Pre/Post Assessment Response Sheet   **Name** _____ **Date** _____

Directions: Circle the letter below that best completes each of the statements on the following pages.
Record all responses on this sheet; do not write on the following pages.

	Pre						**Post**			
1.	a	b	c	d		1.	a	b	c	d
2.	a	b	c	d		2.	a	b	c	d
3.	a	b	c	d		3.	a	b	c	d
4.	a	b	c	d		4.	a	b	c	d
5.	a	b	c	d		5.	a	b	c	d
6.	a	b	c	d		6.	a	b	c	d
7.	a	b	c	d		7.	a	b	c	d
8.	a	b	c	d		8.	a	b	c	d
9.	a	b	c	d		9.	a	b	c	d
10.	a	b	c	d		10.	a	b	c	d
11.	a	b	c	d		11.	a	b	c	d
12.	a	b	c	d		12.	a	b	c	d
13.	a	b	c	d		13.	a	b	c	d
14.	a	b	c	d		14.	a	b	c	d
15.	a	b	c	d		15.	a	b	c	d
16.	a	b	c	d		16.	a	b	c	d
17.	a	b	c	d		17.	a	b	c	d
18.	a	b	c	d		18.	a	b	c	d
19.	a	b	c	d		19.	a	b	c	d
20.	a	b	c	d		20.	a	b	c	d

1. Error Proofing and Poka Yoke strategies should be comprehended on the _____.

    a. PFD
    b. PFMEA
    c. Control Plan
    d. all of the above

2. The most effective error proofing strategies for machining are typically based on _____.

    a. defined CNC programs, recommended initial speeds and feeds
    b. fixtures, tooling, and job kitting
    c. sensors, limit switches, vision systems, and other technology
    d. an appropriate combination of strategies

3. The most important step of the FMEA process is _____.

    a. proper calculation of occurrence rankings based on appropriate data
    b. proper assignment of severity rankings based on potential hazard to the end user
    c. proper definition of product and process requirements
    d. proper identification of causes using brainstorming

4. FMEAs should be performed with input from _____.

    a. all concerned stakeholders
    b. a cross-function team of technical subject matter experts
    c. not only engineering, but marketing and manufacturing as well
    d. the engineer with design responsibility

5. The PFD should include _____.

    a. process or operation output requirements
    b. process failure severity rankings
    c. inspection sample size and frequency
    d. all of the above

6. The most frequent escape to GE is _____.

    a. dimensional non-conformances
    b. foreign material or contamination
    c. shipping damage or in-system damage
    d. incorrect part marking

7. Pre-determined RPN cutoffs or thresholds for addressing high priority issues _____.

    a. should be established prior to conducting the FMEA
    b. should range between 90 and 120 depending on customer requirements
    c. dictate the type of recommended actions prescribed by AIAG
    d. should not be established

8.   Severity _____.

     a.   considers negative impact on the end user, the customer plant, and supplier operation.
     b.   always focuses on the next person in the production process
     c.   is determined primarily based on the adverse financial impact the failure will have
     d.   both b. and c.

9.   Occurrence rankings _____.

     a.   are calculated using the same criteria and assumptions for both DFMEAs and PFMEAs
     b.   should be based primarily on field failures and MRBs
     c.   should be based on data from similar products and processes, prototype data, and current production
     d.   are rankings of the probability that the cause will occur

10.   A detection ranking of "1" should be reserved for _____.

     a.   error proofing that completely prevents the cause and the failure
     b.   100% automated inspection before the parts have left the operation
     c.   SPC and control charting that detects the presence of special cause variation
     d.   100% operator visual inspection

11.   The scope of FMEAs should include _____.

     a.   the stock to dock process including outside vendors
     b.   only high risk operations
     c.   only new processes or operations
     d.   all of the above

12.   An effective model for addressing Human Factors can be reduced to the _____ acronym.

     a.   WADE
     b.   SCORE
     c.   PEAR
     d.   AIM

13.   The least effective attention activator from the following options is _____.

     a.   sound
     b.   change in motion or pattern
     c.   color
     d.   shape or symbol

14.   Lack of communication, lack of teamwork, and lack of assertiveness are human factors that form what is known as _____.

     a.   the Three Lacks
     b.   Governing Human Factors (GHF)
     c.   Primary Human Factors
     d.   the Dirty Dozen

15. When more than one severity ranking per failure is identified _____.

    a.   all rankings should be multiplied times occurrence rankings
    b.   the highest ranking should be used to calculate one or more RPNs
    c.   the average ranking should be multiplied times all occurrence and detection rankings
    d.   all rankings should be used to calculate RPNs, with special emphasis on rankings of eight or higher

16. Recommended Actions _____.

    a.   should consider containment, investigation, and product or process changes
    b.   may not be required for all RPNs
    c.   should be assigned to the appropriate engineering department for implementation
    d.   both a. and. b

17. If visual inspection is the only control used to detect a manufacturing failure, the applicable detection ranking is _____.

    a.   2
    b.   4
    c.   6
    d.   8

18. The RPN _____.

    a.   is calculated by multiplying all severity, occurrence, and detection rankings from left to right for each failure
    b.   is calculated by multiplying the highest severity effect for each failure times all cause/occurrence rankings for the failure times the lowest detection ranking for the group of controls related to each cause
    c.   is calculated by multiplying the average rankings for severity, occurrence, and detection for each failure
    d.   can be converted into the RPN Root Ratio by calculating the square root of the inverse of the RPN

19. Detection rankings _____.

    a.   should consider both prevention and detection controls
    b.   have the same criteria for both Design and Process FMEAs
    c.   should be tied to Cpk data to be most accurate according to aviation industry guidelines
    d.   both a. and c.

20. When determining potential causes of failures on a PFMEA, you should typically _____.

    a.   assess the validity of the product specifications and drawing requirements
    b.   assume the operator always performs the job correctly
    c.   assume incoming parts and materials are to specification
    d.   qualify occurrence and severity data based on warranty projections