1. API SIRE study guide
   A) Provide Quantity surveillance of Men and Machines of used in oil and gas industry
   B) Provide an easy approach to study upstream and downstream equipment's only
   C) It provide a confidence that equipment's purchased meet the minimum requirement specified in the contractual agreement
   D) The activities outlined in this system has to be followed strictly in lieu of manufacturers' own quality system

2. NPS mean
   A) Inner diameter in inches
   B) Outer diameter in Inches
   C) Average diameter in Inches
   D) Ordered diameter in inches

3. Acceptance criteria of spot Radiograph: What is the minimum length of spot radiograph (ASME Section VIII UW 52 C)?
   A) 3 inch
   B) 4 inch
   C) 6 inch
   D) 9 inch

4. In a spot weld of 10 mm thick what is the allowed length of slag inclusion indication (ASME Section VIII UW 52 C-2)
   A) Slag Inclusion is not at all acceptable
   B) 3.33 mm
   C) Minimum 6.6 mm
   D) Maximum 6.6 mm

5. For any service with a relatively low capacity and a relatively high differential pressure, which compressor you will use
   A) Centrifugal compressor
   B) Axial compressor
   C) Reciprocating compressor
   D) Rotary screw compressor

6. The materials of construction for reciprocating compressor
   A) As per ASM
   B) Unless otherwise specified by the purchaser, the materials of construction shall be selected by the manufacturer based on the operating and site environmental conditions specified".
   C) Cast iron
   D) Cast Steel

7. Cross heads for 120 KW reciprocating compressors should be made up of
   A) Wear resistant material with high chromium
   B) Forged steel with removable caps
   C) Vanadium Steel
   D) Ductile iron

1	2	3	4	5	6	7
C	B	C	D	C	B	D

8. NPSHA means
   A) absolute inlet total head above the head equivalent to the vapor pressure referred to the NPSH datum plane
   B) NPSH determined by the purchaser for the pumping system with the liquid at the rated flow and normal pumping temperature
   C) NPSH determined by the pump manufacturer for the pumping system with the liquid at the rated flow and normal pumping temperature
   D) NPSH that results in a 3% loss of head (first-stage head in a multistage pump) determined by the vendor by testing with water

9. Pump that is accepted, by agreement between purchaser and manufacturer as sufficiently similar to not require a lateral analysis, is called
   A) Identical pump
   B) Similar pump
   C) Equivalent pump
   D) Acceptable pump

10. What is the code for power tool in SSPC Surface Preparation Guide?
   A) SSPC –SP-1
   B) SSPC –SP-3
   C) SSPC –SP-5
   D) SSPC –SP-6

11. The maximum continuous speed shall be
   A) equal to the speed corresponding to the synchronous speed at maximum supply frequency for electrical motors;
   B) at least 105% of rated speed for variable-speed pumps, and any fixed-speed pump sparing or spared by a pump whose driver is capable of exceeding rated speed.
   C) at least 110% of rated speed for variable-speed pumps, and any fixed-speed pump sparing or spared by a pump whose driver is capable of exceeding rated speed.
   D) a & b
   E) a & c

12. Source inspector function is
   A) To function as to check manufacturers quality system as per the API SIRE code
   B) Approve purchaser quality system
   C) To function on behalf of the purchaser
   D) To function on behalf of the manufacturer

13. This API SIRE study guide
   A) Focuses on the mechanical integrity of Motors
   B) Assume that S/V have been pre qualified by systematic quality review process to Determine that purchaser facility has the ability to meet the requirements of contractual agreements
   C) Has the ability to pass he candidates to pass the API SIRE Exam
   D) Outlines the fundamentals of source inspection activities

8	9	10	11	12	13
B	B	A	D	C	D

14. Seal Buffer gas
    A) inert gas supplied to the high-pressure side of a seal
    B) Clean gas supplied to the high-pressure side of a seal
    C) Clean gas supplied to the low -pressure side of a seal
    D) Contaminated gas from low -pressure side of a seal

15. Choose incorrect option: SOR means
    A) Supplier Observation Reports—Documents filled out by the SI indicating concerns
    B) factual descriptions that was noticed during the course of product surveillance
    C) Not necessarily issues that may be considered defects or requiring NCR's.
    D) Same as NCR

16. Stall
    A) The volume flow capacity above which an axial compressor becomes aerodynamically unstable
    B) The volume flow capacity below which an axial compressor becomes aerodynamically unstable
    C) The volume flow capacity below which an rotary compressor becomes aerodynamically unstable
    D) This is caused by blade drag due to uniform incidence angles

17. Material verification programme is given by
    A) API 577
    B) API 578
    C) API 579
    D) ASME Section II

18. API 610 is
    A) Reciprocating compressors for petroleum industry services
    B) Centrifugal pump for petroleum industries
    C) Axial and centrifugal compressors for petroleum industry services
    D) General purpose gear units for chemical and gas industry services

19. Lubrication and shaft sealing and control of system for petroleum and gas industry services
    A) API 610
    B) API 611
    C) API 614
    D) API 618

20. Axial and centrifugal compressors and expanders for petroleum, chemical and gas industry services
    A) API 610
    B) API 611
    C) API 614
    D) API 617

14	15	16	17	18	19	20
B	D	B	B	B	C	D

21. Reciprocating compressors for petroleum, chemical and gas industry services
    A) API 612
    B) API 618
    C) API 617
    D) API 577
22. Rotary type Positive displacement compressors for petroleum, Petrochemical and Natural gas industry services
    A) API 614
    B) API 610
    C) API 618
    D) API 619

23. General purpose gear units for petroleum, chemical and gas industry services
    A) API 617
    B) API 677
    C) API 621
    D) API 682

24. Pump Shaft sealing System is represented by
    A) API 617
    B) API 677
    C) API 621
    D) API 682

25. SI has to be familiar with
    A) All codes mentioned in the contractual agreement
    B) Relevant codes of API
    C) Codes Published by SDOs
    D) Codes specified in SOR

26. For NDT acceptance criteria, we have to refer
    A) ASME Section IX
    B) ASME Section VIII
    C) ASME Section V
    D) API 683

27. For Welder Qualification to weld pipes we refer
    A) AWS D 1.1
    B) API 1104
    C) ASME Section IX
    D) API 677

28. Displacement is measured in
    A) 0-peak
    B) Root Mean Square
    C) p-p
    D) 0 to average value

21	22	23	24	25	26	27	28
B	D	B	D	A	C	C	C

29. Which one of them is not the property of annealing?
    A) Improved machinability
    B) Improving Ductility
    C) Increasing hardness
    D) Producing desired micro structure

30. BEP
    A) Brake effective power
    B) Brake efficient power
    C) Flow rate at which pump attains maximum efficiency at the rated impeller diameter
    D) Flow rate at which pump attains optimum efficiency at the rated impeller diameter

31. Calibration
    A) Increases repeatability
    B) Increase accuracy
    C) Compares the magnitude of the measuring device with the other device
    D) Calibration has to be done when ever one start using the equipment

32. A metal integrally bonded onto another metal (e.g. plate), under high pressure and temperature whose properties are better suited to resist damage from the process fluids than the underlying base metal.
    A) Cladding
    B) Plating
    C) Lining
    D) Shielding

33. Cold working means plastic deformation of metals below ---------- temp
    A) Melting
    B) Recrystalline
    C) Soaking
    D) Annealing

34. BEP
    A) Flow rate at which a pump achieves its highest efficiency at rated impeller diameter
    B) Maximum Flow rate at which a pump achieves its optimum efficiency at rated impeller diameter
    C) Maximum Flow rate at which a pump achieves its maximum efficiency at maximum impeller diameter
    D) Maximum Flow rate at which a pump achieves its maximum efficiency at minimum impeller diameter

35. Booster Pump
    A) Oil Pump that aids the main pump to give higher output
    B) Booster pump is connected in Parallel to the man pump
    C) Oil pump that takes suction from the discharge of another pump to provide oil at high pressure
    D) This will increases the flow rate

29	30	31	32	33	34	35
C	C	B	A	B	A	C

36. Dwell time
    A) Time the penetrant takes to penetrate into the discontinuity
    B) Application and drain time in which emulsifier is in contact with the surface
    C) Dwell time does not include drain time
    D) Dwell time does not include emulsifier

37. Electrical Runout
    A) A short circuited condition of electrical motor
    B) Error in the signal of contacting probe due to Roughness of the shaft
    C) Output error signal in the non contacting probe due to localized magnetic field on the shaft surface
    D) Output error signal in the non contacting probe due to voltage fluctuation

38. Compressor Rated Point is
    A) The intersection on the 100% speed curve corresponding to the specified capacity of any given operating point.
    B) The intersection on the 50% speed curve corresponding to the highest capacity of any specified operating point.
    C) The intersection on the 100% speed curve corresponding to the highest capacity of any specified operating point.
    D) The intersection on the 100% speed curve corresponding to the lowest capacity of any specified operating point.

39. If the loss of operation of equipment produces significant threat to personal safety then it belongs to
    A) Hazardous service
    B) Critical service
    C) High risk service
    D) Dangerous goods service

40. Critical speed is
    A) The maximum speed at which an equipment can operate
    B) The shaft speed when it is in the resonant mode with its natural frequency
    C) The shaft speed when it is in the resonant mode with its rotor bearing support
    D) The specified operating speed of the critical equipment

41. A testing in which component become unfit for service after the testing is called
    A) Indirect testing
    B) Inefficient testing
    C) NDT
    D) Destructive testing

42. Buffer fluid is everything except
    A) Externally supplied fluid
    B) It is at a pressure more than the pump seal chamber pressure
    C) It is used as a lubricant
    D) It provides a dilutant in arrangement 2 seal

36	37	38	39	40	41	42
B	C	C	B	C	D	B

43. Certification is
    A) Written testimony Q.C personal
    B) Confirmation of a person to some qualification
    C) Demonstrate qualification
    D) Documented and signed testimony of qualification

44. What is 5 mil?
    A) 5 mm
    B) 5 µm
    C) 0.005 inch
    D) 0.005 meter

45. Which requires more source inspection?
    A) Equipment custom designed by EPC to perform a project specific function
    B) Non engineered equipment
    C) Equipment fabricated by S& V
    D) Valves and fitting above 6 inch

46. Flush
    A) Fluid used to clean the pump inner components
    B) Fluid used to cool and Lubricate seal faces
    C) High pressure cleaning of excess penetrant from the surface
    D) One of the cleaning method of shaft

47. SF
    A) Means Gear service factor
    B) Is applied to tooth pitting index and bending stress number
    C) Accounts for difference in Overload
    D) a & b & c

48. Choose incorrect option: A gear wheel
    A) Can have only one Gear mesh
    B) Can have many gear mesh
    C) Lowest speed rotor in gear box
    D) Will operate with a pinion

49. Choose incorrect option: HAZ
    A) An area of base metal adjutant to the weld metal
    B) HAZ will not be melted
    C) HAZ may have its chemical properties altered
    D) Acceptance criteria of discontinuity for HAZ will be different from the weld

50. Plastic deformation above re-crystallization temp
    A) Cold working
    B) Tempering
    C) Hot working
    D) Annealing

43	44	45	46	47	48	49	50
D	C	A	B	D	A	D	C

51. Choose incorrect option: Hunting Tooth
    A) Exists when tooth on the pinion does not repeat contact with a tooth in gear unless it has contacted all the other gear teeth.
    B) hunting tooth frequency is same for the give gear pinion combination
    C) hunting tooth frequency = (gear speed / Uncommon factor of the pinion gear)
    D) If HTF appears Gear will have long remaining life time

52. The evaluation of a component or equipment for compliance with a specific product specification, code, drawing and/or standard specified in the contractual requirements, which may include the measuring, testing or gauging of one or more characteristics specified for the product to determine
    A) Inspection
    B) Evaluation
    C) Appraising
    D) Assessing

53. Inspection waiver
    A) Competent authority who waives the inspection
    B) Permission to proceed with production/shipment without having a purchaser source inspection representative present for a specific activity.
    C) API SIRE inspector who is authorized to do away with inspection
    D) Permission to avoid inspection

54. What is the most common welding process?
    A) GMAW
    B) SMAW
    C) GTAW
    D) FCAW

55. What is the most common defect of SMAW?
    A) Slag inclusion
    B) Porosity
    C) Cracks
    D) Tungsten inclusion

56. What is the most common defect of GMAW – Short circuit transfer?
    A) Side wall Lack of fusion
    B) Porosity
    C) Cracks
    D) Tungsten inclusion

57. Defect specific only to casting
    A) LOP
    B) LOF
    C) Chaplet
    D) Porosity

51	52	53	54	55	56	57
D	A	B	B	A	A	C

58. Common rolling defects in the plate
   A) Crack
   B) Blow hole
   C) Lamination
   D) Lamellar tear

59. Choose correct option
   A) Castings are susceptible to the creation of voids during the casting process which could result in through wall leaks during service.
   B) Castings are susceptible to the cracks during the casting process which could result in through wall leaks during service.
   C) Castings are susceptible to the creation of chaplets during the casting process which could result in cracks during service.
   D) Castings are susceptible to the HAZ problems during the casting process which could result in lamination during service.

60. Defects in Casting has to be dealt by
   A) Peening
   B) Plugging
   C) Sand Blasting
   D) Weld repair

61. What all these mean: WCB, WC9, CF8M,
   A) Forging type
   B) Casting grade symbol
   C) Coating types
   D) Different casting Process

62. Choose incorrect option ITP (Inspection test plan)
   A) Detailed Check list that will guide the source inspector in his QA activities at S & V site
   B) S & V will have his ITP
   C) Every equipment should have its own ITP
   D) ITP is not project specific

63. Lamination (choose incorrect option)
   A) Is a discontinuity occurring parallel to the surface
   B) In forging it is due to Too low a temperature
   C) In plates it is due to the presence of tramp elements
   D) It can be detected By Radiography

64. As per pressure vessel hand book what is the nozzle attachment levelness tolerance allowed?
   A) Not addressed
   B) ± 0.1 inch
   C) Tolerance of 0.5 inch
   D) 1 inch

58	59	60	61	62	63	64
C	A	D	B	D	D	C

65. MAWP
   A) Maximum allowable working pressure
   B) Maximum continuous pressure for which the rotating equipment has been designed
   C) Maximum design pressure of the rotating equipment at the specified maximum operating temperature
   D) Maximum design pressure of the rotating equipment at the specified operating temperature

66. Maximum continuous speed
   A) Highest speed at which the manufacturer's design permits continuous operation
   B) The speed at least equal to 105% of the highest speed required by any of the specified operating conditions.
   C) 110% of the peak speed
   D) 120% of the average speed

67. Maximum discharge pressure
   A) Maximum suction pressure minus maximum differential pressure for the given impeller at the rated speed
   B) Maximum suction pressure plus maximum differential pressure for the given impeller at the rated speed
   C) Highest exhaust pressure that the purchaser specifies
   D) Maximum differential pressure for the given impeller at the rated speed

68. Minimum allowable suction pressure
   A) Maximum pressure at the inlet flange
   B) Lowest pressure at the inlet flange
   C) Lowest set pressure
   D) Lowest discharge relief pressure

69. Minimum Continuous Stable Flow
   A) Lowest flow that pump can operate for the given impeller diameter
   B) Lowest flow that pump can operate at the rated speed
   C) Lowest flow that pump can operate without exceeding the vibration limits imposed by this International Standard
   D) Lowest flow that pump can operate at MAWP

70. Multi stage pump
   A) Pump with more than one stage
   B) Pump with more than two stages
   C) Pump with more than three stages
   D) Two pumps connected in series

71. NCR
   A) Has to be filed by SI about an issue not in agreement with contractual agreement
   B) SI has to Stop the job until NCR is resolved
   C) SI has to inform inspection coordinator immediately after Non conformance is identified
   D) SI has to inform inspection coordinator as soon as practical after Non conformance is identified

65	66	67	68	69	70	71
C	B	B	B	C	C	D

72. A heating process for ferrous alloys in which material is heated to a temperature above transformation temperature and then cooled in still air at room temperature
    A) Annealing
    B) Normalizing
    C) Spheroidizing
    D) PWHT

73. Net positive suction head those results in 3% loss of head determined by the vendor by testing with water
    A) NPSHa
    B) NPSHr
    C) NPSHv
    D) NPSH

74. Choose incorrect option: Normal transmitted power of the gear
    A) Is Less than the gear rated power
    B) Is more than the gear rated power
    C) Is equal to the gear rated power
    D) Is the greatest power at the specified speed

75. Inspection which is performed as scheduled Irrespective of the presence of Purchaser or his representative
    A) Observed inspection
    B) Witnessed inspection
    C) Vendor inspection
    D) Notified inspection

76. Choose incorrect option: The difference between positive and negative extreme values of an electronic signal or dynamic motion.
    A) 1.414 x RMS value
    B) Average value
    C) p-p value
    D) 2 x (0-p) Value

77. Protractor
    A) An instrument to measure levelness
    B) An instrument to measure angle
    C) An instrument to measure height
    D) An instrument to measure vibration amplitude

78. Proximity probe
    A) Is a contact probe
    B) Velocity probe
    C) Convert gap into voltage
    D) It gives RMS voltage output

72	73	74	75	76	77	78
B	B	B	A	B	B	C

79. QA
   A) A proactive quality process that aims to prevent defects
   B) Quality process that aims to correct defects
   C) Specific steps to find potential defects
   D) This involves correction activities that install confidence about the S & V

80. Quality Surveillance is same as
   A) Quality control
   B) Quality assurance
   C) Qualification and Certification
   D) Source inspection

81. Rated Operating point is specified by
   A) Vendor
   B) Purchaser
   C) SIRE inspector
   D) As specified in the international standard

82. When you found the rust bloom on the steel surface what should be done
   A) Oil coating as to be done
   B) Surface shall be phosphated
   C) the surface should generally be re-cleaned before coating using the same blast cleaning process
   D) Surface has to e sand blasted

83. Choose correct option
   A) All critical equipment belong to stand by service
   B) All engineered equipment belong to stand by service
   C) All non engineered equipment belong to stand by service
   D) Normally idle piece of equipment that is capable of immediate start-up

84. Surge
   A) The volume flow capacity above which an axial compressor becomes aerodynamically unstable
   B) The volume flow capacity below which an axial compressor becomes aerodynamically unstable
   C) The volume flow capacity below which an centrifugal compressor becomes aerodynamically unstable
   D) This is caused by blade drag due to uniform incidence angles

85. Thermo couple
   A) A heat sensor consisting of two similar metals so joined to produce different voltages when their junction is giving constant heat
   B) A temperature sensor consisting of two dissimilar metals so joined to produce different voltages when their junction is at different temperatures
   C) A temperature sensor consisting of two dissimilar metals so joined to produce different current when their junction is at different temperatures
   D) A temperature sensor consisting of two dissimilar metals so joined to produce different resistance when their junction is at different temperatures

79	80	81	82	83	84	85
A	D	A	C	D	C	B

86. Limits of specified dimensions are called
   A) Variation
   B) Deviation
   C) Tolerance
   D) Departure

87. Choose incorrect option: Unbalance
   A) Is A rotor condition where the mass centerline coincide with the geometric centerline
   B) Is A rotor condition where the mass centerline (principal axis of inertia) does not coincide with the geometric centerline
   C) expressed in units of gram-inches, gram-centimeters, or ounce-inches.
   D) Varies with the speed

88. Witnessed test
   A) Test where which Vendor has to be present
   B) Test which needs a hold
   C) Test which does not need a hold
   D) Test where SI presence is must

89. WPQ
   A) It tells about the weldment procedure Qualification
   B) It deals with the welder performance
   C) It is as per ASME Section VIII
   D) Welding Process Qualification

90. Source inspection management programme
   A) is generic in nature
   B) Specific for each equipment
   C) is specific for Each S & V
   D) Provide the V necessary information

91. ITP is specific for
   A) Each project
   B) Each organization
   C) Each equipment
   D) Each S & V

92. Source Inspection management Programme may refer
   A) How to prepare ITP
   B) How To conduct Risk assessment
   C) Rejecting all components with Non conformance
   D) How to write source inspection reports

93. Which equipment rely more on the S & V quality programme?
   A) Critical equipment
   B) Less Critical equipment
   C) Engineered Equipment
   D) Failure of those equipment's that affects process safety adversely

86	87	88	89	90	91	92	93
C	A	B	B	A	C	C	B

94. Usually Risk based assessments
   A) Is done in the final stages of the project
   B) Does Not cover the time frame
   C) Does not cover long delivery item
   D) Covers S & V History and capability

95. Which require less source inspection?
   A) Complex equipment
   B) Long delivery equipment
   C) Prototype equipment
   D) Environment friendly equipment

96. Risk is given as
   A) POF x LOF
   B) POF /COF
   C) COF/POF
   D) COF x POF

97. Who has to specify the inspection level?
   A) Source Inspector
   B) Inspection coordinator
   C) Team leader
   D) S & V

98. Which Kind of source inspection rely primarily on S/V quality with minimum source inspection?
   A) Final Source inspection
   B) Intermediate source inspection
   C) Advanced source inspection
   D) Resident source inspection

99. Which is full time source inspection?
   A) Final Source inspection
   B) Intermediate source inspection
   C) Advanced source inspection
   D) Resident source inspection

100. Choose incorrect option: This ITP
   A) should be specific to the type of equipment to be inspected,
   B) the associated risk level for each piece of equipment
   C) should mention all the inspection activities necessary to be performed by the assigned source inspector.
   D) It should also include the appropriate acceptance criteria or reference theretofore.

94	95	96	97	98	99	100
D	D	D	B	A	D	C