



Post Evaluation Manufacturing Prototype 2005



Directions For Numbers 101- 125 : Read each of the following multiple-choice items and the possible answers carefully. Mark the letter of the correct answer on your answer sheet or as instructed by your teacher. **Remember: Make no marks on this test.**

101 You have conducted your market research for a new product and now must draw conclusions from the information gathered. Using a spreadsheet program to create graphs is an example of:

- A Data analysis.
- B Data compression.
- C Graphical statistics.
- D Unilateral analysis.

102 What are two major advantages of robots?

- A They can repeat a task without getting tired and they can work in hazardous environments.
- B They are inexpensive and they do not need to be maintained.
- C They do not hear and they do not talk.
- D They can do anything a human can do and they are smaller than humans are.

103 When creating a market research survey, all factors must be considered in order to have a valid instrument **EXCEPT**:

- A Potential consumers.
- B Reliability.
- C Representativeness.
- D Personal opinion.

104 Suppose you receive a new bicycle as a gift, but it is missing a nut that holds the front wheel on. The fact that you can go to a hardware store and buy a nut that will thread onto your bicycle bolt is an example of what?

- A Adaptability
- B Conformability
- C Interchangeability
- D Consistency

105 You are the owner of a toy manufacturing company that makes “Darbie” dolls and “GI Doe” dolls. You are in stiff competition with another toy manufacturer. Due to their domination in the market, your only recourse to stay in business is to change from manufacturing dolls to roller skates where there is less competition. What is this scenario an example of?

- A Free-enterprise
- B Bargaining
- C Policy
- D Positioning

106 Marketing is a broad term that refers to how a product is:

- A Sold to consumers.
- B Manufactured in a factory.
- C Transported to the point of sale.
- D Transferred from producer to consumer.

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- 107** You are responsible for developing a market research questionnaire for a new toy. A factor that probably would **NOT** be considered in the development of the questionnaire is:
- A The age of the intended user of the product.
 - B How easily the assembly directions can be followed.
 - C How large the product is.
 - D How much the product costs.
- 108** In automation, to what does the abbreviation CNC refer?
- A Computer National Certification
 - B Computer Numerical Control
 - C Combination Number Coordinates
 - D Can Not Compute
- 109** Automation refers to production systems that do all of the following **EXCEPT**:
- A Have robots that do the work
 - B Are controlled by computers
 - C Make many products at one time
 - D Run by themselves with little or no human input
- 110** What are working drawings composed of?
- A Detail drawings and assembly drawings
 - B Thumbnail sketches, preliminary sketches, and final sketches
 - C Detailed sketches and renderings
 - D Elevations, plots, and orthographic projections
- 111** All of the following are major considerations of an engineer when designing a new product **EXCEPT**:
- A Time allotted for design
 - B Who the product is for
 - C Materials needed to build it
 - D How the product will be advertised
- 112** What is it called when companies assign specific jobs to each employee?
- A Quality control system
 - B Division of labor
 - C Labor party
 - D Work envelope
- 113** Manufacturing large numbers of identical products is what type of production?
- A Custom
 - B Job-lot
 - C Mass
 - D Large scale
- 114** What does the problem solving acronym DEAL stand for?
- A Decision, Education, Awareness, Liability
 - B Deduction, Election, Alleviation, Litigation
 - C Define, Explore, Act, Look back
 - D Decide, Explain, Attend, Logic
- 115** What is a standard way in which manufacturing is planned and communicated to others?
- A Mock-up
 - B Operational process chart
 - C Assembly drawings
 - D Correlation chart

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- 116** What is a prototype?
- A Scale model
 - B Mock-up
 - C Full-size working model
 - D Full-size non-working model
- 117** When tightening the nut to attach the wheel assembly to your skateboard with a wrench, what kind of force are you applying to the nut?
- A Tension
 - B Compression
 - C Torsion
 - D Shear
- 118** When heating the ends of a plastic skateboard to form them, which material properties are you most concerned with?
- A Mechanical
 - B Thermal
 - C Electrical
 - D Chemical
- 119** When designing a product that will be fastened to the ceiling to hold a hanging plant, which property will the material you use need to have?
- A High compressive strength
 - B Low hardness
 - C High tensile strength
 - D High shear strength
- 120** When designing a product that will be used outside, which material property must be considered **MOST**?
- A Deformation
 - B Expansion
 - C Condensation
 - D Oxidation
- 121** You have designed a new notebook computer. To meet standards, it must withstand being dropped to the floor. The procedure you would **MOST** likely use is:
- A Slam testing.
 - B Non-destructive testing.
 - C Catastrophic testing.
 - D Destructive testing.
- 122** The branch of mathematics that deals with collecting and analyzing numerical data and reaching conclusions about them is called:
- A Calculus.
 - B Statistics.
 - C Projection.
 - D Extrapolation.
- 123** Efficiency can be expressed mathematically as the ratio between:
- A Waste and pollution.
 - B Output and input.
 - C Retail price and wholesale price.
 - D Tradeoffs and real costs.

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124 A major factor in assuring that market research is valid is to select respondents using?

- A Rationalization.
- B Commercialization.
- C Correlation.
- D Randomization.

125 Cartesian coordinates allow a robot or other automated device to move to a correct point in space. How are these coordinates represented?

- A Time and space
 - B X, Y, and Z values
 - C Degrees of movement
 - D Map of robot's work area
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?	⊙	Answer/ Scale	Objective	?	⊙	Answer/ Scale	Objective
101	101	A	MP14.01 Math	114	114	C	MP14.03 Technology
102	102	A	MP14.03 Technology	115	115	B	MP14.03 Technology
103	103	D	MP14.03 Technology	116	116	C	MP14.03 Technology
104	104	C	MP14.03 Technology	117	117	C	MP14.02 Science
105	105	A	MP14.03 Technology	118	118	B	MP14.02 Science
106	106	D	MP14.03 Technology	119	119	C	MP14.02 Science
107	107	B	MP14.03 Technology	120	120	D	MP14.02 Science
108	108	B	MP14.03 Technology	121	121	D	MP14.02 Science
109	109	C	MP14.03 Technology	122	122	B	MP14.01 Math
110	110	A	MP14.03 Technology	123	123	B	MP14.01 Math
111	111	D	MP14.03 Technology	124	124	D	MP14.01 Math
112	112	B	MP14.03 Technology	125	125	B	MP14.01 Math
113	113	C	MP14.03 Technology				

Minimum points
required to achieve
mastery category

Total questions on test: 25

Objectives measured: 3	Items	Points	●	◐	Questions measuring this objective
MP14.01 Math	5	5	4	3	101 122 123 124 125
MP14.03 Technology	15	15	11	10	102 103 104 105 106 107 108 109 110 111 112
MP14.03 Technology					113 114 115 116
MP14.02 Science	5	5	4	3	117 118 119 120 121
Totals		25	19	16	

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Items used in test

?	Item name	?	Item name	?	Item name
101	MP14.01.00.05	110	MP14.03.00.05	118	MP14.02.00.02
102	MP14.03.00.08	111	MP14.03.00.09	119	MP14.02.00.03
103	MP14.03.00.02	112	MP14.03.00.15	120	MP14.02.00.04
104	MP14.03.00.10	113	MP14.03.00.12	121	MP14.02.00.05
105	MP14.03.00.14	114	MP14.03.00.04	122	MP14.01.00.01
106	MP14.03.00.03	115	MP14.03.00.13	123	MP14.01.00.02
107	MP14.03.00.11	116	MP14.03.00.01	124	MP14.01.00.03
108	MP14.03.00.07	117	MP14.02.00.01	125	MP14.01.00.04
109	MP14.03.00.06				