Chapter 2: Project Methodologies and Processes

True/False

1. A methodology provides a systematic way to plan, manage, and execute projects.
   a. True
   b. False

   Ans: True
   Difficulty: Easy
   Ref: INTRODUCTION

2. The Project Management Body of Knowledge (PMBOK®) and PRojects IN Controlled Environments (PRINCE2®) are two popular and widely used project management methodologies.
   a. True
   b. False

   Ans: True
   Difficulty: Easy
   Ref: INTRODUCTION

3. Breaking a project down into phases increases the complexity and project risk.
   a. True
   b. False

   Ans: False
   Difficulty: Easy
   Ref: THE PROJECT LIFE CYCLE

4. Fast tracking is defined as starting the next phase of a project before the current phase is complete.
   a. True
   b. False

   Ans: True
   Difficulty: Easy
   Ref: THE PROJECT LIFE CYCLE

5. PMBOK® views project integration management as one of the most important because it coordinates the other nine knowledge areas.
   c. True
   d. False

   Ans: True
   Difficulty: Easy

Ref: THE PROJECT MANAGEMENT BODY OF KNOWLEDGE (PMBOK®)

6. The PMBOK® are called project cost management includes estimate costs, determine budget, and control costs.
    a. True
    b. False

    Ans: True
    Difficulty: Easy
    Ref: THE PROJECT MANAGEMENT BODY OF KNOWLEDGE (PMBOK®)

7. A project's scope is primarily a list of resources available to the project team.
    e. True
    f. False

    Ans: False
    Difficulty: Easy
    Ref: THE PROJECT MANAGEMENT BODY OF KNOWLEDGE (PMBOK®)

8. Project management processes include Scope, Schedule, Budget, and Quality.
    a. True
    b. False

    Ans: False
    Difficulty: Easy
    Ref: PROJECT PROCESSES

9. Contract closure ensures that all of the deliverables and agreed upon terms of the project have been completed and delivered.
    g. True
    h. False

    Ans: True
    Difficulty: Easy
    Ref: PROJECT PROCESS

10. PRINCE2® was originally developed for government projects in the United States.
    a. True
    b. False

Ans: False
Difficulty: Easy
Ref: PRINCE2®

11. PRINCE2® is similar to the PMBOK® Guide in that it follows the project life cycle and provides stakeholders with a common language and approach to managing projects.
    a. True
    b. False

Ans: True
Difficulty: Easy
Ref: PRINCE2®

12. Under PRINCE2®, any proposed changes to the project that the user wants should be approved and included.
    i. True
    j. False

Ans: False
Difficulty: Easy
Ref: PRINCE2®

13. Under PRINCE2®, the Project Board is accountable for the project's success or failure.
    a. True
    b. False

Ans: True
Difficulty: Easy
Ref: PRINCE2®

14. Although projects follow a project life cycle, the development of new products, services, or information systems follow a product life cycle.
    a. True
    b. False

Ans: True
Difficulty: Medium
Ref: THE SYSTEMS DEVELOPMENT LIFE CYCLE (SDLC)

15. The integration of project management and systems development activities is one important component that distinguishes IT projects form other types of projects
    a. True
    b. False

Ans: True
Difficulty: Medium
Ref: THE SYSTEMS DEVELOPMENT LIFE CYCLE (SDLC)

16. Waterfall is an iterative development approach while Agile is a structured development approach.
    a. True
    b. False

Ans: False
Difficulty: Medium
Ref: THE SYSTEMS DEVELOPMENT LIFE CYCLE (SDLC)

17. The four phases of a learning cycle include: Understand and frame the problem, plan, act, reflect and learn.
    a. True
    b. False

Ans: True
Difficulty: Easy
Ref: LEARNING CYCLES AND LESSONS LEARNED

Multiple Choice

1. A project plan includes which of the following:

a) Project Objectives
b) Resources
c) Controls
d) All of these
e) None of these

Ans: D
Difficulty: Easy
Ref: THE PROJECT LIFE CYCLE

2. The following are PMBOK® knowledge areas except:

a) Project Integration Management
b) Project Scope Management
c) Project Cost Management
d) Project Risk Management
e) Project Research Management

Ans: E
Difficulty: Easy
Ref: THE PROJECT MANAGEMENT BODY OF KNOWLEDGE (PMBOK®)

3. The Project Management Body of Knowledge

a) is a method of ensuring project success.
b) must be used on all projects.
c) is a generally accepted set of principles and practices for project management.
d) must be used in its entirety.
e) works the same on all projects.

Ans: C
Difficulty: Easy
Ref: THE PROJECT MANAGEMENT BODY OF KNOWLEDGE (PMBOK®)

4. Project Integration Management

a) focuses on coordinating the project plan's development, execution, and control of changes.
b) includes identifying the project phases and activities and estimating, sequencing, and assigning resources.
c) focuses on planning, developing, and managing the quality environment allowing the project to meet or exceed stakeholder expectations.
d) focuses on identifying and responding appropriately to risks that can impact the project.
e) is concerned with acquiring project resources that are outside the organization.

Ans: A
Difficulty: Easy
Ref: THE PROJECT MANAGEMENT BODY OF KNOWLEDGE (PMBOK®)

5. Project Scope Management

a) focuses on coordinating the project plan's development, execution, and control of changes.
b) includes identifying the project phases and activities and estimating, sequencing, and assigning resources.
c) provides assurance that the project's work is defined accurately and completed as planned.
d) focuses on identifying and responding appropriately to risks that can impact the project.
e) is concerned with acquiring project resources that are outside the organization.

Ans: C
Difficulty: Easy
Ref: THE PROJECT MANAGEMENT BODY OF KNOWLEDGE (PMBOK®)

6. Project Time Management

a) focuses on coordinating the project plan's development, execution, and control of changes.
b) includes identifying the project phases and activities and estimating, sequencing, and assigning resources.
c) focuses on planning, developing, and managing the quality environment allowing the project to meet or exceed stakeholder expectations.
d) focuses on identifying and responding appropriately to risks that can impact the project.
e) is concerned with acquiring project resources that are outside the organization.

Ans: B
Difficulty: Easy
Ref: THE PROJECT MANAGEMENT BODY OF KNOWLEDGE (PMBOK®)

7. The PMBOK® area called project time management includes all of the following except:

a) Define Activities
b) Assign Activities
c) Estimate Activity Durations
d) Develop Schedule
e) Control Schedule

Ans: B
Difficulty: Easy
Ref: THE PROJECT MANAGEMENT BODY OF KNOWLEDGE (PMBOK®)

8. Project Cost Management

a) focuses on coordinating the project plan's development, execution, and control of changes.
b) includes identifying the project phases and activities and estimating, sequencing, and assigning resources.
c) focuses on planning, developing, and managing the quality environment allowing the project to meet or exceed stakeholder expectations.
d) assures that the project budget is developed and completed as approved.

e) is concerned with acquiring project resources that are outside the organization.

Ans: D
Difficulty: Easy
Ref: THE PROJECT MANAGEMENT BODY OF KNOWLEDGE (PMBOK®)

9. Project Quality Management

a) focuses on coordinating the project plan's development, execution, and control of changes.
b) includes identifying the project phases and activities and estimating, sequencing, and assigning resources.
c) focuses on planning, developing, and managing the quality environment allowing the project to meet or exceed stakeholder expectations.
d) focuses on identifying and responding appropriately to risks that can impact the project.
e) is concerned with acquiring project resources that are outside the organization.

Ans: C
Difficulty: Easy
Ref: THE PROJECT MANAGEMENT BODY OF KNOWLEDGE (PMBOK®)

10. Project Human Resource Management

a) focuses on creating and developing the project team.
b) includes identifying the project phases and activities and estimating, sequencing, and assigning resources.
c) focuses on planning, developing, and managing the quality environment allowing the project to meet or exceed stakeholder expectations.
d) focuses on identifying and responding appropriately to risks that can impact the project.
e) is concerned with acquiring project resources that are outside the organization.

Ans: A
Difficulty: Easy
Ref: THE PROJECT MANAGEMENT BODY OF KNOWLEDGE (PMBOK®)

11. Project Communications Management

a) focuses on coordinating the project plan's development, execution, and control of changes.
b) includes identifying the project phases and activities and estimating, sequencing, and assigning resources.

c) focuses on planning, developing, and managing the quality environment allowing the project to meet or exceed stakeholder expectations.
d) entails providing timely and accurate information about the project to stakeholders.
e) is concerned with acquiring project resources that are outside the organization.

Ans: D
Difficulty: Easy
Ref: THE PROJECT MANAGEMENT BODY OF KNOWLEDGE (PMBOK®)

12. Project Risk Management

a) focuses on coordinating the project plan's development, execution, and control of changes.
b) includes identifying the project phases and activities and estimating, sequencing, and assigning resources.
c) focuses on planning, developing, and managing the quality environment allowing the project to meet or exceed stakeholder expectations.
d) focuses on identifying and responding appropriately to risks that can impact the project.
e) is concerned with acquiring project resources that are outside the organization.

Ans: D
Difficulty: Easy
Ref: THE PROJECT MANAGEMENT BODY OF KNOWLEDGE (PMBOK®)

13. Project Procurement Management

a) focuses on coordinating the project plan's development, execution, and control of changes.
b) includes identifying the project phases and activities and estimating, sequencing, and assigning resources.
c) focuses on planning, developing, and managing the quality environment allowing the project to meet or exceed stakeholder expectations.
d) focuses on identifying and responding appropriately to risks that can impact the project.
e) is concerned with acquiring project resources that are outside the organization.

Ans: E
Difficulty: Easy
Ref: THE PROJECT MANAGEMENT BODY OF KNOWLEDGE (PMBOK®)

14. Planning, executing, and monitoring and controlling are examples of:

a) Project Management process groups.
b) Project Management tools.
c) PMBOK® areas of knowledge
d) Project Management objectives
e) Project Management infrastructure.

Ans: A
Difficulty: Easy
Ref: PROJECT PROCESSES

15. Initiating processes:

a) Signal the beginning of the project or phase.
b) Requires an organization to make a commitment of time and resources.
c) Are part of the project management processes and ITPM phases.
d) all of these
e) none of these

Ans: A
Difficulty: Easy
Ref: PROJECT PROCESSES

16. Planning processes:

a) Signal the beginning of the project or phase.
b) Requires an organization to make a commitment of time and resources.
c) Are part of the project management processes and ITPM phases.
d) supports planning of the entire project and each individual phase
e) none of these

Ans: D
Difficulty: Easy
Ref: PROJECT PROCESSES

17. Executing processes:

a) Signal the beginning of the project or phase.
b) Requires an organization to make a commitment of time and resources.
c) focus on integrating people and resources to carry out the planned activities.
d) supports planning of the entire project and each individual phase
e) none of these

Ans: C
Difficulty: Easy
Ref: PROJECT PROCESSES

18. Monitoring and controlling processes:

a) Signal the beginning of the project or phase.
b) Requires an organization to make a commitment of time and resources.
c) focus on integrating people and resources to carry out the planned activities.
d) supports planning of the entire project and each individual phase
e) allows for managing and measuring progress toward the project's MOV and scope, schedule, budget, and quality objectives.

Ans: E
Difficulty: Easy
Ref: PROJECT PROCESSES

19. Closing processes:

a) Signal the beginning of the project or phase.
b) formally accepts the project's product, service, or end result so the project or phase can be brought to an orderly close.
c) focus on integrating people and resources to carry out the planned activities.
d) supports planning of the entire project and each individual phase
e) allows for managing and measuring progress toward the project's MOV and scope, schedule, budget, and quality objectives.

Ans: B
Difficulty: Easy
Ref: PROJECT PROCESSES

20. Product-oriented processes will define all of the sub-phases and deliverables associated with the _____ project management life cycle phase.

a) conceptualize and initialize the project
b) develop the project charter and plan
c) execute and control
d) close project
e) evaluate project success

Ans: C
Difficulty: Medium
Ref: THE SYSTEMS DEVELOPMENT LIFE CYCLE (SDLC)

21. The following are components of the Agile Manifesto except:

a) User Involvement over Cost of Project
b) Individuals and Interactions over Processes and Tools
c) Working Software over Comprehensive Documentation
d) Customer Collaboration over Contract Negotiation
e) Responding to Change over Following a Plan

Ans: A
Difficulty: Medium
Ref: THE SYSTEMS DEVELOPMENT LIFE CYCLE (SDLC)

22. The phases of a learning cycle include all of the following except:

a) Act
b) Assess risk
c) Reflect and learn
d) Plan
e) Understand and frame problem

Ans: B
Difficulty: Medium
Ref: LEARNING CYCLES AND LESSONS LEARNED

Short Answer Questions

1. What are the advantages of having and following a project methodology?

Ans:

- A project team can focus on the product or system without having to debate how the work is to be done.
- Stakeholders understand their role, and these roles can be applied to future projects.
- Experiences can be documented in terms of lessons learned and integrated into the methodology as best practices. Hopefully, previous successes can be repeated.
- Past, present, and future projects can be compared with confidence in terms of planning and progress reporting.
- Valuable time can be saved because approaches, tools, techniques, and templates can be reused across projects.
- As you will learn in later chapters, following a methodology provides a useful template for planning the project work and associated tasks.

Difficulty: Easy
Ref: INTRODUCTION

2. **Describe project integration management and its relationship to the other eight Project Management Body of Knowledge areas.**

Ans: Project integration management is one of the most important Project Management Body of Knowledge areas. It coordinates and integrates the other knowledge areas and all of the project processes. Project integration management is concerned with three areas: (1) project plan development so that a useable, flexible, and consistent project plan is developed, (2) project plan execution so that the project plan is carried out in order achieve the project's MOV, and (3) overall change control to help manage change so that change does not disrupt the focus of the project team.
Difficulty: Easy
Ref: THE PROJECT MANAGEMENT BODY OF KNOWLEDGE (PMBOK®)

3. **Describe the PMBOK® area of project cost management.**

Ans: According to PMBOK, project cost management includes:

- *Estimate Costs*—Based upon the activities, their time estimates, and resource requirements, an estimate can be developed.
- *Determine Budget*—Once the time and cost of each activity is estimated, an overall cost estimate for the entire project can be made. Once approved, this estimate becomes the project budget.
- *Control Costs*—Ensuring that proper processes and procedures are in place to control changes to the project budget.

Difficulty: Easy
Ref: THE PROJECT MANAGEMENT BODY OF KNOWLEDGE (PMBOK®)

4. **Describe the PMBOK area of project time management.**

Ans: The Project Management Body of Knowledge (PMBOK) area called **project time management** focuses on the processes necessary to develop the project schedule and to ensure that the project is completed on time. As defined in the PMBOK, project time management includes:

- *Define Activities*—identifying what activities must be completed in order to produce the project scope deliverables.
- *Sequence Activities*—determining whether activities can be completed sequentially or in parallel and any dependencies that may exist among them.
- *Estimate Activity Resources* – identifying the type of resources (people, technology, facilities, etc.) and the quantity of resources needed to carry out project activities.
- *Estimate Activity Durations*—estimating the time to complete each activity.
- *Develop Schedule* —based upon the availability of resources, the activities, their sequence, and time estimates, a schedule for the entire budget can be developed.
- *Control Schedule* —ensuring that proper processes and procedures are in.

Difficulty: Easy
Ref: THE PROJECT MANAGEMENT BODY OF KNOWLEDGE (PMBOK®)

5. What is a project's scope?

Ans: A Project's scope is the work to be complete by the project team. This may include specific requirements, features, functionality, or standards for the product or system to be delivered, or it could include project-related deliverables like the project's schedule or budget.

Difficulty: Easy

Ref: THE PROJECT MANAGEMENT BODY OF KNOWLEDGE (PMBOK®)

6. What is a stakeholder?

Ans: Stakeholders are individuals, groups, or even organizations that have a stake, or claim, in the project's outcome.

Difficulty: Easy

Ref: THE PROJECT MANAGEMENT BODY OF KNOWLEDGE (PMBOK®)

7. List and describe the five common phases or stages shared by most projects?

Ans:

- Define Project Goal—All projects have a beginning. Although a project is initiated when someone comes up with a new idea for perhaps a new product, service, or system, the first step in beginning a project should be to define the project's goal. The project's goal should make explicit the project's envisioned business value because projects are organizational investments that require time and resources and involve risk. A well-defined goal will set stakeholders' expectations and drive the other phases of the project. The project goal should also answer the question: How will we know if this project is successful given the time, money, and resources invested? Once the project's goal has been clearly defined, it must be agreed upon by the project stakeholders before the project can begin the planning phase.
- Plan Project —The project's goal provides direction for planning the project; otherwise, it would be like driving a car without a destination in mind. A project plan defines:
  ▪ Project Objectives —A project's objectives include scope (the project work), schedule, budget, and quality. Objectives support the project's goal by defining what work needs to be completed, when it needs to be completed, how much it will cost to complete, and whether the work is acceptable to specific stakeholders.
  ▪ Resources —Resources are needed to complete the project work and include such things as people, facilities, and technology.
  ▪ Controls —A great deal of managing a project includes ensuring that the project goal and objectives are being met and resources are used efficiently and effectively. In addition, risk, change, and communication among the project stakeholders must be proactively managed throughout the project.
- Execute Project Plan —Approval of the project plan is required before moving to the execution phase. While the plan project phase outlines the anticipated or

planned progress of the project, the execute project plan phase concentrates on the design, development, and delivery of the project's product, service, or system. Moreover, the controls defined in the planning phase now allow the project stakeholders to compare the project's planned progress with the actual progress in terms of the work being completed on time, within budget, and within quality standards so as to achieve the business value envisioned. At the end of this phase, the team implements or delivers a completed product, service, or information system to the organization.

- Close and Evaluate Project —A project should have a definite end. The last phases ensure that all of the work is completed as agreed to by the team, the sponsor, or other stakeholders. However, the project and the project team should be evaluated during a postmortem review to determine whether the project's goal defined in the initial phase was achieved. In addition, any best practices based on experiences and lessons learned should be documented and made available to future projects.

Difficulty: Easy
Ref: THE PROJECT LIFE CYCLE

8. What are project management processes? Give one example.

Ans:
Project management processes are an integral component of project management and are concerned with defining and coordinating the activities and controls needed to manage the project. They support all of the activities necessary to create and implement the product of the project. Examples include:

- Initiating
- Planning
- Executing
- Monitoring and Controlling
- Closing

Difficulty: Easy
Ref: PROJECT PROCESSES

9. Describe the five project management process groups.

Ans:
▪ Initiating—The initiating process group signals the beginning of the project or a phase. For example, an organization may initiate a project by requiring the development of a business case as part of its project methodology. During this phase, a set of project management processes would define how the project and the first phase of the methodology should be initiated. The approval of the business case would then provide an authorization to start another set of processes to begin the second phase of the project methodology. Although all of the phase of the project should have some type of initiating process, the first phase of the project would be the most important.

▪ Planning—The planning process group supports planning of the entire project and each individual phase. Supporting project management processes may include scope planning, activity planning, resource planning, cost estimating, schedule estimating, and procurement planning. The planning process should be in line with the size and complexity of the project—that is, larger, more complex projects may require a greater planning effort than smaller, less complex projects. Planning processes are most important during the second phase of the project methodology when planning the project is emphasized. However, planning processes can be important for each phase whereby objectives and activities may need to be defined or refined as new information becomes available. In addition, planning is often an iterative process. A project manager may develop a project plan, but senior management or the client may not approve the scope, PMBOK® Project Management Process Groups budget, or schedule. Or circumstances may arise that warrant changes to the project plan. This could happen as the result of a competitor's actions or legislation (external), or even changes to the project team or sponsor (internal).

▪ Executing —Once a project phase has been approved and planned, the executing process group focuses on integrating people and resources to carry out the planned activities of the project plan or phase. During the execute and control phase, the SDLC and associated project methodology play an important role in developing the product or system. For example, software engineering processes, tools, and methods for developing and/or implementing an application system become critical for delivering the project's end result. Project management processes such as quality assurance, risk management, and team development play an important supporting role. Although executing processes are part of every project phase, the majority of executing processes will occur during the execute and control phase of the project life cycle.

▪ Monitoring and Controlling —The monitoring and controlling process group allows for managing and measuring progress toward the project's goal and scope, schedule, budget, and quality objectives. These processes also allow the project manager and team to keep an eye on project variances between actual and planned results so that appropriate corrective actions can be taken when necessary. Supporting project management processes include scope control, change control, schedule control, budget control, quality control, and a communications plan. The emphasis of monitoring and controlling processes will occur during the execution and control phase of the IT project methodology.

▪ Closing —The closing process group provides a set of processes for formally accepting the project's product, service, or system so that the project or phase can be brought to an orderly close. The project manager or team must verify that all project work has been satisfactorily completed before the project sponsor accepts a phase's or the project's end product. Closure of a project may include processes for contract closure and administrative closure. Contract closure ensures that all of the deliverables and agreed upon terms of the project have been completed and delivered so that the project can end. It allows resources to be reassigned and settlement or

payment of any account. Administrative closure, on the other hand, involves documenting and archiving all project documents. It also includes processes for evaluating the project in terms of whether it achieved its goal. Lessons learned should be documented and made available to other teams. Although each phase must include closing processes, the major emphasis on closing processes will occur during the close project and evaluate project success phases of the project methodology.

Difficulty: Easy
Ref: PROJECT PROCESSES

10. What are product-oriented processes? Give one example.

Ans: Product-oriented processes are those which focus on the tangible results of the project. They require specific domain knowledge, tools, and techniques in order to complete the work. An example would be the creation of a software application package.
Difficulty: Easy
Ref: PROJECT PROCESSES

11. What are the three important roles included a Project Board under the PRINCE2® methodology.

Ans: A customer, a senior user, and a senior supplier.
Difficulty: Easy
Ref: PRINCE2®

12. Describe the seven processes of the PRINCE2® methodology.

Ans:
Start Project—The first process should be relatively short and focused on developing a project brief or document that provides business justification for the project. The Project Board is created and determines whether the project should be commissioned to continue to the next stage. This is more of a basic fact-finding stage, where the organization attempts to determine whether the project is doable and worth doing without spending a great deal of time and money.

Initiate Project—The main focus of this process is to develop the project brief into a more detailed business case, which is a key document that lays a foundation for all important project decisions. In addition, the project manager documents performance targets for benefits, costs, schedule, quality, scope, and risk in an overall project plan.

Direct Project—The Project Board's overall activities are defined so that it can direct the project successfully throughout each stage up through the project's closure.

Control Stage—During this process, the project manager's day-to-day activities are defined as well as how the project tasks will be controlled and monitored.

Manage Product Delivery—The project manager plans each stage as a set of work packages to be delivered. A work package includes such things as the products to delivered, the people authorized to do the work, constraints, tolerances, as well as the resources and time line for completing the work. This process ensures that the work packages are developed, delivered, and approved as planned.

Manage Stage Boundaries—This includes the information or reporting mechanisms the project manager will give to the Project Board in order to review the status of the project and to determine whether continued business justification for the project exists.

Close Project—This ensures that the project is completed in a controlled manner if the project work is completed as planned or if it is no longer viable. More specifically, activities are defined for the acceptance of the project, as well as for the project manager to archive documents and release project resources.
Difficulty: Easy
Ref: PRINCE2®

13. Describe the five basic phases in the systems development life cycle.
Ans:

- Planning—The planning phase involves identifying and responding to a problem or opportunity and incorporates the project management and system development processes and activities. Here a formal planning process ensures that the goal, scope, budget, schedule, technology, and system development processes, methods, and tools are in place.
- Analysis—The analysis phase attempts to delve into the problem or opportunity more fully. For example, the project team may document the current system to develop an " as is" model to understand the system currently in place. In general, systems analysts will meet with various stakeholders (users, managers, customers, etc.) to learn more about the problem or opportunity. This work is done to identify and document any problems or bottlenecks associated with the current system. Here the specific needs and requirements for the new system are identified and documented.
- Design—During the design phase, the project team uses the requirements and " to be" logical models as input for designing the architecture to support the new information system. This architecture includes designing the network, hardware configuration, databases, user interface, and application programs.
- Implementation —Implementation includes the development or construction of the system, testing, and installation. In addition, training, support, and documentation must be in place.
- Maintenance and Support —Although maintenance and support may not be a true phase of the current project, it is still an important consideration. Once the system has been implemented, it is said to be in production. Changes to the system, in the form of maintenance and enhancements, are often requested to fix any discovered

errors (i.e., bugs) within the system, to add any features that were not incorporated into the original design, or to adjust to a changing business environment. Support, in terms of a call center or help desk, may also be in place to help users on an as-needed basis.

Difficulty: Easy
Ref: THE SYSTEMS DEVELOPMENT LIFE CYCLE (SDLC)

14. List and describe the four themes (or categories) of the Agile principles.

Ans:

- Customer—Again, Agile takes a strong customer focus, and the customer could be internal (e.g., the user) or external to the organization. The product or system must be developed with the customer in mind; therefore, the customer and developers must communicate and interact effectively in order to work together collaboratively. The team should be collocated for daily face-to-face communication.
- Product—Only working software brings value, but it must be delivered in the shortest time practical. Although it is important to give customers what they want, it is also important to keep things simple and deliver only the most important features or functionality. Change is not the enemy. It is an opportunity.
- Project Team—An Agile team should include business people and technical people who are motivated, self-organizing, and mutually accountable. A team should be given the support and resources it needs and then trusted to get the job done. People who work long hours may burn out, get tired, become less motivated, and tend to make more mistakes. Therefore, the team should be able to work at a pace that is constant and sustainable.
- Performance—The team should have the authority to make adjustments when needed. In addition, a product is complete only when it is designed, tested, documented, and working.

Difficulty: Easy
Ref: THE SYSTEMS DEVELOPMENT LIFE CYCLE (SDLC)

15. Describe the three important roles under Scrum, one of the Agile methods.

Ans: Scrum master, product owner, and the development team. The Scrum master is similar to the project manager, while the product owner represents the business side and ensures that the most important features are included in the product. The development team is responsible for delivering a quality product or system.
Difficulty: Medium
Ref: THE SYSTEMS DEVELOPMENT LIFE CYCLE (SDLC)

16. John Redding suggests that a team learning cycle has four phases. What are they?

Ans: Understand and frame the problem, Plan, Act, Reflect and learn, Breadth
Difficulty: Easy

Ref: LEARNING CYCLES AND LESSONS LEARNED

17. Describe the concept of a learning cycle.

Ans: Learning cycles provide a way to resolve ambiguous situations through the repeated pattern of thinking through a problem. A learning cycle has four phases:

- Understand and frame the problem
- Plan
- Act
- Reflect and learn

Difficulty: Easy

Ref: LEARNING CYCLES AND LESSONS LEARNED

18. What purpose does creating a lessons learned at the end of a learning cycle provide?

Ans: The completion of a team's lessons learned marks the ending of one learning cycle and the beginning of another. Based on the learning that has transpired, the team can focus once again on understanding and reframing the problem and then repeat the plan, act, reflect and learn phases again.

Difficulty: Easy

Ref: LEARNING CYCLES AND LESSONS LEARNED

Essay Questions

1. What is a project methodology?

2. Describe the phases of the project life cycle.

3. List the five Project Management Process Groups and describe how they support the phases of the project life cycle.

4. The Guide to Project Management Body of Knowledge defines ten knowledge areas for understanding project management. Name and briefly describe five of them.

5. The Guide to Project Management Body of Knowledge defines a process as "a set of interrelated actions and activities performed to achieve a pre-specified product, result, or service". In your own words, state what this definition means and give an example.

6. How should proposed changes in the project be handled and what are the relevant criteria for change decisions?

7. What are the seven principles that must be followed in order to be considered a PRINCE2® project?

8. How do the project life cycle (PLC) and the systems development life cycle (SDLC) differ?

9. Describe the phases of a learning cycle and discuss the potential impact of its use on organizations.