



ACE

Engineering Academy

TEST ID: 503

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ESE- 2020 (Prelims) - Offline Test Series

Test- 6

GENERAL STUDIES AND ENGINEERING APTITUDE

SUBJECT: STANDARDS AND QUALITY PRACTICES IN PRODUCTION, CONSTRUCTION, MAINTENANCE AND SERVICES SOLUTIONS

01. Ans: (c)

Sol: AGMARK is the governing body for agricultural and dairy products to be sold in India.

02. Ans: (b)

Sol: Indian Standards Institute will cover codes for fire extinguisher ness.

03. Ans: (a)

Sol: ISI will take care of any type of meat to be sold in India.

04. Ans: (d)

Sol: The examples lead to minor or small steps in process. Therefore, all are performance losses.

05. Ans: (b)

Sol: Reduced speed is performance loss.

06. Ans: (b)

Sol: Defects are yield losses. Idling & Speed losses are performance losses.

07. Ans: (d)

Sol: Availability is the fraction of time machine is in working condition.
Performance is the ratio of actual speed and theoretical speed. Yield is the fraction of output which is defect free.

All the 3 parameters decide OEE i.e., capacity of system.

08. Ans: (b)

Sol: Safety is not part of 5s.

09. Ans: (a)

Sol: Minimizing searching and identification of capacity losses are part of 5s. Safety is not related to 5s.

10. Ans: (a)

Sol: Breakdowns and changeover are availability losses whereas defects are yield losses.

11. Ans: (a)

Sol: TQM is based on top down approach i.e., management is mainly responsible for quality.

12. Ans: (d)

Sol: Management is mainly responsible for quality i.e., top down approach is the principle of TQM.

13. Ans: (d)

Sol: Only through active participation in the audit can top management acquire the necessary insight into the problems of firm. Remaining two statements are correct from common sense point of view.

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14. Ans: (d)

Sol: It is Europe's most prestigious award for organisational excellence which is given annually by EFQM.

15. Ans: (c)

Sol: If top management is involved in quality audit as part of TQM, they will ask questions of (a), (b) and (d). (c) is not relevant question in audit.

16. Ans: (c)

Sol: Company needs to improve in order to survive in stiff competition. Therefore, need for improvement is something no one will question.

17. Ans: (d)

Sol: Principle of benchmarking is to match with competitor or to perform/beat competitor but not to bring down.

18. Ans: (d)

Sol: Internal benchmarking is comparing yourself with departments and divisions in the same organisation. Functional benchmarking is based on the functions which the firm concerned is especially noted for.

19. Ans: (d)

Sol: 1 is internal customer while 2 and 3 are external customers.

20. Ans: (b)

Sol: Team involved in QFD is cross functional. That is members are from different department.

21. Ans: (c)

Sol: Availability = 90% or 0.9
(∵ downtime is 10%)
Total output = x (say)

$$\text{Actual cycle time} = \frac{8 \times 60 \text{ min}}{x \text{ units}}$$

$$\text{Theoretical cycle time} = 6 \text{ min/unit}$$

$$\text{Performance} = \frac{6}{\left(8 \times \frac{60}{x}\right)} = \frac{6x}{8 \times 60}$$

$$\text{Yield} = \frac{57}{x}$$

$$\text{OEE} = 0.9 \times \frac{6x}{8 \times 60} \times \frac{57}{x} = 64\%$$

22. Ans: (c)

Sol: It is developed by Japanese Union of Scientists and Engineers (JUSE).

23. Ans: (d)

Sol: It is given by NIST. ASQ assist in administering it. The award is given in all six categories.

24. Ans: (b)

Sol: According to construction quality assessment system (CONQUAS) highest weightage is given to architecture (around 50%) in case of commercial buildings.

25. Ans: (d)

Sol: All the factors indicate directional failure of management. They ultimately result in low productivity of the firm.

26. Ans: (b)

Sol: Shortage of tools and materials is poor planning (pre work preparation) of supervisor. It is not a factor which demotivates employees.

27. Ans: (a)

Sol: According to customer point of view is what SERVQUAL is based on. Therefore, customer can't be found fault with.

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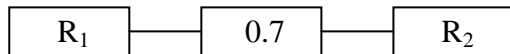


28. Ans: (c)

Sol: For emerging technologies cost of non-conformance (bad quality) will be very high for low level of quality i.e., it will be very steep. Therefore, optimum level of quality is at 100%.

29. Ans: (a)

Sol: Reliability in series is less than minimum reliability of its equipment.



$$R_{\text{series}} < 0.7$$

30. Ans: (d)

Sol: In case of perishable items, FIFO is implemented. It aims in zero searching. When things are properly arranged it saves floor space.

31. Ans: (c)

Sol: Inspection is an appraisal cost, but reinspection is done because the product must have failed in the first inspection. It is obviously internal failure.

32. Ans: (b)

Sol: The producer wants inhouse inspection just to make sure the probability for failing at external customer is low.

33. Ans: (c)

Sol: The objective of prevention is to reduce any type of failure.

34. Ans: (c)

Sol: If the internal audit is successful confidence of the management will be high. Impact of a department on other departments can also be known.

35. Ans: (b)

Sol: The main emphasis in second party audit is normally on areas of the auditee's business.

It ignores other areas. Therefore, it is not comprehensive. There is no 4th party audit.

36. Ans: (c)

Sol: Prediction and detection are both aspects of POKA-YOKE.

37. Ans: (d)

Sol: POKA-YOKE reduces defects and therefore reduced buffer stock. Increased quality will increase reputation of the firm.

38. Ans: (c)

Sol: Training minimizes failure. Reinspection is done because the product failed in the first inspection.

39. Ans: (b)

Sol: Instituting leadership is one of the 14 points for company's transformation.

40. Ans: (a)

Sol: By cleaning well arranging the workplace, it gives opportunity to identify (potential) losses. Proper arranging the workplace will also eliminate searching.

41. Ans: (c)

Sol: Part of 5s i.e., seiso deals with housekeeping, but 5s is much more than that. It minimizes searching. It is an aiding tool in order to improve OEE of a machine.

42. Ans: (a)

Sol: Since, operator is not sure about alignment, an unit is made to cross check. If setting is not done accurately the unit will be defective.

43. Ans: (a)

Sol: Only through active participation in the quality audit can top management acquired necessary insight into problems the firm has had in realising the quality plan.

HEARTY CONGRATULATIONS TO OUR **ESE - 2019** TOP RANKERS

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SHAMBHAVI EE		ANKUSH MANDLA E&T		SAHIL DOYAL ME		ABHISHEK KHARE EE		ROHIT KUMAR E&T		KUMAR CHANDAN ME		AMARJEET CE		ANKIT TAYAL EE		AMIR KHAN E&T			
AIR 4		AIR 4		AIR 5		AIR 5		AIR 6		AIR 6		AIR 6		AIR 7		AIR 7		AIR 7	
																			
SAURAV ME		AMAN GULIA CE		KUMAR MAYANK EE		BIJESH CHANDRA CE		RITESH LALWAN EE		PUSHPAK ME		NIKHIL BHARDWAJ CE		KARTKEY SINGH EE		RAHUL JAIN E&T		MANISH RAJPUT ME	
AIR 8		AIR 8		AIR 8		AIR 9		AIR 9		AIR 9		AIR 9		AIR 10		AIR 10		AIR 10	
																			
KULDEEP KUMAR E&T		HEMANT KUMAR ME		YOGESH KUMAR CE		IKEPTA ROY EE		VISHWAKARAN E&T		S BARAPARA ME		ANKIT KUMAR CE		ANKITA SHARMA EE		KARAN BHOWMIK E&T		SMIT SHINDE ME	

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44. Ans: (a)

Sol: Quality process starts with measurements. Improvement is a change. Before, you start to change anything, find out where you are now and it has to be based on facts. One of the fact is customer experience.

45. Ans: (a)

Sol: Service gaps will reduce result when compared to customer expectations

$$\therefore \text{Value} = \text{Result} - \text{Expectation}$$

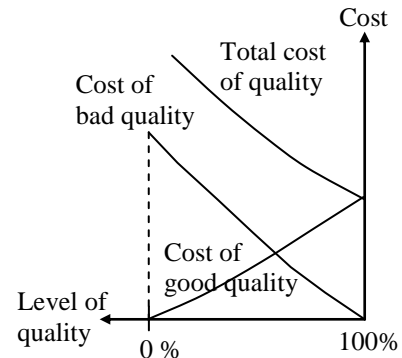
Reduced result will make the customer value negative.

46. Ans: (a)

Sol: Communication (language) is common parameter to both assurance and empathy. If the communication is very good, more score is given to both else less score is given to both.

47. Ans: (a)

Sol:



48. Ans: (a)

Sol: OEE losses once identified, they can be removed by using KAIZEN & POKA-YOKE. Also 5s aims to minimize searching.

49. Ans: (a)

Sol: $\text{loss} = kd^2$

where, d = deviation from target value.

Though deviation is technical its impact on monetary loss makes it easy to understand.

50. Ans: (d)

Sol: Zero Defect Theory conditions worker to take interest in everything he/she does.

It is quest for perfection. It doesn't mean that if zero defects is not achieved then the process is inefficient.