

Risk Based Inspection Question Bank

1. API 580 is specifically targeted at the application of RBI in the
 - a) Hydro carbon industry
 - b) Chemical process industry
 - c) Ship building & fabrication units
 - d) All the above.
 - e) a & b
2. RBI is based on sound, proven risk assessment and management principles. None the less, RBI will not compensate for
 - a) Inaccurate of missing information
 - b) Operating outside the acceptable design envelope.
 - c) Lack of qualified personnel or team work.
 - d) Lack of sound engineering or operational judgment.
 - e) All the above.
3. Following equipment are not covered under the RBI by API580
 - a) Pressure vessels
 - b) Process piping
 - c) Boilers and heaters
 - d) Instrument and control system.
4. Probability of failure analysis is made from
 - a) loss of containment that occurs due to deterioration mechanism
 - b) Consequences of the failure
 - c) Done just with previous experience.
 - d) All the above.
5. Graphical representation of scenarios from potential accidents outcome will be called as
 - a) Accident event.
 - b) Process tree.
 - c) Consequence tree.
 - d) Event Tree.
6. Risk prior to mitigation activities.
 - a) Unmitigated risk
 - b) Acceptable risk
 - c) ALARP.
 - d) None of the above.
7. RBI methodology can be adopted for
 - a) Entire operating unit
 - b) Section of operating unit
 - c) Major system or Major Equipment.
 - d) All of the above.

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8. RBI analysis accuracy depends on the following.
 - a) Sound Methodology
 - b) Quality data
 - c) Knowledgeable Personnel
 - d) All the above.
9. Which of following mechanism is most likely to result in thinning?
 - a) Sulphidation
 - b) Stress corrosion cracking
 - c) Fatigue
 - d) None of the above.
10. The term failure used for failure analysis in RBI typically means.
 - a) Loss of containment.
 - b) General corrosion
 - c) Thinning
 - d) All the above.
11. RBI Management means.
 - a) Risk mitigation
 - b) Risk acceptance
 - c) Risk communication.
 - d) All the above.
12. ISO riskline represents.
 - a) Constant risk line
 - b) RBI is not considering such thumb rules
 - c) Typical line represents no of accidents happened in the plant.
 - d) None of the above.
13. Logic models that are being used in Quantitative Risk analysis will have the modeling systems such as
 - a) Event tree
 - b) Fault tree
 - c) Analysis tree
 - d) All the above
 - e) A & B
14. Various ways which lead to the occurrence of event
 - a) Fault tree
 - b) Event tree
 - c) All the above
 - d) None of the above.

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15. Typical parameters used for assessing environmental damages
 - a) Acres of land affected per year
 - b) Mile of shore line attacked per year
 - c) Number of human resources affected
 - d) All the above.
16. In RBI consequence analysis are relates are modeled in
 - a) Instantaneous releases
 - b) Continuous release.
 - c) All the above.
 - d) None of the above.
17. RBI consequence analysis, if fluid in the vessel is liquid but its boiling point is less than 80Deg F, the phased bounded for consequences analysis will be taken
 - a) Liquid
 - b) Gas
 - c) Gas mixture
 - d) None of the above.
18. Risk can be _____ Inspection.
 - a) Mitigated
 - b) Managed
 - c) A & B
 - d) None of the above.
19. Mitigation can be planned and implemented prior to
 - a) Predicated failure date
 - b) After the failure
 - c) Mitigation cannot be planned.
 - d) None of the above.
20. Deterioration mechanism can be arrested/mitigated by
 - a) Inspection
 - b) Failure analysis
 - c) Detailed investigation by RBI
 - d) None of the above.
21. When inspection data gathered are not properly analyzed and acted upon
 - a) Risk mitigation cannot be achieved
 - b) Data is not very important as we can take from previous experience.
 - c) No problem experienced.
 - d) None of the above.
22. Proper inspection methods and data analysis tools are critical for
 - a) RBI
 - b) RCM

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- c) QRA
- 23. Risk management through inspection may have little or no effect under the following circumstances
 - a) Remaining life of the equipment is less
 - b) Type of deterioration mechanism is unknown.
 - c) A & B
- 24. Cost effective Risk mitigation strategy can be provided for each item through
 - a) Inspection
 - b) Failure analysis
 - c) Consequence analysis
- 25. Inspection strategy should be designed in conjunction with other mitigation plans for all equipment will have resultant
 - a) Risk that are acceptable
 - b) Risk that are not acceptable.
 - c) All the above.
- 26. For localized corrosion which inspection method is preferred than others.
 - a) Radiography
 - b) UT thickness measurement
 - c) MT & PT
 - d) All the above.
- 27. Purposed of inspection tools in RBI such as “ what of” tool to determine when, hat and how is
 - a) To achieve the acceptable risk level
 - b) For all general purpose.
 - c) To consult the Equipment Engineer/Owner
- 28. Increasing the frequency of inspection may serve better define, identify or monitor the
 - a) Deterioration mechanisms and there fore reduce the risk.
 - b) Nothing can be done through inspection.
 - c) Both A & B
- 29. Radiography is most effectively used over UT
 - a) Localised corrosion.
 - b) Uniform corrosion.
 - c) To identify the stress corrosion cracking.
- 30. Inspection costs can be more effectively managed through the
 - a) Utilisation of RBI
 - b) Inspection of programs

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c) QRA

31. Documented mitigation action plan should be developed for any equipment requiring

- a) Repair
- b) Replacement.
- c) All equipment.
- d) A & B

32. RBI be used to optimize inspection costs that directly effect

- a) Life cycle cost
- b) Plant operating cost
- c) Not effect any of these.

33. RBI enhance the prediction of failures comes by deterioration mechanism “ the equipment cycle time should _____ and life cycles cost _____ ”

- a) Increase, decrease
- b) Decrease, increase
- c) None of the above.