PMP 6th Edition Questions & Answer

Question 1:
Sam is the project manager recently appointed to the IntelX project. While she was creating her project management plan, she found that the project business case contains some wrong information and should be updated. She decided to change this document and inform her sponsor and concerned stakeholders about the change. What is your advice to Sam?

A. I will advise her to execute the required change to the business case and inform the concerned management
B. I will advise her to review the change with the project sponsor before she communicates the change to the other concerned stakeholders
C. I will advise her not to change the business case document as it is not one of the project documents that she is authorized to change
D. I will advise her to review the change with the PMO before she communicates the change to the other concerned stakeholders

Answer: C
Explanation: The project managers do not update or modify the business documents, including the business case, since they are not project documents; however, they may make recommendations.

Question 2:
James started to execute the Manage Quality process and he was looking for the acceptable level of project and product quality and how to ensure this level of quality in its deliverables and processes. Which document should James review?

A. Project documents
B. The project management plan
C. Organizational process assets
D. Enterprise environmental factors

Answer: B
Explanation: The acceptable level of project and product quality and how to ensure this level of quality in its deliverables and processes are part of the information in the project management plan as it includes the quality management plan as one of its components, so, option (B) is the right answer.
Question 3:

Which of the following documents is created as a result of market demand?

A. Business Case  
B. Project Charter  
C. Benefits management plan  
D. Project information document

Answer: A

Explanation: Option (B) is wrong as the Project Charter is the document issued by the project sponsor that formally authorizes the existence of a project and provides the project manager with the authority to apply organizational resources to project activities.  
Option (C) is wrong as the benefits management plan is the documented explanation defining the processes for creating, maximizing, and sustaining the benefits provided by a project.  
Option (D) is wrong as there is no artifact in the PMBOK 6th Ed. called project information document.  
Option (A) is the right answer as the business case can be created as a result of a market demand to document the feasibility study used to establish the validity of the benefits of a selected component.

Question 4:

Which of the following team can help in managing your project quality?

A. Project team  
B. The customer  
C. The project sponsor  
D. All the above

Answer: D

Explanation: Manage Quality is considered the work of everybody, so, option (D) is the right answer.

Question 5:

John is appointed as a project manager for Xenon project to create an auto traffic violation system in Yuro city. Currently, he started to gather the project requirements. John is going to meet many people and review many documents to get the required information. Who should he meet to get the project requirements?

A. The sponsor  
B. The public community groups  
C. The traffic police officers and representatives  
D. All the above

Answer: D

Explanation: Options (A), (B), and (C) have project key stakeholders who can help in providing the project requirements. Therefore, option (D) is the right answer.
Question 6:

John is appointed as a project manager for Xenon project to create an auto traffic violation system in Yuro city. He has started to gather the project requirements. John is going to meet many people and review many documents to get the required information. Which of the following documents are qualified for the project requirements?

A. The project initial risk document  
B. The documented needs and expectations of the sponsor, and other concerned stakeholders  
C. The project high-level schedule  
D. All the above

Answer: B

The documented needs and expectations of the sponsor and other concerned stakeholders are used for requirements collection, so, option (B) is the right choice.

Question 7:

Adam is about to close his project after 13 months of hard work. He started to review the project management plan to:

A. Ensure that the accepted deliverables have its associated sign-off sheets  
B. Ensure that the project management plan complies with the organization standards  
C. Ensure that all project work is completed and that the project has met its objectives  
D. All the above

Answer: C

Explanation: Option (C) is the right answer as the project manager reviews the project management plan in closing stage to ensure that all project work is completed and that the project has met its objectives.

Question 9:

Which of the following Project Documents can be considered input to the Validate Scope process?

A. Project communications  
B. Requirements documentation  
C. Team charter  
D. All the above

Answer: B

Explanation: Requirements documentation is one of the project documents that can be used as input to the Validate Scope process, so, option (B) is the right answer.
Question 10:
You are the project manager for a software project. You are in the process of establishing the policies, procedures and documentation for planning, developing, managing, executing and controlling the project schedule. You may use all of the following Tools & Techniques EXCEPT:

A. Expert judgment
B. Meetings
C. Decomposition
D. Data Analysis

Answer: C
Explanation: The Project Manager is in the Plan Schedule Management process; this is the process of establishing the policies, procedures and documentation for planning, developing, managing, executing and controlling the project schedule. Expert judgment, Meetings and Data Analysis are all the Tools & Techniques of Plan Schedule Management. The only exception is Decomposition.

Question 11:
The following are all examples of Organizational Process Assets EXCEPT:

A. Historical information
B. Organizational structure
C. Templates
D. Change control procedures

Answer: B
Explanation: Historical information, Templates and Change Control Procedures are all examples of Organizational Process Assets. Organizational Structure is not an Organizational Process Asset; it is part of the Enterprise Environmental Factors.

Question 12:
You are the project manager of a R400 million construction project. You, along with your team, have identified and documented the specific actions to be performed to produce the project deliverables. What would be your immediate next action be?

A. Develop Schedule
B. Collect Requirements
C. Sequence Activities
D. Select Sellers

Answer: C
Explanation: Define Activities is the process of identifying and documenting the specific actions to be performed to produce the project deliverables. The output of define activities is a list of activities. So, the immediate next action would be to identify the relationships among the activities. This process of identifying and documenting the relationships among project activities is called “Sequence Activities”. So, the correct answer is “Sequence Activities”. 
Question 13:

Your project involves the construction of a temporary concrete road. The road is expected to be in use for 6 months before it gets demolished. You have completed the laying of the temporary concrete road. But, the customer specification states that you have to wait for 28 days before using the road. Which of the following relationships most likely represents the relationship of the start of the use of the road to the completion of the construction of the road?

A. Finish-to-start with a 28 days lead
B. Finish-to-finish with a 6 months lag
C. Finish-to-start with a 28 days lag
D. Start-to-finish with a 28 days lag

Answer: C

Explanation: The relationship is: Finish laying of road => Wait 28 days => Start using the road. Here, 28 days is the lag for which the next activity should wait. So, the relationship is Laying of road => FS+28d => Start of use of the road.

Question 14:

You are in the planning process of a R1b project. You realize that your schedule requires more resources in certain months of the project than that are available to you. Your senior management has clearly instructed that you will not be able to obtain additional resources for the project. So, you instruct your planner to adjust the schedule to accommodate these constraints. What are you instructing the planner to do?

A. Crashing
B. Resource levelling
C. Programme Evaluation and Review Technique
D. Fast tracking

Answer: B

Explanation: Resource levelling is a technique in which start and finish dates are adjusted based on resource constraints with the goal of balancing demand for resources with the available supply.

Question 15:

Projects are a means of achieving objectives within an organization’s strategic plan. Which of the following statements is NOT true about projects?

A. Every project creates a unique product, service or result
B. The duration of the project is short
C. Repetitive elements may be present in some project deliverables and activities
D. A project can involve a single individual

Answer: B

Explanation: A project is a temporary endeavor; but, it does not necessarily mean the duration of the project is short. Please note that repetitive elements may be present in some project deliverables and activities; but, this repetition does not change the fundamental, unique characteristics of the project work. You also should understand a project can involve a single or multiple individuals, a single organization or multiple organizations.
Question 16:

The project charter contains high level information. Which of the following elements is NOT typically found in a project charter?

A. Project purpose or justification  
B. Summary milestone schedule  
C. Work packages  
D. Stakeholder list

**Answer: C**

**Explanation:** The project charter is created long before you start identifying work packages and activities. Project charter typically contains only high level information while work packages are created with detailed information.

Question 17:

The key benefit of performing quantitative risk analysis is that it produces quantitative risk information to support decision making in order to reduce project uncertainty. Which of the following is NOT a commonly used quantitative risk analysis and modelling technique?

A. Tornado diagram  
B. Decision tree diagram  
C. Monte Carlo Technique  
D. Delphi Technique

**Answer: D**

**Explanation:** Delphi technique is an information gathering technique. The remaining three are quantitative risk analysis techniques.

Question 18:

An organization invests certain amount of money into a project, which is worth R48,400 after 2 years. If the rate of return is 10%, how much money did the organization invest in the project?

A. R44,000  
B. R40,000  
C. R47,921  
D. R47,446

**Answer: B**

**Explanation:** 

\[ FV = PV(1+i)^n \]

In this problem, Future Value FV = R48,400, rate of return \( i = 10\% \) and number of years \( n =2 \). Substituting these values in the formula, you will get Present Value PV = R40,000.
Question 19:
An organization is trying to choose between two projects. Project A has an estimated cost of R400,000 and an estimated NPV of R90,000. Another project B has an estimated cost of R360,000 and an estimated NPV of R110,000. If the senior management decides to go ahead with project B, what would be the opportunity cost?

A. R40,000
B. R20,000
C. R90,000
D. R110,000

Answer: C
Explanation: Project B was preferred over project A. So, the opportunity cost would be the NPV of project A, which was not chosen.

Question 20:
A key responsibility of the project manager is to manage stakeholder expectations. If there is a conflict between some of the stakeholders, generally in whose favour should the conflict be resolved?

A. No one - a compromise should be reached that has equal disadvantage to all.
B. The sponsor as the representative of the performing organisation.
C. The customer.
D. The project team.

Answer: C
Generally, differences between and among stakeholders should be resolved in favour of the customer. This is not explicitly stated in the PMBOK but is implied throughout. The objective of the project is to meet the requirements of the customer, if this is not achieved, the project will fail. The normal PMI starting point of ethical behaviour applies in this question - assume the conflict is genuine rather than the client being unreasonable.

Question 21:
Projects involving complex cross-disciplinary efforts are most effectively managed by:

A. A strong traditional manager.
B. A functional organisation.
C. A strong matrix organisation.
D. SMEs and the Delphi technique.

Answer: C
The strong matrix type of organisation combines most of the benefits of a projectised organisation with defined links to functional (discipline) management/areas. As this is a complex cross-disciplinary project, and given a projectised organisation was not in the list of options a ‘strong matrix organisation’ is the best choice. Using the Delphi technique with subject matter experts will help obtain a consensus amongst the SMEs – this is not a project management option. Functional organisations operate in silos with little cross-discipline capability.
Question 22:

Risk quantification includes:

A. Enumerating sources of internal and external risk events.
B. Identifying potential risk events and their impact.
C. Developing contingency plans and fallback plans.
D. Evaluating probability and impact.

Answer: D

One technique for risk quantification is calculating the expected monetary value (EMV) of each risk event. EMV = impact * probability. Categorising and identifying risks are a part of risk identification. Contingency and fallback plans are developed in risk response planning.

Question 23:

What are the 5 stages of team development?

A. Forming, storming, norming, performing, adjourning.
B. Enthusiasm, hope, panic, solution, success.
C. Assignment, kickoff, training, communicating, succeeding.
D. Direction, motivation, cooperation, collaboration, close.

Answer: A

This is the Tuckman’s (1977) model of team formation preferred by PMI - see PMBOK page 338.

Question 24:

Project Management Process Groups have all of the following characteristics except:

A. The process groups include both product and project management related processes.
B. The process groups are typically repeated within each phase of a project, as well as for the overall project.
C. The output of one process generally becomes the input to another.
D. The process groups are linked by the objectives they produce.

Answer: A

Product related processes relate to how the product of the project (its output) will be created. Whist every project contains both project management and product creation processes; the PMBOK® Guide only includes project management processes and is the source of the concept of ‘project management process groups’. The project management process groups focus on the processes needed to effectively manage the project (or a phase of the project) and have wide application.
Question 25:
The project scope management plan provides guidance on all of the following except:

A. How project scope will be integrated with the project management plan.
B. How project scope will be managed and controlled.
C. How project scope will be defined and documented.
D. How project scope will be verified.

Answer: A
The project scope management plan describes how the project team will:
- prepare the project scope statement (C)
- create the WBS (C)
- approve and maintain the scope baseline (B)
- achieve formal acceptance of the deliverables. (D) The overall project management plan describes how the project will be managed and includes how the scope management plan will be integrated with the overall project plan.

Question 26:
Which statement concerning the Planning Processes Group is not true?

A. The Planning Process Group contains more project management processes than any other process group.
B. The feedback and refinement process should stop at a point defined by procedures set by the organisation.
C. The interactions among the processes within the Process Planning Group are dependent on the nature of the project.
D. The planning processes should be undertaken by experts from within the project team.

Answer: D
Expert judgement is a key tool used in most planning processes. The job of the project team is to acquire the needed expertise to develop a realistic and achievable plan. Therefore, while most of the work will be done by ‘experts within the project team’, the project team should encourage involvement from all appropriate stakeholders.

Question 27:
An external supplier contracted to deliver a $58,000 component for incorporation into your engineering project is:

A. A vendor and therefore excluded from being a stakeholder.
B. Only considered a stakeholder if the contract is an alliance or a partnership.
C. Likely to be a negative stakeholder due to the adversity built into most contracts.
D. Also a project stakeholder.

Answer: D
Sellers, vendors or contractors are all project stakeholders. The expectations and attitude of the stakeholder needs to be effectively managed to ensure the effective delivery of the project’s outputs, but an person’s attitude does not determine if they a stakeholder or not (by definition, if a person has an attitude about the work - positive or negative - they are a stakeholder).
Question 28:

At the end of a project, the project manager determines that the project has delivered an additional 6 areas of functionality in undocumented features and that the customer is delighted with the results. What does this mean in terms of the success of the project?

A. The project was an unqualified success.
B. The project was only partially successful because the client could have been persuaded to pay more.
C. The project was unsuccessful because the project was ‘gold plated’.
D. The project was successful because the team learned how to develop new functionality and the customer was happy.

Answer: C

Gold plating (delivering unspecified extras) wastes time and increases costs. The PMBOK is always against gold plating. The extras should have been documented and managed through the change control process, even if they were to be supplied at no additional cost - this ensures the 'extras' are really wanted and add value to the client without causing unexpected consequences.

Question 29:

Based on information in the various business cases, project A has an IRR (internal rate of return) of 20%, project B has an IRR of 7%, project C has an IRR of 18%, project D has an IRR of 23%. Which of these would be the best project to select for further analysis?

A. Project A
B. Project B
C. Project C
D. Project D

Answer: D

The higher the IRR the better!! Unless clearly stated in the question, you can always assume all of the work to date has always been done by competent and qualified people therefore the IRR data you have received is 100% correct – there is no need to check for errors. This type of exam question only has one answer based on the data in the question. In business, IIR (which is basically profitability) is only one aspect of a decision making process to select a project to proceed with. Other aspects could include capability (do we have the resources needed), risk profile, capacity, etc. This is the sort of further analysis that a business would typically do next. If the first choice could not proceed for some reason then the second best IIR would be analysed.

Question 30:

Your process upgrade project has to sell a major piece of redundant equipment. The income from the sale is an important part of the funding allocated to the overall project and you have been asked to estimate the expected value of the sale to include in the overall project budget. The cost of preparing the equipment for sale and running the sales process has been quoted at $150,000. Your advisors assess the range of sales outcomes as follows:

There is a 15% probability of a low level of interest realising a sale price of $130,000
There is a 55% probability of a normal level of interest realising a sale price of $200,000
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There is a 30% probability of a high level of interest realising a sale value of $280,000
How much should you include in the budget?

A. $203,333.33
B. $63,500.00
C. $53,333.33
D. $213,500.00

Answer: B
This is an Expected Monetary Value (EMV) calculation (not a 3 point estimate). The three options yield a net value of $130,000 - $150,000 = -$20,000, $200,000 - $150,000 = +$50,000, and $280,000 - $150,000 = +$130,000.
Therefore the EMV for the sale is the sum of (-20,000 x 15%) + (+$50,000 x 55%) + (+$130,000 x 30%)
which resolves to
(-$3000) + (+$27,500) + (+$39,000) = $63,500
When doing EMV calculations it is important not to change the ‘sign’ of the values when you sum the different outcomes.

Question 31:
As the project is nearing the end of a phase, a deliverable is completed and handed over to the customer. However, the customer neither acknowledges the deliverable nor replies to any of the Project Manager’s request for validation. What is the best thing to do?

A. Contact management for help
B. Document the situation
C. Stop work on the project
D. Continue work on the project

Answer: A
This is one of the very few situations where management (eg the project sponsor or champion) should be asked to help protect the project and the PM is not expected to have an answer (you can assume she has already tried the options open to her). Without scope validation at the end of the phase, the project may be delivering the wrong thing and there may well be contractual and payment issues. Documenting the situation or simply continuing does not work to resolve the issue (the issue should already be documented in the issues list and action has been taken). Stopping work is likely to be a breach of contract or a failure to fulfill other obligations. Therefore the only viable answer is to escalate the problem and seek help to resolve this important issue from senior management.

Question 32:
The most common elements within project management processes that cause conflict on a project are:

A. Cost, budgets and personalities.
B. The client, senior management and functional managers.
C. Designs, costs and personalities.
D. Scheduling priorities, work styles and resources.
Answer: D
The PMBOK summarises the causes of conflict into ‘scarce resources, scheduling priorities and work styles’. All of the elements in the different answers can give rise to problems, challenges, and/or issues that need managing, but the fact that an issue or a problem exists does not immediately dissolve into conflict - conflict requires a difference of opinion between two or more people, who are having difficulty in resolving the difference.

Question 33:
![Network Diagram]
What is the duration of the critical path in the above network?

A. 17  
B. 18  
C. 19  
D. 0

Answer: C
This is an ‘activity-on arrow’ (ADM) network.  
The longest sequence of activities is A – B – E – G – H = 5 + 4 + 6 + 4 = 19

Question 34:
![Network Diagram]
The network component joining C – E is best called a:

A. Link  
B. Arrow  
C. Dummy  
D. Activity

Answer: C
A dummy activity is a zero duration arrow used to show a logical relationship in an ADM Network. It is drawn as a dashed line.
Question 35:

Configuration management may be used to assist in:

A. Overall change control  
B. Project plan execution  
C. Software development  
D. Scope planning.

Answer: A

Configuration management is a standardised form of change control applied to the deliverables and components that make up the product the project has been created to deliver. Its use is particularly common in ICT and all types of military projects.

Question 36:

Which type of cost is team induction and safety training organised specifically for the project?

A. Fixed  
B. NPV  
C. Indirect  
D. Direct

Answer: D

The team is being trained in skills specifically required for the project - this is a direct cost ('hard-hat' industries require a safety induction on every new project).

Indirect costs cover the cost of being in business and are carried by the performing organisation and spread across all projects. They are usually applied as a percentage either to a component of the project’s direct costs (eg wages) or to the total direct costs or total project billing. Generally staff training is seen as an indirect (overhead) cost as the benefits flow onto the whole organisation in the form of enhanced staff skills - improved human capital.

Fixed costs are costs that do not change due to changes in productivity, project or team size (eg office fit out costs), this type of training cost changes depending on the number of people.

NPV = net present value – used for comparing projects during selection processes.

Question 37:

Scope changes are a major cause of project failure and your role as a project manager is primarily aimed at:

A. Authorising scope changes if they are deemed to be beneficial to the project and communicating these changes to stakeholders.  
B. Minimising unnecessary scope changes through an adequately defined scope statement, WBS and work authorities.  
C. Developing a suitable change control system.  
D. Updating the WBS when a scope change has been approved by the change control board.
Answer: B

The PM is not generally responsible for authorising scope change (this is done by other stakeholders); therefore, this option is definitely incorrect. The other three answers are all correct statements! To determine the best answer, you need to select the option that offers the most comprehensive answer to the actual question. The question is asking for the best way to minimise scope changes. There is only one answer that directly addresses this question and is therefore the best.

Question 38:

The tools and techniques used to monitor stakeholder engagement include:

A. Issues log, Meetings, Project Management Plan, Information management system and Decision making.
B. Issues log, Meetings, Information management system and Expert judgement.
D. Meetings, Interpersonal and team skills, and Decision making.

Answer: D

The Project management plan and the Issues log (part of the project documentation) are inputs to the Monitor Stakeholder Engagement process. Three of the tools and techniques used are: Meetings, Interpersonal and team skills, and Decision making; the others are Data analysis, Data representation and Communication skills.

Question 39:

During a software project earned value analysis is performed and gives the following results: earned value (EV) = 523,000; planned value (PV) = 623,000; actual cost (AC) = 643,000. Which results are correct?

A. CV: +120,000; SV: +100,000
B. CV: +100,000; SV: +120,000
C. CV: -100,000; SV: -120,000
D. CV: -120,000; SV: -100,000

Answer: D

Cost variance (CV) = EV - AC = 523,000 - 643,000 = -120,000

Schedule variance (SV) = EV - PV = 523,000 - 623,000 = -100,000

Question 40:

The Project Scope is:

A. The work that must be done in order to deliver a product with the specified features and functions.
B. The features and functions that are to be included in a product or service.
C. A narrative description of work to be performed under contract.
D. A document that defines the characteristics of a product and how they will be verified.
Answer: A
The Project Scope is an overall statement of the work needed to be accomplished to achieve the delivery of the product, service or result.
The Product Scope describes the features and functions that characterise the product.
The SoW is a concise narrative description of a deliverable to be supplied.
A Specification defines in a complete, precise and verifiable manner, the technical attributes (features) of a component or product.