QUESTION BANK

QUALITY & RELIABILITY ENGINEERING [ME 802D]

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1. What do you mean by **Product Quality**?
2. Explain the modern concept of **Total Quality Management**?
3. What do you **Concurrent Engineering**?
4. How Quality Function Deployment (**QFD**) is used in Quality Planning?
5. Write short notes on:
   a) Failure Mode Effects Analysis (FMEA);
   b) Fault Tree Analysis (FTA);
   c) Costs of Quality;
   d) Quality Circle;
   e) 5-S concept;
   f) Kaizen;
   g) Zero defect program;
   h) Six – Sigma approach
6. Explain four "absolutes of quality" contributed by Philip Crosby. How this can help to build up quality improvement program?
7. Differentiate between Histogram and Pareto Diagram with the help of diagram.
8. Differentiate between "Quality" Management and "Total Quality" Management.
9. Discuss the "Role of Customer and People in Total Quality Management".
10. Describe the Steps for Quality Improvement,;
11. How do you organize for effective Quality Management in manufacturing sector?
12. Discuss the Contribution of Quality masters (Deming, Juran, Crosby, Ishikawa, Taguchi).
13. How do you organize total quality maintenance?
14. How do you organize total quality in service sector?
15. Discuss the Role of Customer in Total Quality Management.
16. Discuss the Role of People in Total Quality Management.
17. Briefly discuss the "Steps for Quality Improvement".
18. What do you mean by Process Control?
19. What is the use of Control Charts in Quality control?
20. What are the different types of Control Charts used in Quality control?
21. What are Statistical Quality Control Tools?
22. What is the significance of Six – Sigma approach?

23. What do you mean by Quality Management Systems?
24. What is ISO 9000 Series of Standard?
25. What is the difference between ISO 9000 Series of Standard & ISO 14000 Series of Standards?

26. What are the Strategic tools and Techniques for TQM?
27. What are the Needs for Tools and Techniques in TQM?
28. What are the Commonly used Tools for TQM?
29. What are the Tools for continuous Improvement – Deming's Plan – Do – Check – Act (PDCA) cycle?
30. Briefly discuss "Poka – Yoke (Mistake – Proofing)"?
31. Briefly discuss "Taguchi's Quality Loss Function".
32. What is reliability?
33. What are the Reliability Parameters?
34. Write short notes on:
    a) constant failure rate;
    b) mean time to failure (MTTF);
    c) mean time between failure (MTBF)
    d) mean down time (MDT)
    e) maintainability & availability;
    f) increasing failure rate;
    g) bath-tub curve
35. Brief discuss the
    a) hazard models:
    b) constant hazard model,
    c) linearly increasing hazard model,
    d) onlinear hazard model and
    e) weilbull distribution,
36. What are the types of System reliability models? Discuss with examples.
37. Discuss the Risk Assessment procedures in design.
38. How Reliability in Design is assessed for
    a) series system,
    b) parallel system,
    c) series-parallel system;
39. Write short note on:
    a) redundancy in design
    b) Design based on reliability
40. Discuss about Tribological failure and monitoring techniques.