

Q1-1 为什么对焊接质量的要求正在增加？

Why is there an increasing need for weld quality?

- a. 安全 (Safety)
- b. 经济 (Economics)
- c. 减少保守设计 (Less conservative design)
- d. 政府法规 (Government regulations)
- e. 所有以上的 (All of the above)

Q1-2 哪个 AWS 标准描述了 CWI 认证程序？

What AWS document describes the rules for the CWI certification program?

- a. AWS 5.5
- b. AWS D1.1
- c. AWS QC-1
- d. AWS 5.1
- e. AWS 14.1

Q1-3 焊接质量的控制应该在焊接开始后进行？

- a. 对 (true)
- b. 错 (False)

Q1-4 AWS QC-1 包括哪三种焊接检验师认证？

What are the three welding inspector certifications covered in AWS QC-1?

- a. CAWI, CWI, BWI
- b. CWI, CAWI, SCWI
- c. SCWI, CWI, ACWI
- d. Level I, II and III
- e. 无上述任何一种 (None of the above)

Q1-5 从总的来讲，作为一个焊接检验师，最重要的素质是什么？

What is generally considered to be the most important quality of a welding inspector?

- a. 毕业于焊接职业培训 (Graduation from a welding vocational program)
- b. 工程师 (An engineering degree)
- c. 助工 (An associate degree)
- d. 专业的态度 (Professional attitude)
- e. 持有经认可的焊工资格证 (Hold a certified welder certificate)

Q1-6 对一个 CWI，视力要求是近视度在

The vision requirements for a CWI are near vision acuity on:

- a. 在 24 英寸内为 Jaeger J1 (Jaeger J1 at 24 inches)
- b. 在 24 英寸内为 Jaeger J12 (Jaeger 12 at 12 inches)
- c. 在 12 英寸内有或没有纠正镜时为 Jaeger J2 (Jaeger 12 at 12 inches, with or without corrective lenses)
- d. 检验员不能配戴眼镜 (The inspector cannot wear glasses)
- e. 20/20 视力 (20/20 vision)

Q1-7 首字母组合词 KASH 代表:

The acronym KASH stands for:

- a. 知识, 态度, 技能和习惯 (Knowledge, attitude, skills, and habits)
- b. 知识, 应用, 技能和习惯 (Knowledge, application, skills, and habits)
- c. 知识, 态度, 技能和忠诚 (Knowledge, attitude, skills, and honesty)
- d. 知识, 应用, 技能和忠诚 (Knowledge, application, skills, and honesty)
- e. 知识, 态度, 诚实和忠诚 (Knowledge, attitude, sincerity, and honesty)

Q1-8 焊接检验师应该对_____有一个基本的了解:

The welding inspector should have a basic understanding of:

- a. 焊接工艺 (Welding process)
- b. 无损实验方法 (Nondestructive testing methods)
- c. 以上 a 和 b (a and b above)
- d. 规范和标准 (Codes and standards)
- e. 所有以上 (All of the above)

Q1-9 用于描述为了进行检验而导致生产进度滞后的术语是

The term used to describe a delay in the production schedule to permit inspection is:

- a. 无损检验 (NDE)
- b. 停止点 (Hold point)
- c. 检验前 (Pre-inspection)
- d. 参考点 (Reference point)
- e. 电弧擦伤 (Arc strike)

Q1-10 检验报告的纠正应该_____来做:

Inspection report corrections should be made by:

- a. 重写整个报告 (Rewriting the entire report)
- b. 向焊接班长报告所做的纠正 (Reporting the correction to the welding foreman)
- c. 告诉焊工做了什么 (Telling the welder what was done)
- d. 忽略原始错误 (Ignoring the original error)
- e. 用单线划出错误, 改正错误, 注明改正的日期并签名。(Single-line out the error, correct the error, date, and initial)

Q1-11 道德规范的定义为: (A definition of ethics is:)

- a. 运用常识且诚实 (Using common sense and honesty)
- b. 守法 (living by the rules)
- c. 公平和公正 (Being fair and impartial)
- d. 以事实为依据作决定 (Basing decision on facts)
- e. 所有以上 (All of the above)

Q1-12 有效的交流应该形成一个“连续的循环”。

For communications to be effective, it should form a “continuous loop”.

- a. 是 (True)
- b. 否 (False)

Q 1-13 焊接检验师应该经常与----交流

The welding inspector must often communicate with:

- a. 焊工 (Welders)
- b. 工长 (Supervisors)
- c. 焊接工程师 (Welding engineers)
- d. 管理人员 (Members of management)
- e. 所有以上 (All of the above)

Q 1-14 应根据哪个文件对无损探伤人员 (非焊接检验师) 进行资质认证:

NDE personnel (other than CWI's) should be certified to what document?

- a. QC-1
- b. D1.1
- c. API 1104
- d. ASNT SNT-TC-1A
- e. 无需证书 (Certification is not needed)

Q 1-15 要成为一名焊接检验师, 您必须有高中毕业文凭:

You must have a high school diploma to become a CWI

- a. 是 (True)
- b. 不是 (False)

Q 1-16 焊接检验师的考试分几部分; 分别为:

The CWI exam has several parts; these are:

- a. 基础, 实践, 规范 (Fundamentals, practical, code)
- b. 基础, 基本, 规范 (Fundamentals, basic, code)
- c. 基本, 视力测试, 实践 (Basic, vision test, fundamental)
- d. 规范, 视力测试, 实践 (Code, vision test, practical)
- e. 以上都不是 (None of the above)

Q 1-17 焊接检验师的考试要求用 D1.1 规范来进行开卷的规范考试。

The CWI exam requires that the D1.1 Code be used for the open book Code test.

- a. 是 (True)
- b. 不是 (False)

Q 1-18 焊接检验师考试包括三个部分, 每部分二个小时

The CWI exam contains three parts, each two hours long.

- a. 是 (True)
- b. 不是 (False)

Q 1-19 AWS 标准 A3.0 的标题是:

The title of the AWS Standard, A3.0 is:

- a. 填充金属规范 (Filler Metal Specifications)
- b. 标准焊接术语和定义 (Standard Welding Terms and Definitions)
- c. CWI 认证指南 (Guide to CWI Certification)
- d. 以上都不是 (None of the above)

Q 1-20 API 1104 标准包括了横跨全国的桥梁的制造:

API Standard 1104 covers the fabrication of cross-country bridges.

- a. 是 (True)
- b. 不是 (False)

Q 1-21 被批准用于 CWI 开卷考试部分的规范/标准有: D1.1, API1104, AWS D1.5 和 AWS D15.1.

Some of the approved codes/standards for the open book portion of the CWI exam are AWS D1.1, API 1104, AWS D1.5 and AWS D15.1

- a. 是 (True)
- b. 不是 (False)

Q 1-22 在开始安排一项工作前, 一个焊接检验师应决定:

Prior to starting a job assignment, the welding inspector should determine:

- a. 所要用的规范, 标准或技术要求 (What code, standard or specification)
- b. 应该做哪些检验 (What inspections should be conducted)
- c. 什么时候做 (When inspections should be conducted)
- d. 记录应保存在哪里 (Where records are maintained)
- e. 所有以上 (All of the above)

Q 2-1 焊接检验师会暴露在下述哪一个危险中:

The welding inspector is exposed to which of the following safety hazards:

- a. 辐射 (Radiation)
- b. 落下的物体 (Falling objects)
- c. 电击 (Electrical shock)
- d. 眼睛伤害 (Eye hazards)
- e. 所有以上 (All of the above)

Q 2-2 有关焊接和切割安全的文件在下述哪一个规范中:

A document which covers safety in welding and cutting is:

- a. AWS D1.1
- b. API 1104
- c. ANSI/ASC Z49.1
- d. ASME Section VIII
- e. ASME B31.3

Q 2-3 一个有效的安全和健康程序中最重要的是:

The most important component of an effective safety and health program is:

- a. 安全规则 (Safety rules)
- b. 安全规程 (Safety procedures)
- c. 保护设施 (Protective equipment)
- d. 焊接面罩 (Welding helmet)
- e. 管理支持 (Management support)

Q 2-4 在下述哪个标准的条款中, 对安全培训的要求是强制性的:

Safety training is mandated under provisions of:

- a. AWS “安全实践” (AWS “Safe Practices”)
- b. OSHA
- c. ASME 规范 (ASME Code)
- d. 焊接手册第二册 (Welding Handbook, Volume 2)
- e. 无以上任一个 (None of the above)

Q 2-5 缩写词 “MSDS” 是什么意思: (The abbreviation ‘MSDS’ means:)

- a. 管理支持和日常安全 (Management Support and Daily Safety)
- b. 材料强度及不连续的钢板 (Material Strength and Discontinuity Sheet)
- c. 材料安全数据表 (Material Safety Data Sheet)
- d. 材料强度及数据表 (Material Strength and Data Sheet)
- e. 以上都不是 (None of the above)

Q 2-6 缩写词“TLV”的意思 (The abbreviation “TLV” means:)

- a 总线性量 (Total Linear Volume)
- b 临界限制值 (Threshold Limit Value)
- c 附加长度值 (Tack Length Value)
- d 临界限定阀 (Threshold Limiting Valve)
- e 无以上任一个 (None of the above)

Q 2-7 雇主必须使所有雇员都能得到适用的 MSDS 数据:

Employers must make all applicable MSDS data available to their employees.

- a 是 (True)
- b 不是 (False)

Q 2-8 必须对员工进行培训以使其能够识别安全隐患:

Personnel must be trained to recognize safety hazards

- a. 是 (True)
- b. 不是 (False)

Q 2-9 下列哪个工序要求有热加工许可证 (A ‘Hot Work Permit’ is required for:)

- a. 所有焊接操作 (All welding operations)
- b. 所有切割操作 (All cutting operation)
- c. 所有预热操作 (All preheating operation)
- d. 在焊接, 切割或预热过程中可能会出现火灾的区域 (Areas where a fire hazard may occur during a welding, cutting, or preheating operation)
- e. 以上都是 (All of the above)

Q 2-10 在焊接操作中对眼睛有害的因素包括:

(Eye hazards found in welding operations include)

- a. 飞溅颗粒 (Flying particles)
- b. 辐射 (Radiation)
- c. 烟雾 (Smoke and fumes)
- d 以上都是 (All of the above)

Q 2-11 不适合防止眼睛受到焊接辐射伤害的保护设施包括:

(Protective equipment not suitable for eye protection from welding radiation includes)

- a 带有滤光板的焊接面罩 (Welding helmets with filter plates)
- b 清晰明亮的安全护目镜 (Clear safety goggles)
- c 带有滤光板的安全护目镜 (Safety goggles with filter plates)
- d 防护屏 (Protective screens)
- e 适当分布的屏障 (Properly positioned barricades)

Q 2-12 适合于焊接和切割操作的衣料是:

Suitable clothing materials for welding and cutting are

- a. 65%棉, 35%聚酯 (65% cotton, 35% polyester)
- b. 毛 (Wool)
- c. 化学处理后的棉 (Chemically treated cotton)
- d. 上述的 b&c (b and c above)
- e. 以上都不是 (None of the above)

Q 2-13 在一台去掉机械防护罩的设备上开始工作前, 应该完成一个“停机, 标识和试用”的程序:

Before working on equipment where machinery guards have been removed, a 'Lock, Tag, and Try' procedure should be completed.

- a. 是 (True)
- b. 不是 (False)

Q 2-14 在焊接期间, 为了避免烟雾, 最重要的因素是:

In avoiding fumes during welding, the most important factor is

- a. 母板的形式 (The type of base metal)
- b. 填充金属的形式 (The type of filler metal)
- c. 焊接工艺的形式 (The type of welding process)
- d. 焊机的位置 (The position of the welding machine)
- e. 焊工的头部位位置 (The position of the welder's head)

Q 2-15 在焊接和切割操作中考虑通风并不重要

(It is not important to consider ventilation during welding and cutting operations.)

- a. 是 (True)
- b. 不是 (False)

Q 2-16 进入一个狭窄的工作空间时不需要“后备”人员

(When entering confined spaces, a 'standby' is not required.)

- a. 是 (True)
- b. 不是 (False)

Q 2-17 可能会使焊工中毒的材料有: (Some of the toxic materials the welder may be exposed to are)

- a. 镉 (Cadmium)
- b. 铬 (Chromium)
- c. 镍 (Nickel)
- d. 铅 (Lead)
- e. 以上都是 (All of the above)

Q 2-18 压缩气体钢瓶的正确使用及其处置包括:

Proper usage and handling of compressed gas cylinders include

- a. 不在钢瓶上施焊 (Not welding on cylinders)
- b. 不要把钢瓶用于接地或在电路中使用 (not including the cylinders in the ground or electrical circuit)
- c. 正确地固定气瓶 (Securing them properly)
- d. 在使用前对气体进行标识 (Identifying the gas prior to use)
- e. 以上都是 (All of the above)

Q 2-19 在什么压力值上乙炔会不稳定: (Acetylene becomes unstable above what pressure?)

- a. 5psi
- b. 10psi
- c. 15psi
- d. 以上都不是 (None of the above)

Q 2-20 氧气是一种易燃气体 (Oxygen is a flammable gas)

- a. 是 (True)
- b. 不是 (False)

Q 2-21 大约 6 毫安以上的电流被认为是:

(Electric currents above approximately 6 milliamperes are considered)

- a. 无危害的 (Not harmful)
- b. 主要电流 (Primary currents)
- c. 有害的 (Harmful)
- d. 次要电流 (Secondary currents)
- e. 以上的 b 和 c (b and c above)

Q 2-22 当操作气体钢瓶时, 主要阀门应该是开启的:

When operating gas cylinders, the primary valve should be opened

- a. 乙炔瓶是全开的 (all the way on an acetylene cylinder)
- b. 氧气瓶打开一圈 (One turn on an oxygen cylinder)
- c. 乙炔瓶转一圈或不到 (One turn or less on an acetylene cylinder)
- d. 氧气瓶的辅助阀门全开 (All the way on an oxygen cylinder to backseat the valve)
- e. c 和 d (c and d above)

Q 3-1 一根 SMAW 焊条的药剂涂层的功能是什么:

Which of the following is a function of the flux coating of a SMAW electrode?

- a. 隔离 (Insulating)
- b. 合金 (Alloying)
- c. 脱氧 (Deoxidation)
- d. 屏蔽 (Shielding)
- e. 以上都是 (All of the above)

Q 3-2 在采用 AWS 系统对 SMAW 的焊条进行标识时, 倒数第二个数字代表什么:

In the AWS system of SMAW electrode designations, the next to the last digit refers to

- a. 冲击强度 (Impact strength)
- b. 焊条涂层 (Electrode coating)
- c. 焊接位置 (Welding position)
- d. 强度 (Strength)
- e. 以上都不是 (None of the above)

Q 3-3 下列哪些对 SMAW 焊条 E7024 的叙述是不正确的?

Which of the following is an incorrect statement about a SMAW electrode designated as E7024

- a. 这是一种低氢型的 (It is a low hydrogen type)
- b. 焊缝熔敷金属的最小的拉伸强度为 70,000psi. (The weld deposit has a minimum tensile strength of 70,000psi.)
- c. 仅适用于平面及水平角焊位置 (It is suitable for use in the flat and horizontal fillet positions only.)
- d. 用于碳钢焊接的焊条 (It is an electrode for welding carbon steel)
- e. 以上都不是 (None of the above)

Q 3-4 下列哪一项是典型的 SMAW 系统中不必要部分?

Of the following which is not an essential part of a typical SMAW system

- a. 恒流电源 (Constant current power supply)
- b. 送丝机 (Wire feeder)
- c. 带药皮的焊条 (Covered electrode)
- d. 焊条导线 (Electrode lead)
- e. 工件导线 (work lead)

Q 3-5 下列哪些焊接问题是由于扭曲磁场引起焊弧偏移造成的:

Which of the following welding problems is the result of a distorted magnetic field that deflects the welding arc?

- a. 裂纹 (Cracks)
- b. 短路 (short circuiting)
- c. 电弧偏吹 (Arc blow)
- d. 焊接电流不足 (Insufficient welding current)
- e. 以上都是 (All of the above)

Q 3-6 下列哪种情况不属于 GMAW 中的金属过渡方式

Which of the following is not considered a type of metal transfer for GMAW?

- a. 短路 (Short circuiting)
- b. 射流 (Spray)
- c. 熔滴 (Globular)
- d. 小滴状 (Droplet)
- e. 脉冲弧 (Pulsed arc)

Q 3-7 在 GMAW 中, 下列哪种情况的金属过渡方式将提供最低的热量到工件, 并且造成未熔合倾向?

Which of the following types of metal transfer in GMAW provides the lowest amount of heat to the workpiece, and therefore is prone to incomplete fusion?

- a. 短路 (Short circuiting)
- b. 射流 (Spray)
- c. 熔滴 (Globular)
- d. 小滴状 (Droplet)
- e. 脉冲弧 (Pulsed arc)

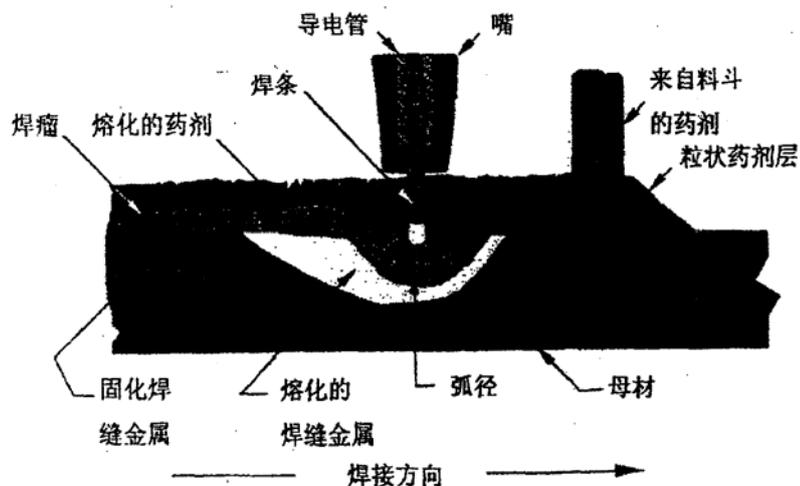
Q 3-8 下列哪种气体可以用于 GMAW 保护气体?

Which of the following gases can be used as shielding gases for GMAW?

- a. 二氧化碳 (Carbon dioxide)
- b. 氩-氧 (Argon-oxygen)
- c. 氩-二氧化碳 (Argon-carbon dioxide)
- d. 氩气 (Argon)
- e. 以上都是 (All of the above)

Q 3-9 下图所示的是哪种焊接工艺? (What type of welding process is pictured below?)

- a. SMAW
- b. GMAW
- c. FCAW
- d. SAW
- e. ESW



- c. 2% 涂钍钨 (2% thoriated tungsten)
- d. 锆化钨 (Zirconiated tungsten)
- e. 无以上任何一个 (None of the above)

Q 3-16 当用 GTAW 工艺焊接铝时，哪种焊接电流是最通常使用的？

When welding aluminum with the GTAW process, what type of welding current is most commonly used?

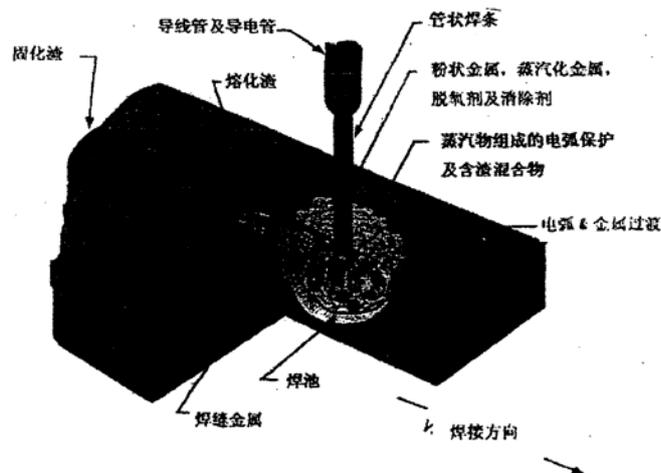
- a. DECP
- b. DECN
- c. AC
- d. a 和 b
- e. b 和 c

Q 3-17 SAW 和 ESW 在哪个方面相似？ (SAW and ESW processes are similar in that)

- a. 二者都是电弧焊工艺 (Both are an arc welding process)
- b. 二者都用保护气体 (Both use shielding gases)
- c. 都要熔化颗粒药剂 (Both use a granular flux, which becomes molten)
- d. a 和 b
- e. a 和 c

Q 3-18 下图描述了什么焊接工艺？ (The diagram below depicts what welding process)

- a. SMAW
- b. ESW
- c. FCAW
- d. SAW
- e. GMAW



Q 3-19 由于不适当的焊道宽深比所形成的固化开裂是由于哪一种焊接工艺引起的严重问题？
Solidification cracking due to improper width-to-depth ratio of the weld bead is a serious problem primarily with which welding process?

- a. SMAW
- b. OFC
- c. SAW
- d. 以上都是 (All of the above)

Q 3-15 在钨焊条上的绿色条纹指的是： (A green stripe on a tungsten electrode designates:)

- a. 纯钨 (Pure Tungsten)
- b. 1% 涂钍钨 (1% thoriated tungsten)

e. 无以上任何一个 (None of the above)

Q 3-20 除非使用特殊的装置, 否则下列哪个焊接工艺通常只能用于平焊位置?

Which one of the following processes is typically used in the flat position unless special apparatus is employed?

- a. GMAW
- b. SAW
- c. FCAW
- d. SMAW
- e. GTAW

Q 3-21 下述的哪种情况不属于 GTAW 和 PAW 工艺的共同点?

Which of the following are not common to both GTAW and PAW

- a. 非熔化的钨极 (Nonconsumable tungsten electrode)
- b. 压缩喷嘴 (Constricting orifice)
- c. 气保护喷嘴 (Shielding gas nozzle)
- d. 从外部填充金属 (Externally applied filler metal)
- e. 以上都不是 (None of the above)

Q 3-22 在使用 PAW 时使用什么技术可以得到全焊透的焊缝, 而无需端部准备?

What technique is employed with PAW to produce full penetration welds without edge preparation?

- a. 直焊道 (Stringer beads)
- b. 摆动焊道 (Weave beads)
- c. 小孔技术 (Keyhole)
- d. 分段退焊道 (Backstep)
- e. 以上都不是 (None of the above)

Q 3-23 下列哪种焊接工艺可以向上焊并单道成形。

What welding process produces welds in a single pass, with the progression uphill along the joint?

- a. SAW
- b. ESW
- c. FCAW
- d. a 和 b
- e. b 和 c

Q 3-24 下列哪一种情况不是 ESW 工艺的优点。

Which of the following is not an advantage of the ESW process?

- a. 高熔敷率 (High deposition rate)
- b. 容易调整 (Ease of setup)
- c. 能够连接厚的部分 (Capable of joining thick sections)
- d. 无角变形的趋向 (No tendency for angular distortion)
- e. 以上都不是 (None of the above)

Q 3-25 哪一种焊接工艺可以认为是化学焊接工艺?

Which welding process is considered to be a chemical welding process?

- a. SMAW
- b. ESW
- c. SAW
- d. OAW
- e. 以上都不是 (None of the above)

Q 3-26 下列哪一种焊接工艺可以提供一个非常有效的将附件连接到某个平表面上的方法?

Which of the following welding process provides a very efficient means of joining attachments to some planar surfaces?

- a. OAW
- b. SW
- c. GMAW
- d. GTAW
- e. SMAW

Q 3-27 钎焊不同于焊接的是: (Brazing differs from welding in that)

- a. 不用填充金属 (No filler metal is used)
- b. 使用含氧燃料火焰 (An oxyfuel flame is used)
- c. 底板没有熔化 (The base metal is not melted)
- d. 以上都是 (All of the above)
- e. 以上都不是 (None of the above)

Q 3-28 为了达到一个满意的结果, 钎焊的接头应是:

For satisfactory results, a braze joint should have

- a. 干净的连接表面 (Clean joint surfaces)
- b. 二个连接件之间小间隙 (A small clearance between pieces to be joined)
- c. 连接区域是大表面积 (A large surface area for the joint area)
- d. 热源 (Heat source)
- e. 以上都是 (All of the above)

Q 3-29 下列哪一个是钎焊的优点 (Which of the following is an advantage of brazing?)

- a. 连接厚部分较容易 (Ease of joining thick sections)
- b. 能够连接不相似的金属 (Ability to join dissimilar metals)
- c. 能够连接薄部分 (Ability to join thin sections)
- d. a 和 b
- e. b 和 c

Q 3-30 下列哪一种金属不能被氧燃气有效的切割

Of the following metals, which cannot be efficiently cut using OFC?

- a. 高碳钢 (High-carbon steel)
- b. 低碳钢 (Low-carbon steel)

- c. 中碳钢 (Medium-carbon steel)
- d. 奥氏体不锈钢 (Austenitic stainless steel)
- e. 以上都不是 (None of the above)

Q 3-31 下列哪些气体可以用于氧燃气切割?

Which of the following gases can be used to perform OFC?

- a. 丙炔-丙二烯 (Methylacetylene-propadiene MPS)
- b. 丙烷 (Propane)
- c. 乙炔 (Acetylene)
- d. 甲烷 (Methane)
- e. 以上都是 (All of the above)

Q 3-32 下列哪种切割工艺可以切割任何金属?

Which of the following cutting processes can cut any metal?

- a. 氧燃气 (OFC)
- b. CAC-C
- c. PAC
- d. a 和 b
- e. b 和 c

Q 3-33 切割的宽度称为: (The width of a cut is referred to as the)

- a. 缝 (Gap)
- b. 渣滓 (Dross)
- c. 切口 (Kerf)
- d. 拖 (Drag)
- e. 以上都不是 (None of the above)

Q 3-34 SMAW 的电源可以是: (The SMAW power source can be:)

- a. DCEN
- b. AC
- c. DCEP
- d. 以上都是 (All of above)
- e. a 和 b (a and b)

Q 3-35 下列哪一种是非接触焊接工艺, 不需要焊条并不受电磁场的干扰?

Of the following, which is a noncontact welding process, requires no electrodes, and is not influenced by the presence of magnetic fields?

- a. ESW
- b. PAW
- c. LBW
- d. a 和 b
- e. 以上都不是 (None of above)

- Q 3-36 下列哪一种焊接方法是使用电子聚焦束作为熔合焊的热源?
Which of the following uses a focused beam of electrons as a heat source for fusion welding?
- EBW
 - ESW
 - EGW
 - a 和 b
 - 以上都不是 (None of above)
- Q 3-10 下列哪些不是电弧焊工艺? (Which of the following is not considered an arc welding process?)
- SMAW
 - GMAW
 - FCAW
 - ESW
 - 以上都不是 (None of the above)
- Q 3-11 在对 FCAW 焊条命名系统中, 焊条标注 (E71T-5) 中的第 2 位数字 (1) 表示:
In the electrode designation system for FCAW, the second digit (1) in an electrode marked (E71T-5) refers to:
- 强度 (Strength)
 - 焊接位置 (Welding position)
 - 化学万分 (Chemical composition)
 - 可用性 (Usability)
 - 以上都不是 (None of the above)
- Q 3-12 下列哪些不总是 FCAW 系统的一个基本元素?
Which of the following is not always an essential element of an FCAW system?
- 恒压供电 (Constant voltage power supply)
 - 管状焊条 (Tubular electrode)
 - 送丝机 (Wire feeder)
 - 外部保护气体 (External shielding gas)
 - 工件导线 (Work lead)
- Q 3-13 GTAW 和 PAW 工艺的哪个方面使得它们不同于其它的弧焊工艺?
What aspect of the GTAW and PAW processes makes them different from the other arc welding processes?
- 非熔化的电极 (Nonconsumable electrode)
 - 提供电源(Power supply)
 - 保护 (Shielding)
 - 以上都是 (All of the above)
 - 以上都不是 (None of the above)
- Q 3-14 对于 GTAW 和 PAW 工艺的保护主要是通过使用下列哪些来完成的
Shielding for the GTAW and PAW processes is primarily accomplished through the use of
- 粒状熔渣 (Granular flux)
 - 熔渣 (Slag)
 - 惰性气体 (Inert gas)
 - 氧气 (Oxygen)
 - 以上都不是 (None of the above)

Q 3-19 由于不适当的焊道宽深比所形成的固化开裂是由于哪一种焊接工艺引起的严重问题?
Solidification cracking due to improper width-to-depth ratio of the weld bead is a serious problem primarily with which welding process?

- a. SMAW
- b. OFC
- c. SAW
- d. 以上都是 (All of the above)

