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Exam : **OMG-OCSMP-MBA400**

Title : OMG-Certified Systems Modeling Professional - Model Builder - Advanced

Version : DEMO

1.Choose the coned answer.
A department director is responsible (or monitoring the system development processes in a large systems engineering company. In a few systems engineering projects, irritation developed recently between the specialists department's requirements analysts and the system engineering design team, although the methodology had been introduced a couple of years ago.
How could the director resolve this conflict?
A. Tell the teams' supervisors to encourage better teamwork, and check every other week to see how the teams have improved
B. Let each team decide on its individual development methodology. The teams' supervisors will have to budge gaps where they occur
C. Note if the systems engineering methodology still works with the company's business processes, and make modifications where needed
D. Repeat the methodology training tor the people involved and check every other week to see if the methodology usage by the teams is improving
Answer: C
Explanation:
A systems engineering methodology is a collection of related processes, methods, and tools that support the discipline of systems engineering in a specific context. A systems engineering methodology should be aligned with the company’s business processes and goals, and should be updated and improved as needed to reflect changes in the environment, technology, customer needs, etc. By noting if the systems engineering methodology still works with the company’s business processes, and making modifications where needed, the director canresolve the conflict between the requirements analysts and the system engineering design team by ensuring that they follow a consistent and effective approach to systems engineering

2.Choose the correct answer
A project is developing a distributed information system that will be "open" in the following ways.
(a) The system-level models will be published for the world to see.
(b) Others will be encouraged to submit change requests to the system models. (Changes will be identified by stereotypes.)
(c) Others will be encouraged to develop additional subsystems and plug-ins The information system is expected to be in use for at least ten years
What is(are) the most important consideration(s) in selecting a SysML modeling tool for this project?
A. the ability to enforce strict compliance with XMI. AP233 and SysML standards
B. compatibility with XMI. the ability to enforce strict compliance with UML4SysML. and the ability to query models based on user-defined criteria
C. compatibility with XMI. the ability to enforce strict compliance with the SysML standard and the ability to query models based on user-defined criteria
D. compatibility with AP233; the ability to enforce strict compliance with the SysML standard; and the ability to query models based on user-defined criteria
Answer: C
Explanation:
These are the most important considerations in selecting a SysML modeling tool for this project because they ensure that the tool can support the openness and longevity of the distributed information system.

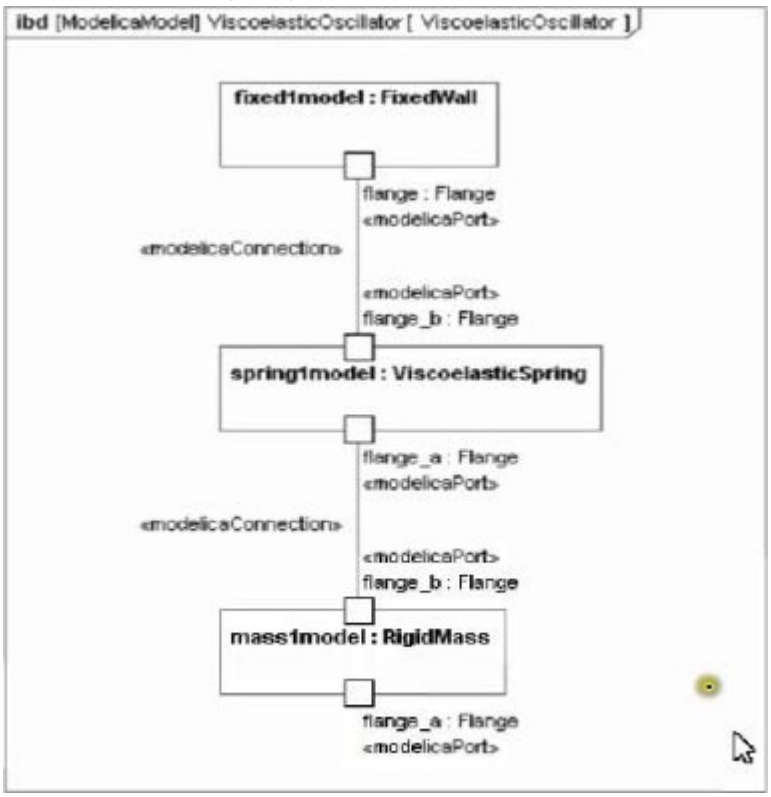
XMI (XML Metadata Interchange) is a format specification that enables the interchange of objects and models through an XML formatted file. It is based on a metamodel that defines the mapping of MOF concepts to XML concepts. By having compatibility with XMI, the tool can import and export SysML models in terms of XML elements and attributes. This allows the tool to publish the system-level models for the world to see and to receive change requests from others in a standardized format. The tool can also use stereotypes to identify changes made by others. The SysML standard is an extension of the UML standard that defines a modeling language for systems engineering. It specifies the abstract syntax, semantics, and notation for SysML concepts and diagrams. By having the ability to enforce strict compliance with the SysML standard, the tool can ensure that the system-level models are consistent and interoperable with other tools and models that follow the same standard. The tool can also support others to develop additional subsystems and plug-ins using SysML concepts and diagrams. By having the ability to query models based on user-defined criteria, the tool can enable users to search and filter system-level models according to their needs and interests. The tool can also support visualization and analytics of system-level models using queries.
References: https://www.omg.org/ocsmp/ocsmp-adv-exam.htmhttps://sysml.org/tutorials/sysml-diagram-tutorial/

3.Choose the correct answer
How does SysML support systems engineering methodologies?
A. The generalization mechanism enables fitting of SysML to a methodology
B. The stereotype and profile mechanisms enable lilting of SysML to a methodology.
C. SysML can only support a systems engineering methodology if it is used at the starting point of the project
D. SysML does not support system engineering methodologies, as it is a language
Answer: B
Explanation:
SysML is a general-purpose modeling language for systems engineering that can support various systems engineering methodologies. The stereotype and profile mechanisms are features of SysML that enable customizing and extending the language for a specific domain or purpose. By using stereotypes and profiles, SysML can be adapted to fit different methodologies and conventions without changing the core language semantics

4.Choose the correct answer
The main diagram type in Modelica corresponds most closely to which SysML diagram type?
A. act
B. bdd
C. ibd
D. par
Answer: C
Explanation:
The main diagram type in Modelica corresponds most closely to the ibd (internal block diagram) in SysML. An ibd shows the internal structure of a block in terms of its parts, ports, connectors, and flows. It is similar to a Modelica diagram, which shows the components of a model in terms of their connectors and equations. Both diagram types can be used to represent physical systems composed of

interconnected elements with defined behaviors and properties.
References: https://www.omg.org/ocsmp/ocsmp-adv-exam.htmhttps://modelica.org/documents/ModelicaSpec34.pdf

5.Choose the correct answer.
Given the following diagram:



Assume that all stereotypes required by the SysML-Modehca Transformation specification (if any) have been applied but are not necessarily shown here Assume that FixedWall. ViscoelasticSpring. and RigidMass are fully defined in a Modelica library.
What else must be done to get this model ready for solving according to the SysML-Modelica Transformation specification?
A. Provide specific values. Also define a parametric diagram that includes equations for Kirchhoffs Laws consistent with the above ibd.
B. Provide specific values Nothing else is required, as Kirchhoff's I laws are automatically taken care of consistent with the above ibd
C. Nothing - it is ready as-is
D. Modelica cannot handle this type of nonlinear model
Answer: A
Explanation:
To get this model ready for solving according to the SysML-Modelica Transformation specification, one must provide specific values for the parameters and properties of the blocks, such as resistance, capacitance, voltage, etc. Also, one must define a parametric diagram that includes equations for Kirchhoff's Laws consistent with the above ibd. A parametric diagram is a SysML diagram that shows constraints and parameters on blocks and their properties. Kirchhoff's Laws are physical laws that describe how electric currents and voltages behave in a circuit. By defining a parametric diagram with

these equations, one can specify how the blocks and connectors in the ibd are related mathematically.
References: https://www.omg.org/ocsmp/ocsmp-adv-exam.htmhttps://www.omg.org/spec/SyM/1.0/About-SyM/