



DEFENSE ACQUISITION UNIVERSITY EMPLOYEE SELF-ASSESSMENT

LOG 103 - Reliability, Availability, and Maintainability

Note:

- Provide a justification(s) package referencing the numbered outcomes as appropriate on separate paper.
- Only the numbered outcomes (bold font) need to be addressed.
- The enablers (indented if specified) are provided to ensure the outcome is sufficiently addressed.
- The **Achieved** column is for use by the initial (functional) evaluator.
- Attach this guide with the justification to the DD form 2518 for a complete package.

140113

Outcomes and Enablers		Achieved?	
		Yes	No
1	Review the historical development of RAM legislature, policy and integration within DoD systems acquisition		
	Identify significant events that transformed and improved reliability		
	Identify documentation used to write current RAM policy		
	Identify how RAM impacts sustainment and cost		
	Identify how developmental test and evaluation aids RAM achievement		
	Identify the means for achieving RAM within the systems engineering process		
	Identify how RAM aids supportability and impacts logistics		
	Recognize the purpose of operational test and evaluation		
	Identify the difference between operational effectiveness and suitability		
2	Recognize the impact of acquisition reform on Reliability, Availability, and Maintainability (RAM).		
	Recall the scope and impact of the Perry Memorandum		
	Indicate how the discontinuance of military standards and specifications impacted RAM		
	Identify how the loss of workforce and skilled personnel impacted RAM		
	Recognize how the use of commercial-off-the-shelf items impacted RAM.		
	Indicate how poor RAM design and performance decreased effectiveness and suitability, as identified during OT&E.		
	Identify how RAM and supportability affect early systems engineering activities and sustainment planning		
3	Recognize how the Availability Key Performance Parameter (KPP) and the Reliability and Operation and Support Cost Key System Attributes (KSA) strengthen Reliability, Availability, and Maintainability (RAM).		
	Identify the origin of the Availability KPP, the Material Reliability KSA, and the Ownership Cost KSA		
	Indicate the role of the Combat Developer in the refinement of the KPP/KSAs within the JCIDS process		
	Recall how the Reliability, Availability, Maintainability Cost (RAM-C) Rationale Report Manual is used to calculate the Availability KPP and its KSAs.		
	Recognize the use of enabling technologies in meeting availability KPP/KSA requirements.		
4	Recognize the impact of recent legislation and DoD policy on RAM processes.		
	Identify the impacts of defense policy on RAM, per the GAO report		
	Identify the impact of the DOT&E 2007 Report on RAM		
	Identify the impact of the Defense Science Board Task Force on Developmental Test & Evaluation on RAM		
	Identify the impact of the Reliability Improvement working Group (RIWG) on RAM		
	Indicate the impact of the 2008 AT&L Memorandum on RAM		
	Indicate the impact of DoDI 5000.02 on RAM		
	Indicate the impact of the Weapons System Acquisition Reform Act of 2009 on RAM		
	Indicate the impact of the Weapon System Acquisition Reform Product Support Assessment Report of November 2009 on RAM		
	Recognize changes to the Defense Acquisition Guidebook (DAG) as a result of legislation and acquisition policy changes.		
	Recall how changes in the JCIDS process improved RAM requirements		
	Identify how reliability growth programs have been implemented		
	Recall how integrating Developmental Testing (DT) and Operational Testing (OT) strengthen RAM		
5	Recognize the elements of a Performance-Based Life Cycle Product Support strategy and how RAM is a key element in achieving metric goals.		
	Recall the definition of reliability.		
	Recall the definition of logistics reliability parameters.		



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	Recall the definition of maintainability.		
	Distinguish between Reliability and Maintainability.		
	Recall the Definition of Availability.		
	Identify Design Interface Concepts.		
	Identify the Reliability, Availability and Maintainability Trade Spaces.		
	Define the Reliability Availability & Maintainability Trade Space Considerations.		
	Identify the role of Supportability Analysis/Maintenance Planning in defining Operations and Support Costs.		
	Recall why RAM is a key driver in the development of a Performance-Based Product Support Strategy.		
	Recall why RAM is a key driver in demand forecasting, spares planning, provisioning, and supply support.		
	Recall why RAM is a key driver of Total Ownership Cost.		
	Recall why RAM is a key driver of Sustainment Maturity Levels.		
6	Recognize how RAM measures are developed and addressed to enhance combat capability.		
	Identify why it is important that DoD have highly Reliable, Available, Maintainable and Affordable Products.		
	Identify RAM user requirements.		
	Define how the Joint Capabilities Integration and Development System (JCIDS) Process is related to RAM		
	List the measures of combat capability that are enhanced by RAM		
7	Recognize how contractual requirements are developed from operational requirements.		
	Understand converting Operational RAM Requirements into Contractual RAM Requirements.		
	Assessing and ensuring the RAM of commercial and Non-developmental items.		
8	Identify how the design interface process promotes the concept of Designing for Reliability.		
	Identify the process for Designing for Reliability.		
	Identify Reliability Activities.		
	Identify Reliability Prediction methods and uses.		
	State the objectives of the Failure Modes, Effects and Criticality Analysis process.		
9	Identify how the design interface process promotes the concept of Designing for Maintainability.		
	Identify the process for Designing for Maintainability.		
	Distinguish Among MDT, M(bar) and MTTR.		
	Identify how System Maintainability depends on the Reliability and Maintainability of its subsystems.		
	Identify the purpose of Condition Based Maintenance.		
	Define Prognostics and Health Management (PHM).		
10	Identify how Reliability Growth and Test & Evaluation programs reduce risk.		
	List the Reliability Growth Program requirements.		
	Describe the Duane Model for Planning and Tracking Reliability Growth.		
	Identify how the DT&E Test-Analyze-And-Fix process contributes to reliability growth.		
	Identify decision risks in Reliability Qualification Testing (RQT).		
	Identify how Statistical Test Plans are used in RQT.		
	Recognize the importance of a contractual definition of failure.		
	Identify Government and Industry Best Practices in Test & Evaluation.		
11	Recognize the impacts of manufacturing process anomalies on system RAM performance parameters.		
	Recognize how stated RAM requirements drive the level of quality in the manufacturing processes.		
	Identify the impact of latent defects on performance and logistics.		
	Identify how field data is analyzed to determine the root causes of defects.		
	Show how to identify latent defect issues from field failure data.		
	Identify techniques used to eliminate latent manufacturing process defects.		