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NPTEL

Courses » **Six Sigma**

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Unit 12 - Week 11

Course outline

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- ○ Lecture 35: The Journey to Six Sigma
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- ○ Week 11 Assignment Solution (Jan 2018)

Week 12

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Assignment 11 (Jan 2018)

The due date for submitting this assignment has passed.   **Due on 2018-04-11, 23:59 IST**
As per our records you have not submitted this assignment.

- Total No. of Questions: 15. Each question carries one point.
- Question 1 to 8 are objective type questions. Only one answer is correct per numbered item.
- Question 9 to 13 are true/false statement questions.
- Question 14 and 15 are multiple choice questions. More than one answers are correct per numbered item

1) An approach that aims to identify the product or service feature that is critical to various types of failure is: *1 point*

- ○ Failure mode and effects analysis
- ○ DOE
- ○ Control Chart
- ○ Fault tree analysis

No, the answer is incorrect.
Score: 0

Accepted Answers:
Failure mode and effects analysis

2) Which one of the following statement is correct? Choose the correct option   *1 point*
Statement 1- The main purpose of measure phase of DMAIC is to set baseline data to understand how the process is currently performing
Statement 2- The main purpose of analyse phase of DMAIC is to identify,validate and select root cause for elimination

- ○ Only statement 1 is correct
- ○ Only statement 2 is correct
- ○ Both statements are correct
- ○ Both statements are incorrect

No, the answer is incorrect.
Score: 0

Accepted Answers:
Both statements are correct

3) Match the followings   *1 point*

Techniques in Six Sigma	Description
a) Brainstorming	1) To identify potential factors causing an overall effect
b) Ishikawa diagram	2) Ability of a product to perform as expected over time
c) Design for manufacturing	3) A method to generate ideas or to locate probable causes of a problem
d) Reliability	4) It is general engineering practice of designing products in such a that they are easy to manufacture

- ○ a-4, b-2, c-3, d-1
- ○ a-3, b-1, c-4, d-2
- ○ a-3, b-4, c-1, d-2
- ○ a-4, b-3, c-2, d-1

No, the answer is incorrect.
Score: 0

Accepted Answers:
a-3, b-1, c-4, d-2

4) The x and y axes of the bathtub curve are   *1 point*

       ○ x axis= Time, y axis=Reliability
       ○ x axis= Reliability, y axis=Time
       ○ x axis= Time, y axis=Failure rate
       ○ x axis= Failure rate, y axis=Time

No, the answer is incorrect.
Score: 0

Accepted Answers:
*x axis= Time, y axis=Failure rate*

5) _____is the probability of performing a successful repair action within a given time   *1 point*

       ○ Maintainability
       ○ Design for Manufacturing
       ○ Reliability
       ○ FMEA

No, the answer is incorrect.
Score: 0

Accepted Answers:
Maintainability

6) The reliability block diagram of a system is shown in the following figure with component reliability noted in each block.   *1 point*
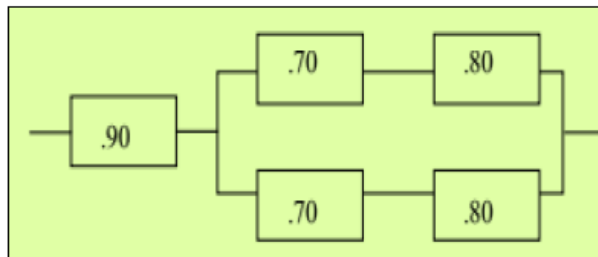
       ○ 0.726
       ○ 0.855
       ○ 0.804
       ○ 0.670

No, the answer is incorrect.
Score: 0

Accepted Answers:
0.726

7) If an MTBF of an electronics equipment is 2000 hrs., then the probability of survival for 400 hrs. of operation will be *1 point*

       ○ 0.8187
       ○ 0.187
       ○ 0.871
       ○ 0.877

No, the answer is incorrect.
Score: 0

Accepted Answers:
0.8187

8) _____is a systematic, streamlined, concurrent engineering program in which reliability engineering is weaved into the total development cycle.   *1 point*

       ○ Design for reliability
       ○ Design for manufacturing
       ○ Design for assembly
       ○ Design for quality

No, the answer is incorrect.
Score: 0

Accepted Answers:
Design for reliability

9) The main purpose of control phase of DMAIC is to process performance by addressing and eliminating the root causes   *1 point*

       ○ True
       ○ False

No, the answer is incorrect.
Score: 0

Accepted Answers:
False

10)The reason of performing the Design for manufacturing process is to reduce the manufacturing cost at the design   *1 point*
stage.

○ True
○ False

No, the answer is incorrect.
Score: 0

Accepted Answers:
True

11)During normal service period of an equipment, the failure density follows normal distribution.   *1 point*

○ True
○ False

No, the answer is incorrect.
Score: 0

Accepted Answers:
False

12)A Six Sigma Green Belt is a full-time quality professional who is mentored by a master black belt, but may report to *1 point*
a manager, for his or her tour of duty as a green belt.

○ True
○ False

No, the answer is incorrect.
Score: 0

Accepted Answers:
False

13)Process element for six sigma includes disciplined approach, Analysis of variance,and Quantitative measures   *1 point*

○ True
○ False

No, the answer is incorrect.
Score: 0

Accepted Answers:
True

14)Which of the following statements are correct? Mark the correct choice.   *1 point*

☐ To obtain the zero defect in the process fool proofing technique is commonly used.
☐ The concept of zero defect was given by Joseph J Juran.
☐ Zero defects means higher customer satisfaction and improved customer loyalty, which invariably leads to better sales and profits.
☐ Control charts help in zero defect production

No, the answer is incorrect.
Score: 0

Accepted Answers:
To obtain the zero defect in the process fool proofing technique is commonly used.
Zero defects means higher customer satisfaction and improved customer loyalty, which invariably leads to better sales and profits.

15)The key feature of Total quality management includes   *1 point*

☐ Continuous improvement
☐ Teamwork, trust and empowerment
☐ Establishing clear specifications
☐ All of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Continuous improvement
Teamwork, trust and empowerment

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