API 570

MINI-TEST
(All Closed Book)

1. Aboveground piping is divided into classifications according to severity of service, per API 570.

   True or False

2. API 570 can be utilized to establish corrosion rates of non-metallic piping.

   True or False

3. When welding repairs are required, the principles of ASME B31.3 or the original Construction Code must be followed.

   True or False

4. A "scab" patch or encirclement box may be used to patch a leak indefinitely, if approved by the Inspector and Piping Engineer.

   True or False

5. A "TML" is a Toluene Metering Location.

   True or False

6. Underground piping is exempt from the Scope of API 570, and does not have to be inspected.

   True or False

7. A pressure test is usually performed as a routine check on the integrity of individual above-ground piping systems.

   True or False

8. "CUI" is a term applied to the phenomena that corrosion can sometimes be accelerated by the presence of moisture trapped by insulation on the pipe.

   True or False

9. A Piping Inspector can currently be "grandfathered", but will have to be tested within the next 3 years.

   True or False

10. There are 5 distinct types of inspections to be performed on piping, per API 570.

    True or False

API 570 PRETEST

REFERENCE SHEET

1. 4.1
2. 1.1.2.2(b)(7)
3. 6.1
4. 6.1.3.1
5. 3.4.1
6. Section 7
7. 3.6
8. Appendix A, 7
9. Appendix B, B.3.2
10. 3.3

ACTUAL PAST TEST QUESTIONS FROM DECEMBER 1998 EXAM (REMEMBERED BY PREVIOUS STUDENTS)

Open Book Questions (44 total on Exam):

(SMAW Process on Welding procedure review - 6 questions):

1. Essential versus non-essential variable on WPS. (ASME IX, QW-252)
2. Preheat on WPS less than that allowed, as shown on PQR. (ASME IX, QW-406.1)
3. Side bends were taken instead of face/root bends as required, as shown on PQR (ASME IX, QW-451).
4. Tensile Test acceptance criteria on PQR - one specimen unacceptable. (ASME IX, QW-153)
5. One bend test was unacceptable to criteria (ASME IX , QW-163)
6. What is the proper F# for E7018, E7016, etc. (ASME IX, QW-432)
7. Question on upstream limits on an injection point. (570, 3.3.1)
8. Question on remaining life of a piping circuit (570, 5.1)
9. Question on long term corrosion rate calculation. (570, 5.1)
10. Question on short term corrosion rate calculation. (570, 5.1)
11. MAWP calculation - exactly as shown out of Table in Book, but with different numbers. (570, 5.2)
12. Question on control of axial thrust on bolted leak clamps. (570 6.1.4)
13. Retirement thickness calculation (574, 11.1)
14. Minimum valve wall thickness (574, 11.2)
15. Minimum pipe wall thickness calculation (B31.3, 304.1.2)
16. Minimum thickness of a blank (B31.3, 304.5.3)
17. Which ASTM specification is used when impact testing pipe -ASTM 333 (B31.3, 323.3.2)
18. Impact testing question - the answer came from the notes to Figure 323.2.2 (B31.3)
19. Temperature reduction for 3/4 size impact testing specimen (B31.3, Table 323.3.4)
20. Welding Procedure qualified by others can be used provided several conditions are met. (B31.3 328.2.2)
21. Defining the preheat zone required on carbon steel with a given thickness (B31.3, 330.1.4)
22. Preheat temperature - recommended and required. (B31.3, 330.1.1)

23. Question on governing thickness for PWHT on a branch connection - all thicknesses were given. (B31.3, 331.1.3).

24. Question on hardness testing - percentage of welds tested . (B31.3, 331.1.7)

25. Question on PWHT temperature of carbon steel (P1) that is 1.125" thick. (B31.3, Table 331.1.1).

26. Question on PWHT after hot bending of pipe (B31.3, 332.4.1)

27. Question on acceptable thread engagement of nuts (B31.3, 335.2.3)

28. Question on acceptance of a radiograph with lack of fusion - 1/32, 1/64, and a slag inclusion of 1/4 - is this acceptable (B31.3, Table 341.3.2)

29. Hydrostatic test pressure calculation (B31.3, 345.4.2, - weird question, because the materials were given, but the design temperature was not, so the complete equation 1.5PSt/S could not be computed).

30. Several questions on looking up stress values and weld efficiencies from B31.3, App. A.

31. Question on maximum hydrostatic system test pressure with 150 Class flanges (16.5, 2.5)

32. Question on what is the minimum thickness allowed on a local area of subminimum thickness on a shell of a flanged fitting (16.5, 6.1.1)

33. Hydrostatic shell test on a flanged fitting (16.5, 8.3)

34. Several questions from Tables 1A, 2, and D1, i.e with a design pressure of 500 psi and temp of 900°f, what class of flange is required for a material of A182 Grade F2 (16.5)

35. IQI placement question for wire penetrameters, sizes, sets (V, T-277, Table T-233.2)

36. Question on UT calibration block temperature versus the surface of the part (V, SE-114)

37. Question on MT procedure content (V, T-750)

38. Question on wire penetrameter tolerance (V , SE -747)

39 Question on MT on stainless steel (?) (V- T-7)

CLOSED BOOK QUESTIONS (106 ON EXAM)

39. How much experience is required to be an Inspector with a high school education only (570, 2.2)

40. What are the two essential elements of RBI (570, 3.1)

41. What are the downstream limits of more extensive inspection of injection points (570 3.3.1)

42. Temperature range of carbon steel susceptible to CUI (570, 3.3.3.1)

43. Operating temperature of carbon steel susceptible to CUI but in intermittent service (570, 3.3.3.1)

44. Operating temperatures that are a concern for chloride SCC on stainless steel (570, 3.3.3.1)

69. Lower values of resistivity are more or less corrosive (570, 7.1.4)

70. How is the external condition of pipe checked when it is not cathodically protected (570, 7.2.6)

71. Leak testing intervals for non-CP pipe with soil resistivity of ? (570, Table 3)

72. Several questions on definitions from Appendix A - Deadlegs, SBP, secondary process piping, test point, specifically were asked.

73. What is the manufacturer's piping undertolerance for cast piping (574, 4.1.1)

74. The primary difference between piping and tubing is ... (574, 4.2)

75. Erosion can be found primarily at the inside, outside radius of elbows, or both (574, 6.3.6)

76. When should you never hammer test piping (574, 10.2.4)

77. What has to be signed and dated, the WPS, PQR WPQ, or all 3 (IX, QW 201-301)

78. What is the time frame for a welder's qualification to expire (IX, QW-322)

79. If a welder qualifies on a 6" pipe production weld and fails, how can he re-qualify - test welds, 12" production weld, etc. (IX - QW 321)

80. MT- time between calibration of yokes (V-T-761)

81. What is the minimum RT density range for Gamma ray (V-T-2)

82. What shows that the RT procedure is qualified to ASME V - (V, T-221.2)

ACTUAL PAST TEST QUESTIONS FROM JUNE 1998 EXAM

OPEN BOOK QUESTIONS

1. Are bend specimens acceptable? ASME Section IX, QW-163 & 451.1

2. Are tensile specimens acceptable? ASME Section IX, QW-153 & 451.1

3. Is preheat shown on WPS acceptable? ASME Section IX, QW-406.1

4. Is thickness range for fillet welds acceptable? ASME Section IX, QW-202.2(c)

5. Is the F-No. acceptable for fillet metal shown on WPS? ASME Section IX< QW-432

6. What are the limits upstream and downstream for an injection point circuit? API 570, 3.3.1

7. Small bore primary process piping should be inspected in accordance with all the requirements of API 570. API 570, 4.5.1

8. What permanent and progressive records must be maintained for in-service piping systems? API 570, 5.6

9. The repair organization shall use welders and welding procedures qualified in accordance with which standard/code? API 570, 6.2.1

10. What is the test point for a NPS 10 size pipe? API 570, Appendix A

11. What is the height of a raised face on a Class 150 and 300 flange for other than lapped joints? B16.5, 6.4.1 (0.060")

12. What is normalizing? B31.3, 300.2

13. Calculation for a blank. B31.3, 304.5.3

14. Calculation for minimum required thickness of a pipe. B31.3, 304.1

15. Question relating to what specification to be used for the procedure to impact test pipe. B31.3, 323.3.2

16. What is the preheat requirement for a P-No. 11A material. B31.3, Table 330.1.1

17. What is the PWHT requirement for a P-No. 1 material, which is over 3/4 in. thick? B31.3, Table 331.1.1

18. What is the maximum hardness for a P-No 5 material with a chrome content greater than 3%? B31.3, Table 331.1.1 (241)

19. On a girth weld for piping in normal fluid service the RT report shows incomplete penetration, undercut and slag inclusions (all values given). Is the weld acceptable? B31.3, Table 341.3.2

20. Question relating to B31.3, Table 341.3.2.

21. What is the allowable stress value for an A-_____ pipe at a specified temperature? B31.3, Table A-1

22. Question related to immediate retests using radiography for a welder. Section IX, QW-321.3

23. Question related to fillet weld qualification. Section IX, QW-452.6

24. Question on procedure content for a magnetic particle examination. Section V, T-750

25. What is the calibration frequency for an ammeter on a magnetic particle magnetizing unit? Section V, T-761(a)

26. What is the maximum allowable stress value permitted when an evaluation is made using Appendix 4 of ASME Code Section VIII, Div. 2? API 570, 5.4(b)

27. What can be done to stop or minimize the leakage at a flanged joint? API 574, 8.2.1.1

28. How much higher would the ultrasonic readings actually be if the temperature of the surface temperature were 700°F? API 574, 8.2.2.1

29. For contact examination the temperature of the examination and basic calibration block surfaces is recommended to within _____°F. ASME Section V, Article 5, SE-114

30. What is the MAWP of the piping system considering the following. NPS 20 pipe with an allowable stress of 20,000, E_j = 1.0, c = 0.125 in., minimum thickness of 0.28 in.
B31.3, 304

31. Question on corrosion rate, answer in terms of mils/year. API 570, 5.1.1

32. What is the calibration frequency for a magnetic particle yoke? ASME Section V, T-761(a)

33. A calibrated step wedge film is traceable to what standard? ASME Section V, T-262

34. Question on magnetic particle materials? ASME Section V, Article 7

35. An A-516 Gr. 70 material is normalized and 28 mm thick. What is the minimum temperature where impact testing is not required? B31.3, Fig. 323.2.2

36. What is the PWHT time required for a material with a thickness of 1-1/4 in. B31.3, Table 331.1.1

37. What is the preheat zone? B31.3, 330.1.4

38. Pressure tests are normally required after what? API 570, 6.2.6

39. A buried pipe has a soil resistivity measurement of 8300 ohm/cm with no cathodic protection. What is the inspection interval? API 570, 7.2.6

40. Buried piping is leak tested at 120 psi, after 6 hours pressure has dropped to 112 psi. What do you do? API 570, 7.2.7

41. Given an NPS 8 pipe with a corrosion allowance. Select the appropriate schedule of pipe to be used. B16.5, Annex C

42. What is the minimum thickness of a blind flange of a specified Class rating? B16.5, Table 8 through 24

CLOSED BOOK EXAMINATION FROM JUNE, 1998 EXAM:

43. Definition of an isometric sketch. API 574, 10.2

44. When installing a new piping system or adding to an existing one and no information available on corrosion rate, how would you establish the corrosion rate? API 570, 5.1.2

45. Remaining life calculation, given were initial thickness, actual thickness and a corrosion rate. API 570, 5.1.1

46. A vibrating piping system would produce what type failure? (Fatigue cracking) API 570, 3.2.9

47. When excavating buried piping for inspection it would be inspected in what lengths? API 570, 7.2.6

48. What is the recommended downstream limit for injection point where more extensive inspection should be applied? API 570, 3.2.1

49. On the repair of a closure weld that is not pressure tested, what is not a requirement? API 570, 6.2.6

50. What is the examination method used to detect SCC of austenitic SS pipe? API 570, 3.2.7

51. On new piping who sets the inspection intervals? API 570, 4.2

52. Who has overall responsibility for compliance of API 570? API 570, 1.4.1

53. Calculation for remaining life with TML measurements and dates given. API 570, 5.1.1

54. For Class 3 piping how much inspection do you perform for CUI? API 570, 4.3

55. How should the wire type penetrameter be placed in relation to the weld? ASME Section V, T-277.1(d)

56. What type of radiographic film is permitted? ASME Section V, T-231.1

57. For Class 3 piping systems the extent of inspection for CUI is? API 570, 4.3

58. How often must the examiner doing visual examinations per Article 9 have their eyes examined for near distance acuity? ASME V, Article 9, T-942

59. How often should an ultrasonic testing instrument be calibrated? ASME Section V, T-534

60. Can UT be used as an alternative to RT for the qualification of a welder? ASME Section IX, QW-304

61. Which of the following is required prior to performing and inspection?

    a. Permission to work in vicinity
    b.
    c.
    d.

62. What is the downstream limit of an injection point? API 570, 3.2.1

63. What is the temperature range at which CUI will occur? API 570, 3.2.3

64. Which of the following insulated piping systems are susceptible to CUI? API 570, 3.2.3.1

    a. Carbon steel above 250°F but in intermittent service
    b.
    c.
    d.

65. When buried piping is uncoated at grade, consideration should be given to excavating how deep to assess potential for hidden damage? API 570, 3.2.4

66. When should hammer testing not be used? API 574, 8.3.4

67. What typically occurs downstream of control valves and orifice runs? API 570, 3.2.6

68. Which of the following is not a purpose of a TML? API 570

69. Where are more TML's expected to be designated? API 570

70. UT readings taken at a temperature of 300°F will show readings that are _____% above the actual thickness. API 574, 8.2.2.1

71. Which of the following are normally used for hydrostatic pressure tests? API 570, 3.6

    a. Hydrogen
    b. Steam
    c. Nitrogen
    d. Water

72. Which of the following can be used for material verification? API 570, 3.7

73. Question on when thickness measurements on valves are taken.API 570, 3.8

74. What examination is recommended for gate valves that are susceptible to corrosion/erosion service? API 570, 3.8

75. What API standard is used when pressure testing gate valve bodies? API 570, 3.8

76. Who is responsible to perform evaluations when environmental cracking is found? API 570, 3.9

77. What types of material are more susceptible to mixups in specifications. API 574, 8.4.2

78. Question on calculating next inspection interval for a class of pipe using 1/2 life concept. API 570, 5.1.1

79. What is the inspection interval for an injection point? API 570 Table 1

80. If you have no previous history for a piping system what is period of time for determining the probable corrosion rate? API 570, 5.1.2

81. What is the inspection interval for Class 2 small bore piping? API 570, 4.5

82. Which of the following is an example of auxiliary piping. API 570 Appendix A

    a. Instrument & machinery
    b.
    c.
    d.

83. A first time inspection of a Class 2 piping system should include which of the following: API 570, 4.3

    a. 50% of all suspect areas & 50% of all areas of damaged insulation
    b.
    c.
    d.

84. What must be done to repair a crack while in service? API 570, 6.1.3.1

85. If a repair area is localized and a fillet weld patch is to be used the SMYS cannot exceed _____ psi. API 570, 6.1.3.1

    a. 40,000
    b.
    c.
    d.

86. A flush patch repair on Class 1 piping does not need to be hydro tested provided: API 570, 6.1.3.2 & 6.2.6

    a. 100% RT or UT is performed
    b.
    c.
    d.

87. Before repumping a bolted leak clamp what must be done? API 570, 3.10

88. All welded repairs performed while in-service must be done in accordance with what standard? API 570, 6.2

89. Materials used for repairs shall meet which of the following: API 570, 6.2.4

90. When is a pressure test required following a repair? API 570, 6.2.6

91. Substituting special procedures for a pressure test after a repair or alteration may be done after consulting? API 570, 6.2.6

a. Inspector and piping engineer
b.
c.
d.

92. Who can accept the results of a pressure test following repair or alteration? API 570, 6.2.6

93. Which of the following is required when a rerating is performed? API 570, 6.3(e)

94. Which of the following requirements must be met for a rerating? API 570, 6.3(f) & (l)

a. Acceptable to piping engineer
b. engineering records updated
c.
d. a & b above

95. Low soil resistivity usually means: API 570, 7.1.4

a. Higher corrosion
b.
c.
d.

96. Calculation which involves mill undertolerances and what thickness of pipe to order. API 574, 2.1

a. 5 mils
b.
c.
d.

97. What is a round spring loaded device used for supporting piping called? API 574, 8.2.1.3

98. What should not be done when a threaded joint is found leaking in-service? API 570, 8.3.1.5.3

99. What should be done prior to inspecting excavated piping in an 8' deep ditch? API 570, 7.1.6

100. If you find a pipe shoe that has grown off its bearing plate you should? API 570, 5.5

a. Perform a piping stress analysis
b. Recommend adding additional shoe length
c. Modify the supporting structure
d.

101. While performing an external piping inspection you should also inspect? API 570, 3.3.3

a. Expansion joints
b. Hangers, supports
c. Unrecorded field modifications
d. All of the above

102. Which of the following is a nonessential variable for the SMAW process? ASME Section IX, QW-253

a. Uphill or downhill progression
b. Increase of 100 degrees preheat
c. Supplementary essential variable
d.

103. Why would you seal weld a threaded joint? B31.3

104. A flanged joint is composed of what elements? B16.5, 2.2

105. Which of the following is not required to be marked on a flange? B16.5, 4

a. Manufacturers name or trademark
b. Temperature
c. Rating class
d. Designation

106. What is the calibration frequency for a pressure test gage that is used for leak testing? ASME Section V, Article 10, T-1061

107. When a penetrameter cannot be placed on the source side, how is it identified? ASME Section V, Article 2, T-277.1(b)

108. When do a welders qualifications expire? ASME Section IX, QW-322.1

109. Question on local PWHT. API 570, 6.2.2.2

110. What methods can be used to determine the chemical elements of a material? API 570, 3.8

111. When are internal inspections of piping made? API 570, 3.3.1

112. Question on alternative RT for qualification of a welder. ASME Section IX, QW-304

113. Calculation of hydrotest pressure with design pressure, 200°F condensate water and a 900°F design temperature given. Material was A-335 P11. B31.3, 345.4.2 (How can calculation be made without reference to stress tables?)

114. Long term corrosion rate calculation. API 570, 5.1.1

115. Long and short term corrosion rate calculation. API 570, 5.1.1

116. Definition of short term corrosion rate. API 570, 5.1.1

117. What should you do with a deadleg that serves no further process purpose? API 570, 3.2.2

118. Under what circumstances can TML's be eliminated? API 570, 3.4.3.4

119. What class would the piping be for a FCCU (fluid continuous circulation unit) inside the battery limits? API 570

120. What is the inspection interval for a Class 1 buried pipe without cathodic protection? API 570, 7.2.6 (Soil resistivity must have been given)

121. What can be done regarding TML selection for a high temperature, low velocity sulphitic hydrocarbon? API 570, 3.4.3.1

122. What is CUI considered to be? API 570, 3.2.3

a. Localized corrosion
b. General corrosion
c.
d.

123. What is the inspection interval for a diesel line going to a river barge? API 570, 4.1.1 & Table 1

124. What would not cause an increase in pressure to a piping system?

a. Hydraulic hammer
b. Temperature increase of product
c. Low specific gravity of the hydrocarbon product
d.

125. How are soil resistivity measurements obtained? API 570, 7.1.4

a. Wenner four pin method
b.
c.
d.

126. What is the best way to reduce distortion in a piping system?

a. Have longer straight runs
b. Increase pipe diameter
c.

127. What is a corner joint? ASME Section IX, QW-492

128. Which of the following is an essential variable for the SMAW process? ASME Section IX, QW-253

a. F number
b. A number
c. Groove design
d. Both a & b

ACTUAL PAST TEST QUESTIONS FROM DECEMBER. 1997 EXAM

(NOT BROKEN DOWN INTO CLOSED/OPEN BOOK)

1. What material is commonly used for pressure tests?

a. hydrogen
b. steam
c. nitrogen
d. water

2. Environmental cracking commonly found in carbon steel:

   a. naphthalene
   b. polythionic
   c. amine
   d. chloride

3. API 570 covers in-service piping systems.

4. Owner-user has overall responsibility for compliance with API 570.

5. Authorized piping inspectors education & experience.

6. Inspection personnel require permission to work in the vicinity.

7. Injection point/inspection points-limit

8. Area of deadleg most susceptible to corrosion.

9. Warmer marine locations have higher corrosion potential

10. Piping systems above 250°F but are in intermittent service.

11. Buried piping which is uncoated at surface-depth of excavation for inspection should be 6 - 12".

12. What type of damage has occurred on an impeller due to a direct impingement of fluid with particulates.

13. Sucker rod in a low cycle operation. Why did it fail?

14. Number of cycles required to propagate a crack to failure.

15. Creep is dependent on:

   a. time
   b. temperature
   c. stress
   d. all of the above

16. Temperature of water in piping systems - freezing conditions may cause failure of piping.

17. Test methods to find creep cracking in piping.

18. Opportunities to perform visual inspection on internal piping.

19. Operating personnel should report various problems to engineering or inspection personnel for assessment.

20. TML's should be marked on inspection drawings & on the piping system.

21. Does insulation need to be removed from piping to carry out radiography.

22. High temperature UT.

23. Should a pressure test be performed before or after any heat treatment.

24. Use of x-ray fluorescence for testing.

25. Gate valves in a corrosion/erosion service.....do UT between the seats.

26. Hydro testing of valve body to what standard? (API 598)

27. Fastener considered engaged when..... Sec 3.10

28. Table 1 - inspection intervals

29. Inspection intervals on Class 1, 2, & 3 systems - are of inspection.

30. Small bore piping - Class 1 service - inspection requirements. Sec 4.5.1

31. SBP - secondary piping - Sec. 4.5.2

32. Calculate remaining life

33. Inaccurate rate of corrosion required adjustment to agree with actual rate. Sec. 5.1.3

34. Calculations using $t = \frac{PD}{2SE}$

35. Longitudinal cracks and repairs. Sec 6.1.3.1

36. Maximum yield strength of pipe is not more than 40,000 psi.

37. For Class 1 & 2 piping systems welds shall be 100% RT'd or UT'd.

38. Use of clamps for repairs. Sec. 6.1.4

39. API publication for hot tapping (API 2201)

40. PWHT is performed for:

    a. Environmental cracking resistance
    b. code compliance

41. Pressure test shall be performed after welding if practical and deemed necessary by the inspector.

42. Indications of leaks in buried piping. Sec. 7.1.1

43. Use of holiday testing on pipe coatings.

44. If piping is cathodically protected, what intervals should it be monitored at? NACE RP1069 Sec. 10 (Annually)

45. Piping cathodically or not cathodically protected inspection intervals. See Table 3 Sec. 7.2.7

46. Leak test for 12 hrs with a 5% drop in pressure

47. Logging location of clamps on pipe repairs. Sec. 7.3.2 & 7.4

48. Definition of what's not an alteration.

49. Definition of an inspector and an examiner.

50. Definition of "hold point".

51. Definition of "test point".

52. Size of patch radius on a pipe repair (1" min. radius)

ASME B31.3

1. Intent of Code. 300.(c)(l)
2. What is normalizing?
3. Given the parameters: 150 psi & -20°C, what fluid service is appropriate?
4. Effect of cooling to create an internal vacuum. 301.3.1
5. Calculations using Barlow's formula.
6. Calculation using a blind flange.
7. Minimum yield strength of flange bolts.
8. Use of split backing rings in severe cyclic conditions.
9. Determine min. impact temp. for 516-70 normalized material.
10. Impact value for carbon steel - 3 specimens.
11. Transition angle on thicker pipe joined to thinner pipe.
12. Tack welds?
13. 1/16" gap (Fig 328.5.2c)
14. Preheat requirement on 3/4" thick carbon steel to be welded at 30°F.
15. Post weld heat-treat on 1 1/4" alloy steel.
16. Options for using 2 gaskets at one flanged connection.
17. Experience of owner's inspector. 340.4(b)
18. Example of a radiograph/report with 2 sets of defects - was the weld acceptable.
19. Question on modulus of elasticity.
20. Venting space between flanges. f308.2

ASME Section V

1. The temperature of the calibration block should be no more than _____ different than the test piece.

Art. 4

a. 10°F
b. 15°F
c. 25°F
d. 40°F

2. What code governs the qualifications of SNT-TC-1A personnel. **(Poor Question)**
Sec V, T-140A

a. Sec. 8
b. Sec V
c. Sec. 2
d. ASME B31.3

3. If you saw a dark "B" image on the (radiographic) film, what does it mean?

a. back scatter radiation is a problem
b. back scatter radiation is acceptable
c. "B" for burnthrough
d.

4. How is the wire penetrameter placed on the weld?

a. Wires perpendicular to the weld
b. Wires parallel to the weld
c. Wires away from the weld
d. 2 are used - 1 parallel, 1 perpendicular

5. Question pertaining to Art. 2 - T222.2

6. What is used to evaluate image quality?

a.
b.
c.
d. Penetrameter

7. Art. 2 - T231.1

8. Using a calibrated step wedge film traceable to a national standard. Art 2 - T262

9. Art 2 - T273

10. Location markers Art. 2 - T275

11. Art 2 - T277.2 Number of Penetrameters

12. Art. 2-T281 Quality of Radiograph

a. fogging
b. creases
c. streaks, watermarks
d. all of the above

13. Art 2 - T282.1 Radiographic Density

14. Art. 2 - T282.2(a)

15. Frequency of transducer shell have a generating frequency of _____.

a. 10 MHz
b. 1 - 2.5 MHz
c. < 1 MHz
d. 1 - 5 MHz

16. On a completed weld, LPT would detect all the following except:

    a. cracks
    b. porosity
    c. laminations
    d. laps

17. Art 6 - T-643 Drying after using a water-washable penetrant

18. Art. 6 - T-652 Drying range

19. Art. 6 - T673.1

20. Art. 6 - T673.2 Emulsification Time

21. Art. 6 - T676 Final Interpretation

22. Art. 6 - T676-4(b)

23. Art. 7 - T741.a(d)

24. Calibration of ammeter Art. 7 - T-761(a)

25. Art. 7 - T762(a)

26. Using a DC yoke can find:

    a. near surface
    b. back surface
    c. intermediate
    d.

27. Art. 9 - T942 Vision requirements

ASME Section IX

1. QW-100.2 (Art. 1)

2. QW-100.3 (Art. 1) related to 1962 edition of the Code.

3. Qualification of welders by RT on first production weld.

4. Tensile strength of test specimen for PQR.

5. 4 side bend tests - passed, is this an acceptable test for a 3/4" test plate, related defect size. QW-163

6. QW-184 fillet leg size.

7. In the welding process using SMAW, is the removal of backing an essential variable.

8. QW-200 essential variables of a WPS/PQR.

9. QW-200.2b - certified PQR

10. QW-201 - Qualification of a welder to do the owner's welding.

11. QW-202.4 - PQR's to qualify WPS's.

12. In SMAW which is an essential variable in a WPS.

    a. Groove design
    b. F number
    c. Welding technique
    d.

13. QW 321.3(a) - Welder retest.

14. QW-305 - GMAW on P2X - can it be qualified by RT (Using short circuiting mode)

15. QW-322 - Expiration of Qualifications - 6 month period.

16. Annealing/normalizing definition.

17. QW-424 P _____ to P _____.

18. On comparison between PQR to WPS, a change in filler metal from E7018 (PQR) to E7016(WPS) - is it an essential variable.

19. Pipe qualification for all positions - use 5G and what else.

API RP 574

1. Code for valve inspection and test (std. 598)

2. Venturi valves should not be used in lines that are to be pigged.

3. What type of valve is used to prevent backflow?

4. Use of slide valves in gas service.

5. Leaks in operating systems - should the operators notify the inspector?

6. Repair of leaks to prevent serious corrosion/erosion of gasket surfaces or packing glands.

7. Deformation of a vessel wall in the vicinity of a pipe attachment.

8. A decrease in downstream pressure accompanied by a decrease in flow. What is it indicative of?

9. Temperature above _____ can damage UT transducers.

10. Advantages of RT:

11. Penetrant liquids with _____ should be used for austenitic materials 8.3.1.2

12. What defects can MPI detect:

    a. surface cracks
    b. subsurface (near-surface) (Lamination)
    c. porosity
    d. all of the above

13. 8.3.1.4 Valves measured for thickness between the seats.

14. 8.3.1.5.3 A leaking threaded joint should not be tightened while the system is in service.

15. Clamped joints must not be used without adequate axial restraint on the piping.

16. Use of hammer testing on inservice systems.

ASME 16.5

1. Gasket diameter (OD) - (Table E2A)
-Group 1b, 12", 400# flange.

2. Which marking is not required on a flange.

   a. Manufacturer's name or trademark
   b. temperature
   c. rating class
   d. designation

3. Thickness of raised face on a 300# class flange

   a. .120"
   b. .060"
   c. .040"
   d. .025"

4. Low strength bolting
Use bolts not more than _____ spec. min yield strength.

   30 ksi