly at high speed ()
 - (b) **Pause momentarily at the end of the weld run and reverse slightly to fill the crater before breaking the arc** ()
 - (c) Turn off the machine while the electrode is touching the plate ()
 - (d) Dip the electrode into cold water periodically ()
57. Which type of pipe joint is most commonly used for high-pressure, permanent critical piping systems like high-pressure steam lines?
- (a) Threaded joint ()
 - (b) Flanged joint ()
 - (c) **Butt-welded joint** ()
 - (d) Socket-welded joint ()
58. What is the primary disadvantage of using threaded joints in a piping system?
- (a) They cannot be disassembled. ()
 - (b) They require highly specialized welding equipment. ()
 - (c) **They are highly susceptible to leakage.** ()
 - (d) They significantly restrict the flow rate. ()
59. Socket weld joints are typically restricted to pipes of what size?
- (a) Large bore pipes only (above 12 inches) ()
 - (b) **Small bore pipes (usually 2 inches and below)** ()
 - (c) Schedule 160 pipes only ()
 - (d) Non-metallic pipes only ()
60. Why is a small gap (approx. 1.5 mm or 1/16 inch) left between the pipe end and the bottom of the socket in a socket weld joint before welding?
- (a) To allow for better gas shielding ()
 - (b) To prevent the welder from burning through the pipe ()
 - (c) **To allow for thermal expansion of the pipe** ()
 - (d) To trap slag inclusions ()
61. What is the primary purpose of a compression joint?
- (a) **To join pipes without heating or threading** ()
 - (b) To allow the pipe to bend up to 45 degrees ()
 - (c) To create a vacuum-sealed permanent weld ()
 - (d) To join high-pressure oil pipelines ()
62. In plumbing, a "spigot and socket" (bell and spigot) joint is most frequently used with which material?
- (a) Stainless steel ()
 - (b) Titanium ()
 - (c) **Cast iron or PVC** ()
 - (d) High-alloy carbon steel ()

63. In pipe welding, what does the "5G" position signify?
- (a) The pipe is vertical and fixed; the welding is performed horizontally. ()
 - (b) The pipe is horizontal and fixed.** ()
 - (c) The pipe is inclined at 45 degrees and fixed. ()
 - (d) The pipe is horizontal and rotated during welding. ()
64. Which welding position requires the welder to adapt to flat, vertical, and overhead welding in a single continuous pass?
- (a) 1G ()
 - (b) 2G ()
 - (c) 3G ()
 - (d) 5G** ()
65. The "6G" position is widely considered the ultimate test for pipe welders because:
- (a) The pipe rotates at high speeds. ()
 - (b) The weld must be done entirely overhead. ()
 - (c) The pipe is fixed at a 45-degree angle.** ()
 - (d) It uses no filler metal. ()
66. What defect occurs if the welding current is too high during the root pass of a V-groove pipe weld?
- (a) Lack of fusion ()
 - (b) Burn-through (excessive penetration)** ()
 - (c) Porosity ()
 - (d) High undercut on the face ()
67. A welder qualified in a 6G pipe welding test is typically certified to weld:
- (a) Pipes only in the 6G position ()
 - (b) Plates only in the flat position ()
 - (c) Both plates and pipes in all positions** ()
 - (d) Only structural sheet metal ()
68. Why is pipe welding generally considered more difficult than plate welding?
- (a) Pipe steel is chemically different from plate steel. ()
 - (b) Pipes cannot be preheated. ()
 - (c) The welding angle change is continuous.** ()
 - (d) Pipe welding can only be done using DC current. ()
69. Why would an engineer specify a "Y-joint" (Lateral) instead of a standard "T-joint" for splitting flow?
- (a) Y-joints are cheaper to manufacture. ()
 - (b) Y-joints reduce fluid turbulence and friction losses** ()
 - (c) Y-joints allow for higher structural loading. ()
 - (d) Y-joints do not require welding. ()
70. What type of fitting is used to merge two separate fluid streams into a single stream at a 45-degree angle?
- (a) Concentric Reducer ()
 - (b) Equal Tee ()
 - (c) Lateral / Y-joint** ()
 - (d) Return bend ()

71. What is the function of an "exhaust manifold" in an internal combustion engine?
- (a) To draw fresh air into the cylinders ()
 - (b) To spray fuel into the combustion chamber ()
 - (c) **To collect exhaust gases** ()
 - (d) To regulate oil pressure ()
72. Why are mild steel gas welding filler rods usually coated with a thin layer of copper?
- (a) To increase the melting point ()
 - (b) **To prevent oxidation and rusting during storage** ()
 - (c) To increase electrical conductivity ()
 - (d) To make the weld look shiny ()
73. Which of the following elements is added to silicon bronze filler rods to control the vaporization of zinc?
- (a) Lead ()
 - (b) Tin ()
 - (c) **Silicon** ()
 - (d) Aluminum ()
74. What type of gas welding filler rod is RG45?
- (a) High alloy steel ()
 - (b) Medium carbon steel ()
 - (c) **General-purpose low-carbon steel** ()
 - (d) Stainless steel ()
75. What is the primary function of a flux in gas welding?
- (a) **To remove surface oxides and prevent re-oxidation** ()
 - (b) To add alloy elements to the weld pool ()
 - (c) To increase the temperature of the flame ()
 - (d) To slow down the cooling rate of the weld metal ()
76. According to standard definitions, what is the temperature boundary that differentiates soldering from brazing?
- (a) 100°C ()
 - (b) 250°C ()
 - (c) **450°C** ()
 - (d) 1000°C ()
77. Silver brazing (often called "silver soldering" commercially) uses a filler metal primarily composed of:
- (a) Pure Silver and Gold ()
 - (b) **Silver, Copper, Zinc, and sometimes Cadmium** ()
 - (c) Silver and Lead ()
 - (d) Silver and Aluminum oxide ()
78. Which of the following can cause a "cold solder joint"?
- (a) Excessive flux application ()
 - (b) **Insufficient heat or movement of parts** ()
 - (c) Using lead-free solder ()
 - (d) Cleaning the parts too thoroughly ()

79. At what typical temperature range should low-hydrogen electrodes (E7018) be rebaked if they are exposed to ambient air?
- (a) 50°C to 80°C ()
 - (b) 100°C to 120°C ()
 - (c) **260°C to 427°C** ()
 - (d) 800°C to 1000°C ()
80. Under what atmospheric conditions is the rate of moisture pick-up by electrode coatings highest?
- (a) **Warm temperature and high relative humidity** ()
 - (b) Sub-zero freezing temperatures with dry air ()
 - (c) Low humidity desert air ()
 - (d) Inside a vacuum chamber ()
81. In the AWS alphanumeric classification system for SMAW electrodes (e.g., E6013), what does the letter 'E' stand for?
- (a) Electric arc ()
 - (b) **Electrode** ()
 - (c) Elongation index ()
 - (d) Extra low carbon ()
82. What do the first two digits (or three digits if 5-digit number) represent in an AWS steel electrode designation like E7018?
- (a) Minimum yield strength in MPa ()
 - (b) Percentage of carbon ()
 - (c) Chemical composition of core wire ()
 - (d) **Minimum tensile strength of the weld metal in ksi** ()
83. Powder cutting is a variation of oxy-fuel cutting used primarily for:
- (a) Thin sheet metal ()
 - (b) **Stainless steels and cast irons** ()
 - (c) Pure copper plates ()
 - (d) Plastics ()
84. Which welding process is most commonly preferred for manual high-quality welding of thin aluminum sheets?
- (a) SMAW (Shielded Metal Arc Welding) ()
 - (b) **GTAW (Gas Tungsten Arc Welding) / TIG** ()
 - (c) Submerged Arc Welding (SAW) ()
 - (d) Oxy-Acetylene Welding ()
85. What type of current and polarity is conventionally used for GTAW of aluminum to achieve oxide cleaning action?
- (a) DCEN (Direct Current Electrode Negative) ()
 - (b) DCEP (Direct Current Electrode Positive) ()
 - (c) **AC (Alternating Current)** ()
 - (d) Pulsed DCEN ()

86. ER4043 filler wire contains approximately 5% of which alloying element?
- (a) **Silicon** ()
 - (b) Magnesium ()
 - (c) Copper ()
 - (d) Zinc ()
87. What type of filler metal is most widely used for "cold welding" (low heat input) repairs of grey cast iron components to ensure machinability?
- (a) Low-hydrogen mild steel (E7018) ()
 - (b) **Nickel-Iron alloy** ()
 - (c) High-chromium stainless steel ()
 - (d) Aluminum-bronze ()
88. What does the term "Overwelding" mean in welding economics?
- (a) Welding past the regular shift hours ()
 - (b) **Depositing more weld metal than specified** ()
 - (c) Using too high of a current setting ()
 - (d) Putting a weld on both sides of a plate ()
89. Which personal protective equipment (PPE) is mandatory for the eyes when performing GMAW welding?
- (a) Clear safety glasses only ()
 - (b) Face shield without UV filter ()
 - (c) Tinted sunglasses ()
 - (d) **Auto-darkening or fixed-shade welding helmet (shade 10–14)**()
90. In GTAW (TIG) welding, exposure to the UV radiation from the arc can cause a painful eye condition known as:
- (a) Cataracts ()
 - (b) **Photokeratitis** ()
 - (c) Colour blindness ()
 - (d) Night blindness ()
91. Why is ventilation critically important when performing GMAW in an enclosed area?
- (a) To keep the shielding gas cylinder cool ()
 - (b) **To remove welding fumes** ()
 - (c) To reduce arc spatter ()
 - (d) To increase wire feed speed ()
92. In GTAW, the high-frequency (HF) arc starting unit presents which specific electrical hazard?
- (a) It reduces the OCV of the machine ()
 - (b) **It can cause serious electric shock** ()
 - (c) It overheats the tungsten electrode only ()
 - (d) It causes the gas regulator to freeze ()

93. What is the function of the contact tip inside a GMAW welding gun?
(a) It shields the arc from atmospheric contamination ()
(b) It controls the shielding gas flow direction ()
(c) **It transfers welding current to the wire electrode just before it enters the arc** ()
(d) It measures wire feed speed ()
94. MIG welding stands for:
(a) Metal Inert Groove welding ()
(b) **Metal Inert Gas welding** ()
(c) Manual Inert Gas welding ()
(d) Metal Internal Gas welding ()
95. When CO₂ is used as the shielding gas in GMAW, the process is commonly referred to as:
(a) TIG welding ()
(b) **MAG welding** ()
(c) SAW (Submerged Arc Welding) ()
(d) MIG welding exclusively ()
96. MAG welding stands for:
(a) Manual Arc Gas welding ()
(b) **Metal Active Gas welding** ()
(c) Metal Argon Gas welding ()
(d) Machine Arc Groove welding ()
97. Which is a major advantage of GMAW over SMAW (Stick welding)?
(a) No shielding gas equipment required ()
(b) **Higher productivity and efficiency** ()
(c) Suitable for outdoor windy conditions without any modification ()
(d) No electrical power source required ()
98. GMAW is widely used in the automotive industry primarily because:
(a) It only works on cast iron components ()
(b) **Due to its higher productivity and efficiency** ()
(c) It requires no shielding and works in all outdoor conditions ()
(d) It is the cheapest welding process to set up ()
99. A push-pull wire feed system is used mainly when welding with:
(a) Stainless steel wires in short torch lengths ()
(b) **Soft aluminium wire through long torch cable lengths** ()
(c) Flux cored wire on flat position only ()
(d) Large diameter (4 mm) solid steel wire ()
100. Which maintenance task is essential for consistent wire feeding performance in GMAW?
(a) **Regularly cleaning or replacing the liner and drive roll** ()
(b) Replacing the contact tip after every weld pass ()
(c) Refilling the wire feed motor with grease monthly ()
(d) Painting the wire feed unit to prevent rust ()