

Self-Assessment Questions for Module 07 Project Cost Management

Question 1: Which of the following regarding Analogous Estimating and Parametric Estimating is incorrect?

- A.) Parametric Estimating uses statistical relationships.
- B.) Analogous Estimating is more accurate than Parametric Estimating.
- C.) Analogous Estimating is quicker than Parametric Estimating.
- D.) Both Analogous Estimating and Parametric Estimating depend on historical data.

Question 2: A project's total budget is \$50,000. 40% of the project work has been completed. However, according to the plan the project should have an earned value of \$18,000. The total cost incurred to date is \$25,000. Which of the following is the true status of the project?

- A.) The project is under budget but behind of schedule.
- B.) The project is over budget but ahead of schedule.
- C.) The project is under budget and ahead of schedule.
- D.) The project is over budget and behind of schedule.

Question 3: A project's budget at completion (BAC) is \$30,000. The current total earned value is \$10,000 and the total costs incurred to date are \$15,000. What's the project's current CPI?

- A.) -5000
- B.) 5000
- C.) 0.667
- D.) 1.5

Question 4: Mary is managing a project that has just gone over budget due to some unexpected events that recently occurred. The project's sponsor has asked Mary to forecast a new Estimate at Completion (EAC) for the project. Which of the following EAC formulas should be used by Mary if she believes that the future cost performance will be at the original planned rate?

- A.) $AC + \text{Bottom-Up ETC}$
- B.) $BAC / TCPI$
- C.) $BAC / \text{Cumulative CPI}$
- D.) $AC + BAC - EV$

Question 5: A project is 50% complete. The total project budget is \$5,000 and the total actual cost is \$3,000. What is the project's total earned Value?

- A.) 2500
- B.) 2000
- C.) 3000
- D.) 5000

Question 6: A project is 15% complete. The total project budget is \$25,000. The planned value of project work completed to date is \$4,000. Total costs incurred to date is \$4,000. What is the project's schedule variance?

- A.) -250
- B.) 250
- C.) 0.9375
- D.) 0

Question 7: Which of the following statements is correct regarding the Cost Baseline?

- A.) When plotted on a graph, the Cost Performance Baseline takes the shape of a ladder.
- B.) It is an authorized time-phased project budget.
- C.) It is used to measure a project's performance in terms of cost, scope and schedule.
- D.) It is used to calculate the actual costs of a project.

Question 8: Which of the following statements is incorrect regarding Contingency Reserves and Management Reserves?

- A.) The project manager has the authority to use funds from the Management Reserves.
- B.) The project manager has the authority to use funds from the Contingency Reserves.
- C.) Both Contingency Reserves and Management Reserves are funds allocated to deal with project risks.
- D.) Both Contingency Reserves and Management Reserves are part of the project budget.

Question 9: Nadia works for an airport operator that is currently looking to replace its IT systems throughout the airport. Nadia is a seasoned project manager, but doesn't have any significant background in IT. In addition, none of the existing airport staff has any significant technical knowledge regarding airport IT systems. Nadia's challenge is to identify the best technology vendor and award the systems upgrade contract. If Nadia wants to estimate her project costs before the award of the contract, which of the following techniques would help her the most?

- A.) Reserve Analysis
- B.) Vendor Bid Analysis
- C.) Top-Down Estimating
- D.) Bottom-Up Estimating

Question 10: Which of the following is a project constraint that may stop the project work?

- A.) Actual Costs
- B.) Earned Value
- C.) Funding Limit
- D.) Cost Variance

Question 11: A project manager calculates his project's TCPI based on a BAC, and it turns out to be 0.75. What does this mean?

- A.) The project manager can spend freely on future project activities.
- B.) The project manager has to spend less on future project activities as planned.
- C.) The project is over budget.
- D.) The project is under budget.

Question 12: Which of the following is not included in the Performance Measurement Baseline?

- A.) Scope Statement
- B.) Work Breakdown Structure
- C.) WBS Dictionary
- D.) Management Reserves

Question 13: Bruce has just been assigned as the project manager for a highway construction project. The project is in its initiation phase. Bruce is required to present a high-level project budget to the project stakeholders. If the budget is approved, Bruce can start planning the project. Which type of estimate regarding the budget can be created by Bruce at this point?

- A.) Detailed Estimate
- B.) Narrow Range Estimate
- C.) Rough Order of Magnitude (ROM) Estimate
- D.) The project cannot be estimated at this stage.

Question 14: If a project is over budget, which of the following metrics calculates the required cost performance that needs to be achieved in order to meet the original approved budget of the project at the project completion?

- A.) TCPI
- B.) CPI
- C.) CV
- D.) SV

Question 15: Claire is currently estimating her project costs. A number of similar projects have been executed in Claire's company in the past. Which of the following techniques can help Claire estimate her project's costs in the shortest period of time?

- A.) Project Management Estimating Software
- B.) Bottom-Up Estimating
- C.) Parametric Estimating
- D.) Analogous Estimating

Answer Sheet for Self-Assessment 07

Question Number	My Answer	Correct	Incorrect
Question 01		<input type="checkbox"/>	<input type="checkbox"/>
Question 02		<input type="checkbox"/>	<input type="checkbox"/>
Question 03		<input type="checkbox"/>	<input type="checkbox"/>
Question 04		<input type="checkbox"/>	<input type="checkbox"/>
Question 05		<input type="checkbox"/>	<input type="checkbox"/>
Question 06		<input type="checkbox"/>	<input type="checkbox"/>
Question 07		<input type="checkbox"/>	<input type="checkbox"/>
Question 08		<input type="checkbox"/>	<input type="checkbox"/>
Question 09		<input type="checkbox"/>	<input type="checkbox"/>
Question 10		<input type="checkbox"/>	<input type="checkbox"/>
Question 11		<input type="checkbox"/>	<input type="checkbox"/>
Question 12		<input type="checkbox"/>	<input type="checkbox"/>
Question 13		<input type="checkbox"/>	<input type="checkbox"/>
Question 14		<input type="checkbox"/>	<input type="checkbox"/>
Question 15		<input type="checkbox"/>	<input type="checkbox"/>
Total Number			
% Correct		_____ %	

To calculate the % correct, divide the "total correct" by 0.15. Example: If you have 13 correct then calculate $13 / 0.15 = 86.6\%$

Answers for Self-Assessment 07

Question Number	Correct Answer
Question 01	B
Question 02	B
Question 03	C
Question 04	D
Question 05	A
Question 06	A
Question 07	B
Question 08	A
Question 09	B
Question 10	C
Question 11	D
Question 12	D
Question 13	C
Question 14	A
Question 15	D

Answers & Explanations for Self-Assessment 07

Question 1: Which of the following regarding Analogous Estimating and Parametric Estimating is incorrect?

- A.) Parametric Estimating uses statistical relationships.
- B.) Analogous Estimating is more accurate than Parametric Estimating.
- C.) Analogous Estimating is quicker than Parametric Estimating.
- D.) Both Analogous Estimating and Parametric Estimating depend on historical data.

Correct answer is **B**

Explanation: Analogous Estimating is the quickest estimating technique but it is also the least accurate.

Reference: PMBOK Guide 5th Edition, pages 204, 205

Question 2: A project's total budget is \$50,000. 40% of the project work has been completed. However, according to the plan the project should have an earned value of \$18,000. The total cost incurred to date is \$25,000. Which of the following is the true status of the project?

- A.) The project is under budget but behind of schedule.
- B.) The project is over budget but ahead of schedule.
- C.) The project is under budget and ahead of schedule.
- D.) The project is over budget and behind of schedule.

Correct answer is **B**

Explanation: According to the plan the project should have an earned value of \$18,000. Please note that this is not the actual project's earned value but rather the planned value of the project. (For an ideal project, the project's earned value should be equal to the project's planned value). In this scenario, the total project's actual earned value = $(\$50,000 \times 40\%) = \$20,000$. It is also given that the project's actual cost is \$25,000. Therefore, the project's $CPI = (\$20,000 / \$25,000) = 0.8$. The $SPI = (\$20,000 / \$18,000) = 1.11$. This means that the project is over budget but ahead of schedule.

Reference: PMBOK Guide 5th Edition, page 219

Question 3: A project's budget at completion (BAC) is \$30,000. The current total earned value is \$10,000 and the total costs incurred to date are \$15,000. What's the project's current CPI?

- A.) -5000
- B.) 5000

- C.) 0.667
- D.) 1.5

Correct answer is **C**

Explanation: In this scenario, the $CPI = (\$10,000 / \$15,000) = 0.667$.

Reference: PMBOK Guide 5th Edition, page 219

Question 4: Mary is managing a project that has just gone over budget due to some unexpected events that recently occurred. The project's sponsor has asked Mary to forecast a new Estimate at Completion (EAC) for the project. Which of the following EAC formulas should be used by Mary if she believes that the future cost performance will be at the original planned rate?

- A.) $AC + \text{Bottom-Up ETC}$
- B.) $BAC / TCPI$
- C.) $BAC / \text{Cumulative CPI}$
- D.) $AC + BAC - EV$

Correct answer is **D**

Explanation: EAC formula for ETC work performed at the budgeted rate needs to be used. This formula is $EAC = AC + BAC - EV$.

Reference: PMBOK Guide 5th Edition, page 220

Question 5: A project is 50% complete. The total project budget is \$5,000 and the total actual cost is \$3,000. What is the project's total earned Value?

- A.) 2500
- B.) 2000
- C.) 3000
- D.) 5000

Correct answer is **A**

*Explanation: Earned value is calculated by multiplying %complete times the total budget. In this scenario, the total project earned value = $(.5 * \$5,000) = \$2,500$.*

Reference: PMBOK Guide 5th Edition, page 218

Question 6: A project is 15% complete. The total project budget is \$25,000. The planned value of project work completed to date is \$4,000. Total costs incurred to date is \$4,000. What is the project's schedule variance?

- A.) -250
- B.) 250
- C.) 0.9375

D.) 0

Correct answer is **A**

Explanation: The project's total earned value can be calculated by the formula $EV = \%complete \times BAC$. In this scenario, $EV = (.15 \times \$25,000) = \$3,750$. Using the schedule variance formula $SV = EV - PV$, schedule variance = $(\$3,750 - \$4,000) = -\$250$.

Reference: PMBOK Guide 5th Edition, page 218

Question 7: Which of the following statements is correct regarding the Cost Baseline?

- A.) When plotted on a graph, the Cost Performance Baseline takes the shape of a ladder.
- B.) It is an authorized time-phased project budget.
- C.) It is used to measure a project's performance in terms of cost, scope and schedule.
- D.) It is used to calculate the actual costs of a project.

Correct answer is **B**

Explanation: The Cost Baseline is the summation of approved budgets by time period and is typically displayed as an S-curve. It is an authorized time-phased project budget. It is used to measure a project's performance in terms of costs.

Reference: PMBOK Guide 5th Edition, pages 212, 213

Question 8: Which of the following statements is incorrect regarding Contingency Reserves and Management Reserves?

- A.) The project manager has the authority to use funds from the Management Reserves.
- B.) The project manager has the authority to use funds from the Contingency Reserves.
- C.) Both Contingency Reserves and Management Reserves are funds allocated to deal with project risks.
- D.) Both Contingency Reserves and Management Reserves are part of the project budget.

Correct answer is **A**

Explanation: Management Reserves are not a part of the project Cost Baseline, but may be included in the total project budget. The project manager has the authority to use funds from the Contingency Reserves in case of realized project risks, but needs to obtain management approval to use funds from the Management Reserves.

Reference: PMBOK Guide 5th Edition, page 213

Question 9: Nadia works for an airport operator that is currently looking to replace its IT systems throughout the airport. Nadia is a seasoned project manager, but doesn't have any significant background in IT. In addition, none of the existing airport staff has any significant technical knowledge regarding airport IT systems. Nadia's challenge is to identify the best technology vendor and award the systems upgrade contract. If Nadia wants to estimate her project costs before the award of the contract, which of the following techniques would help her the most?

- A.) Reserve Analysis
- B.) Vendor Bid Analysis
- C.) Top-Down Estimating
- D.) Bottom-Up Estimating

Correct answer is **B**

Explanation: Nadia needs to estimate her project costs before the contract is awarded. However, this doesn't prevent her from obtaining proposals from potential vendors. In this scenario, Vendor Bid Analysis is a technique Nadia can use to estimate her project costs.

Reference: PMBOK Guide 5th Edition, page 207

Question 10: Which of the following is a project constraint that may stop the project work?

- A.) Actual Costs
- B.) Earned Value
- C.) Funding Limit
- D.) Cost Variance

Correct answer is **C**

Explanation: Only one of the answer choices is a project constraint and all others are metrics. The project's Funding Limit dictates the project work. Project funds are usually released in batches and the project is limited by the available funds in order to carry out project work.

Reference: PMBOK Guide 5th Edition, page 212

Question 11: A project manager calculates his project's TCPI based on a BAC, and it turns out to be 0.75. What does this mean?

- A.) The project manager can spend freely on future project activities.
- B.) The project manager has to spend less on future project activities as planned.
- C.) The project is over budget.
- D.) The project is under budget.

Correct answer is **D**

Explanation: Spending should always be aligned with a project's objective. TCPI only gives the required cost performance rate. If the project's TCPI based on BAC is 0.75, this means that the project's CPI would be greater than 1. This implies that the project is under budget.

Reference: PMBOK Guide 5th Edition, page 221

Question 12: Which of the following is not included in the Performance Measurement Baseline?

- A.) Scope Statement
- B.) Work Breakdown Structure
- C.) WBS Dictionary
- D.) Management Reserves

Correct answer is **D**

Explanation: The Performance Measurement Baseline consists of the approved scope, schedule and cost baselines of the project. The Scope Statement, Work Breakdown Structure, and the WBS Dictionary are part of the Scope Baseline, which is part of the Performance Measurement Baseline. Management Reserves are not part of the Cost Performance Baseline and therefore not part of the Performance Measurement Baseline.

Reference: PMBOK Guide 5th Edition, pages 213, 549

Question 13: Bruce has just been assigned as the project manager for a highway construction project. The project is in its initiation phase. Bruce is required to present a high-level project budget to the project stakeholders. If the budget is approved, Bruce can start planning the project. Which type of estimate regarding the budget can be created by Bruce at this point?

- A.) Detailed Estimate
- B.) Narrow Range Estimate
- C.) Rough Order of Magnitude (ROM) Estimate
- D.) The project cannot be estimated at this stage.

Correct answer is **C**

Explanation: The project costs can be estimated at this stage but there is not enough information to create a detailed estimate or a narrow range estimate. At this stage a Rough Order of Magnitude (ROM) estimate is usually created.

Reference: PMBOK Guide 5th Edition, page 201

Question 14: If a project is over budget, which of the following metrics calculates the required cost performance that needs to be achieved in

order to meet the original approved budget of the project at the project completion?

- A.) TCPI
- B.) CPI
- C.) CV
- D.) SV

Correct answer is **A**

Explanation: TCPI (To-Complete Performance Index) is the projection of cost performance that must be achieved on the remaining project work to meet the original project budget (BAC) at the project completion.

Reference: PMBOK Guide 5th Edition, page 221

Question 15: Claire is currently estimating her project costs. A number of similar projects have been executed in Claire's company in the past. Which of the following techniques can help Claire estimate her project's costs in the shortest period of time?

- A.) Project Management Estimating Software
- B.) Bottom-Up Estimating
- C.) Parametric Estimating
- D.) Analogous Estimating

Correct answer is **D**

Explanation: Although each of the listed techniques can help Claire estimate her project costs, the question is asking for the one that can be performed in the shortest period of time. If the costs of previous similar projects are known, Analogous Estimating is the quickest method of estimating.

Reference: PMBOK Guide 5th Edition, pages 204, 205

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