



MADE EASY

India's Best Institute for IES, GATE & PSUs

ESE-2017 : Prelims Exam

UPSC Engineering Services Examination

GENERAL STUDIES & ENGG . APTITUDE

Answer Key & Solutions

Test 16: Part Syllabus Non-Technical
Design, Drawing, Safety + Standards and
Quality Practices in Production

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|---------|---------|---------|---------|---------|
| 1. (c) | 11. (d) | 21. (c) | 31. (a) | 41. (a) |
| 2. (c) | 12. (b) | 22. (a) | 32. (c) | 42. (d) |
| 3. (b) | 13. (a) | 23. (a) | 33. (b) | 43. (d) |
| 4. (a) | 14. (c) | 24. (a) | 34. (d) | 44. (d) |
| 5. (c) | 15. (c) | 25. (b) | 35. (b) | 45. (a) |
| 6. (d) | 16. (b) | 26. (d) | 36. (d) | 46. (b) |
| 7. (c) | 17. (b) | 27. (c) | 37. (c) | 47. (c) |
| 8. (d) | 18. (d) | 28. (d) | 38. (d) | 48. (a) |
| 9. (d) | 19. (b) | 29. (a) | 39. (d) | 49. (d) |
| 10. (b) | 20. (d) | 30. (d) | 40. (d) | 50. (b) |

DETAILED EXPLANATIONS

14. (c)

$$R.F. = \frac{\text{Drawing size}}{\text{Actual size}} = \frac{1 \text{ cm}}{1 \text{ m}} = \frac{1}{100}$$

25. (b)

It was originally discovered by Walter Shewart in 1930.

29. (a)

- Its aim is 3.4 PPM defects.
- It was pioneered by Motorola in 1980's.
- It utilizes the concept of house of quality.

35. (b)

BS IV will be nationwide since April 2017.

38. (d)

No shortage or stockout is allowed in this model.

41. (a)

- Destructive testing is performed on those components out of lot, which will not to be used in service while NDT tested parts, out of lot, may be used in service as well.
- NDT and not destructive test, determine the quality of joining process. NDT detects any flaw in joint portion, so that item doesn't fail when put in service; for example in shipping industry.

45. (a)

- Compression and shear waves are used in UT.
- In case of compression waves, atoms vibrate parallel to sound direction and in case of shear-waves direction vibrate perpendicular to sound direction.

50. (b)

QFD is also called as house of quality because of shape of QFD matrix

