

# **CMMI Interview Questions And Answers Guide.**



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# CMMI Job Interview Preparation Guide.

### Question # 1

Should we try to get a maturity level or capability levels?

#### Answer:-

Unless you are trying to get a level to qualify for a contract that specifies what they require, the choice is entirely up to you. There are a few issues that may influence your decision.

First, when you "get a level" you are in reality conducting a CMMI appraisal (called a SCAMPI A appraisal). Such an appraisal requires selecting a CMMI model and the scope of the organization to be appraised. In addition, you must determine what results you want from the appraisal.

Capability levels apply to your organization's process improvement achievement in individual process areas. The four capability levels are numbered 0 through 3. For example, your appraisal results may show that the part of the organization you appraised is capability level 3 for Configuration Management, but capability level 2 for Decision Analysis and Resolution.

Maturity levels apply to your organization's process improvement achievement in multiple process areas. These levels are a means of improving the processes corresponding to a given set of process areas (i.e., maturity level). The five maturity levels are numbered 1 through 5. The maturity level applies to the scope of the organization that was appraised (e.g., three projects, a department, a division)

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### Question # 2

Explain What are Maturity Levels in Staged Representation?

#### Answer:-

The Staged Representation is one of the approaches used in Software CMM. This approach utilizes the predefined sets of process areas for defining an improvement path for an enterprise and the improvement path is described by a model component called a Maturity Level.

CMMI Staged Representation provides a proven sequence of improvements, each of which serves as a foundation for the next. The comparisons across enterprises by using the maturity levels are permitted. The staged representation provides migration from SW-CMM to CMMI. It provides a rating system which summarizes the results of appraisal. The Staged Representation provides a well pre-defined roadmap the improvement of organizations which are based on proven grouping and ordering of processes.

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### Question # 3

What is Project Management Concepts?

#### Answer:-

Project Management Concepts: This consists of Project planning, Project monitoring and control, Risk Management, Process and product quality assurance, Configuration management, Supplier agreement management, Integrated supplier management, Measurement analysis,

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### Question # 4

What is Process Management concepts?

#### Answer:-

Process Management concepts: This includes Organizational process definition, Integrate project management.

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### Question # 5

What is Integrated teaming concepts?

#### Answer:-

Integrated teaming concepts: This includes integrated project management, Organizational environment for integration, and integrated teaming.

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### Question # 6

Explain What are Capability Levels in Continuous Representation?



### **Answer:-**

Capability levels are relevant to organization's process improvement in specific areas. Capability levels in Continuous representations:

Level0 Incomplete: It depicts an incomplete process which does not implement all Capability level1 processes and practices.

Level1 Performed: Process that implements all Capability level1 processes and practices. Some work can be done even though major objectives such as performance are not achieved.

Level2 Managed: They are processes which are planned, managed, performed, monitored, and controlled for specific projects to achieve specific goals.

Level3 Defined: It's a customized set of standard and managed process for an organization. The processes are tailored a bit as per the organization's benefit.

Level4 Quantitatively managed: It is a defined process that is managed and controlled using statistical and quantitative methods.

Level5 Optimizing: It's a quantitatively managed and improved process which is based upon common roots and causes of process variation. Focus is on improving performance of the process using incremental and innovative methods.

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### **Question # 7**

Can you please explain Capability Level 4: Quantitatively Managed?

### **Answer:-**

This process is defined as a process which is properly controlled using statistical and other quantitative techniques. Quality and process performance are established and utilized as the major criteria in process management. The quality of process performance is estimated in statistical terms. This quality is managed throughout the process life cycle.

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### **Question # 8**

What is CMMI for Development?

### **Answer:-**

CMMI for Development: Describes Product and service for development processes. An organization usually does not build everything it needs for build a product. It builds some elements and acquires some to build a product. CMMI for development includes processes to manage this. It also includes best practices that address development process.

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### **Question # 9**

What is CMMI for Acquisition?

### **Answer:-**

CMMI for Acquisition: Describe Product and service acquisition processes. It defines processes that provide guidance to acquisition organizations for managing acquisitions of products and services. It enlists the processes needed for acquisitions and integrates various knowledge bodies that are needed.

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### **Question # 10**

What is Level1 Initial?

### **Answer:-**

Level1 Initial: Processes are ad-hoc and chaotic. Success of organization is based on individuals and not standard processes.

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### **Question # 11**

What is CMMI Level5 Optimizing?

### **Answer:-**

Level5 Optimizing: Organization has achieved specific goals and practices of levels 2, 3, 4 and 5 and also generic goals of levels 2 and 3. Focus is on continuously improving processes using incremental and innovative methods.

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### **Question # 12**

Can you please explain the different Process Area in CMMI?

### **Answer:-**

The following are the different process areas in CMMI:

1. Initial Process: This process involves in software configuration management, software quality assurance, software subcontract management, software project tracking and oversight, software project planning and requirements management.
2. Defined Process: This process involves in peer reviews, intergroup coordination, software product engineering, integrated software management, training program, organization process definition, organization process focus.
3. Managed Process: This process involves in software quality management, quantitative process management
4. Optimizing Process: Process change management, technology change management, and defect prevention

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### **Question # 13**

What is Quantitative management concepts?

### **Answer:-**

Quantitative management concepts: This includes Quantitative project and process management.

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### Question # 14

Explain Capability Level 3: Defined?

**Answer:-**

This process is characterized as a well defined process. It is referred as a managed process which is tailored for the standards of the organization as per the tailoring guidelines of the organization and the work products, measures and other process related improvement information are contributed.

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### Question # 15

What is the different Models in CMMI?

**Answer:-**

The models in CMMI are:

- Product and service development (CMMI for Development model)
- Service establishment, management, and delivery (CMMI for Services model)
- Product and service acquisition (CMMI for Acquisition model)

**Development Model:** It is inevitable to reach the quality product or service to customer on time. Using CMMI-DEV model, could help enterprises achieve product delivery on-time with high quality, especially the service relies heavily on software. This model is a collection of best practices which an organization follows for dramatically improvement of effectiveness, efficiency and quality of the product.

The benefits that are experienced by the organizations using CMMI-DEV are:

- Better customer satisfaction
- Increased quality
- More accurate schedules
- Lower development costs
- Substantial return on investment
- Improved employee morale and reduced turnover

**Services Model:** CMMI-SVC is a guide for helping service provider organizations to reduce costs, improve quality and improvement of predictability of schedules. The service providers deserve the development community enjoyed opportunities for years. The service providers are based on community models by practice deserves the opportunity to improve the processes.

CMMI-SVC provides best practices to

- Decide the services providing, define services standards
- Ensure that they obtain the elements to deliver a quality service, consumables and equipment.
- Place the new systems in locations, change the existing systems, and retire obsolete systems.
- Handle the elements that goes wrong for preventing from moving wrong in the first place

**Acquisition Model:** CMMI-ACQ is a best practice model which helps to improve relationships with the suppliers by helping improvisation of own processes. The project control can be increased, global sourcing of products could be better managed, and acquire the solutions which meet the needs of organization. This model is based on CMMI framework, and has 22 process areas, out of which six are acquisition practices specific and sixteen are shared among other CMMI models.

The six process areas that are specific to acquisition practices are

- Acquisition Requirements Development (ARD)
- Solicitation and Supplier Agreement Development (SSAD)
- Agreement Management (AM)
- Acquisition Technical Management (ATM)
- Acquisition Verification (AVER)
- Acquisition Validation (AVAL)

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### Question # 16

How long does it take to establish a process improvement program? How soon will I see results?

**Answer:-**

Many factors are involved in establishing a process improvement program, including the readiness of the organization, the existence of effective processes and infrastructure to support a program, and the skills and knowledge of the organization's people.

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### Question # 17

How to find a Partner that specializes in what we need?

**Answer:-**

Find Partners that are geographically close to you and offer the products you are looking for. Interview each to evaluate how well their experience is compatible with your organization's needs.

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### Question # 18

What is Level0 N/A?

**Answer:-**

Level0 N/A: All processes do not fulfill Level1 practices and standards.

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### Question # 19

What is Level4 Quantitatively managed?

**Answer:-**

Level4 Quantitatively managed: Organization has achieved all specific goals and procedures of level 2, 3 and 4 and also generic goals of level 2 and 3. Standard and performance enhancing sub processes are selected and monitored and controlled using statistical and quantitative methods.



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### **Question # 20**

What is SCAMPI Process?

#### **Answer:-**

Standard CMMI Appraisal Method for Process Improvement. The SCAMPI process is designed to provide milestone quality ratings in reference to CMMI models. It's widely applicable to appraisal usage modes, including internal process improvement and also external capability determinations. It satisfies all appraisal requirements for CMMI requirement for Class A appraisal method. It describes requirements, activities, and practices related to processes that make the SCAMPI method. They are often used to identify the strengths and weaknesses of the current processes, reveal risks. It defines the appraisal process consisting of monitoring in-site activities, preliminary observations, findings & ratings, reporting etc.

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### **Question # 21**

Can you please explain Capability Level 5: Optimizing?

#### **Answer:-**

It is a quantitatively managed process which is improved that is based on an understanding the process variation inherent cause in the process. The focus is on continually improving the performance of the process by both incremental and innovative improvements. The target of these processes is activities improvement..

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### **Question # 22**

Do you know Capability Level 1: Performed?

#### **Answer:-**

This level is expected for performing all the level specific practices. Stable or non-met specific objectives such as quality, cost, and schedule may not be performed well, but the work done is useful. Something is done but could not prove that it will really work for.

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### **Question # 23**

What is CMMI for Services?

#### **Answer:-**

CMMI for Services: Describe Service establishment, management, and delivery processes. Includes guides to reduce costs, improve quality and predictability. Guides organizations to define what services they should be providing, define standards, let the world know about them.

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### **Question # 24**

Can you please explain what is SCAMPI process?

#### **Answer:-**

SCAMPI stands for Standard CMMI Appraisal Method for Process Improvement. Bench mark quality ratings are provided by it which is relative to Capability Maturity Model Integration models. Wide range of appraisal usage models are utilized by applying SCAMPI process, including internal process improvement and external capability determinations. All of the Appraisal Requirements for CMMI (ARC) requirements for a Class A appraisal method is satisfied by SCAMPI and it supports the assessment conduct of ISO/IEC 15504.

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### **Question # 25**

Are there tools available for us to use while we are getting started?

#### **Answer:-**

Many Partner organizations have tools that they use. The CMMI Institute doesn't promote or endorse any of these tools. Our advice is simply to evaluate the tools in terms of how they fit with your organization's needs and infrastructure.

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### **Question # 26**

What is Level3 Defined?

#### **Answer:-**

Level3 Defined: An organization has fulfilled all specific processes and goals of level2 and 3. All processes are well managed, ordered and understood. They are described using tools, standards, methods and procedures.

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### **Question # 27**

What is Engineering Concepts?

#### **Answer:-**

Engineering Concepts: This includes Requirements development, Technical solution, Requirements management, Product integration, Verification, Validation, Decision analysis and resolution.

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### Question # 28

Explain Indirect artifacts?

#### Answer:-

Indirect artifacts: Artifacts that are results of performing a specific practice that substantiate its implementation.

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### Question # 29

Can you please explain Capability Level 0: Incomplete?

#### Answer:-

It is a process which is not performed fully or partially. One or more specific goals of the process area would not be satisfied and generic goals do not exist for this level.

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### Question # 30

Explain capability levels in continuous representation?

#### Answer:-

In CMMI models there are six capability levels which are designated by the digits from 0 to 5

Capability Level 0: Incomplete

It is a process which is not performed fully or partially. One or more specific goals of the process area would not be satisfied and generic goals do not exist for this level.

Capability Level 1: Performed

This level is expected for performing all the level specific practices. Stable or non-met specific objectives such as quality, cost, and schedule may not be performed well, but the work done is useful. Something is done but could not prove that it will really work for.

Capability Level 2: Managed

It is a process which is planned, performed, monitored and controlled for individual projects or groups or could be stand-alone processes for achieving a given need. Both the model objectives for the process and other related objectives like cost, schedule and quality are managed in this process. The things that are to be managed in an enterprise are managed actively in this level. There are certain metrics which are to be collected consistently and applied for management approach.

Capability Level 3: Defined

This process is characterized as a "well defined process". It is referred as a managed process which is tailored for the standards of the organization as per the tailoring guidelines of the organization and the work products, measures and other process related improvement information are contributed.

Capability Level 4: Quantitatively Managed

This process is defined as a process which is properly controlled using statistical and other quantitative techniques. Quality and process performance are established and utilized as the major criteria in process management. The quality of process performance is estimated in statistical terms. This quality is managed throughout the process life cycle.

Capability Level 5: Optimizing

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### Question # 31

Can you please explain What is CMMI?

#### Answer:-

Capability Maturity Model Integration: CMMI is an approach to improve process which provides enterprises with essential elements of effective processes in order to ultimately improve their performance. CMMI could be used as a standard guide process for a division, a process, or an entire enterprise.

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### Question # 32

Are there services available to help me adopt CMMI?

#### Answer:-

There are many ways to get help with CMMI models. You can work with a consultant from a Partner organization. That consultant can guide you in creating a process improvement program, selecting a model, determining when to have an appraisal and more. The CMMI Institute and its partners offer CMMI-related training and appraisal services. You can find a Partner organization that offers CMMI services near you.

An extensive CMMI user community is active on the web. Join in on the community discussion and get help from other users.

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### Question # 33

What is Optimizing concepts?

#### Answer:-

Optimizing concepts: This includes Causal analysis and resolution, Organizational innovation and deployment.

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### Question # 34

Explain Direct artifacts?

#### Answer:-

Direct artifacts: tangible outputs resulting from implementation of a process or practice.

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### **Question # 35**

Tell me What is a Partner?

#### **Answer:-**

Partners are qualified organizations that are licensed by the CMMI Institute to help other organizations and individuals to adopt new and improved technologies. For CMMI, partners offer consulting, appraisal, and training services.

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### **Question # 36**

What is Level2 Managed?

#### **Answer:-**

Level2 Managed: An organization has achieved all specific and generic goals of level2 process areas. It has been proven that requirements are managed and that processes are controlled, planned and monitored.

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### **Question # 37**

Explain What is the importance of PII in SCAMPI?

#### **Answer:-**

PII is acronym for Practice Implementation Indicators. They are pieces of evidence that a particular CMMI practice will leave evidence that it has been performed. It could be a document, a spreadsheet, or any artifact. The appraiser looks for PII for assessment. There are 3 types of PII:

Direct artifacts: tangible outputs resulting from implementation of a process or practice.

Indirect artifacts: Artifacts that are results of performing a specific practice that substantiate its implementation.

Affirmations: Oral or written statements of a specific practice. They are often provided by the implementers of the practice or other stakeholders.

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### **Question # 38**

Explain Affirmations?

#### **Answer:-**

Affirmations: Oral or written statements of a specific practice. They are often provided by the implementers of the practice or other stakeholders.

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### **Question # 39**

What is Capability Level 2: Managed?

#### **Answer:-**

It is a process which is planned, performed, monitored and controlled for individual projects or groups or could be stand-alone processes for achieving a given need. Both the model objectives for the process and other related objectives like cost, schedule and quality are managed in this process. The things that are to be managed in an enterprise are managed actively in this level. There are certain metrics which are to be collected consistently and applied for management approach.

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### **Question # 40**

Do you know how is Appraisal done in CMMI?

#### **Answer:-**

The CMMI assessments are based on SCAMPI assessment methods which provide a report on the process improvement efforts. To assess the appraisals, Authorized Lead Appraisers, Authorized High Maturity Lead Appraisers for carrying out CMMI SCAMPI assessments are provided to the organizations.

The CMMI SCAMPI Appraisal is depended upon the need of organization as identified while focusing organizational process. The SCAMPI appraisal planning process is carried out in compliance to SEI Methodology which covers the aspects as:

- Base-lining of Appraisal Objectives with Appraisal Sponsor
- Mapping of Appraisal Objectives with Organizational Objectives
- Determination of Focus Projects
- Determination of Organizational Representation (Sampling) on Project basis and People-basis
- Appraisal Resources and Appraisal Team Strategy
- Planning of Appraisal Schedule
- Appraisal Output Determination
- Appraisal Constraints Determination
- Appraisal Risk Management

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### **Question # 41**

Can you please explain the advantages of implementing CMMI?

#### **Answer:-**

Advantages of Implementing CMMI practices

The process implementing is simpler in certain enterprises. The appropriate plan for process improvement projects is done, the implementation of the practices in CMMI model are more efficient. They require very less time and resources. The following are the advantages:

1. The implementing challenges are highly influenced by the size of the organization and the extent of institutionalization.
2. These practices are efficient and flexible. The reason behind it is, the processes have not been hardened over time.
3. It is more efficient and flexible to communicate information and receiving it.

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