



Free CAPM Questions & Answers

1	All of the following processes form part of the Executing process group except:	Ch.3
	a Performing activities in accordance with the project management plan.	
	b Managing changes to the deliverables.	
	c Completing the work in accordance with the defined quality framework and specification.	
	d Coordinating people and resources.	
Answers		<i>Reference: PMBOK® Guide p55-56 Sect: 3.5</i>
	e The best answer is B	
	i Managing changes is part of Integrated Change Control; this is part of the Monitoring and Controlling process group.	
	ii The Executing Process Group consists of those processes performed to complete the work defined in the project management plan to satisfy the project specifications.	
	iii An output from Integrated Change control is updates to the project management plan to incorporate approved changes.	

2	Which calculation is correct for the To-Complete Performance Index (TCPI) based on the Estimate At Completion (EAC)?	Ch.7
	a $AC + (BAC - EV)$	
	b $(BAC - EV)/(BAC - AC)$	
	c BAC/CPI^{cum}	
	d $(BAC - EV)/(EAC - AC)$	
Answers		<i>Reference: PMBOK® Guide p185 Sect 7.3.2.3</i>
	e The best answer is D	
	i TCPI is the projection of the future cost performance that must be achieved on the remaining work to achieve a management goal such as the original Budget At Completion (BAC) or a calculated Estimate At Completion (EAC).	
	ii All of these formula use standard Earned Value Management acronyms: Option 'a' calculates EAC based on future work being performed at budgeted rates Option 'b' calculates TCPI based on BAC (the question asked for EAC) Option 'c' calculates EAC based on future work being performed at the same CPI as the completed work.	

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3	A Pareto diagram shows:		Ch.8
	a	The 80% of the work that is important.	
	b	The qualitative improvement trend demonstrated by implementing a Six Sigma initiative.	
	c	A histogram ordered by frequency of occurrence.	
	d	The 20% of the work that is causing the most issues.	
Answers		<i>Reference: PMBOK® Guide p210-211 Section 8.3.2.5</i>	
	e	The best answer is C	
	i	A Pareto diagram is a specific type of histogram, ordered by frequency of occurrence.	
	ii	It is used to show how many defects were generated by each category of identified cause to allow remedial action to be focussed on the most significant.	
	iii	The Pareto principle (also known as the 80-20 rule) is different, see: http://en.wikipedia.org/wiki/Pareto_principle	

4	Integrated Change Control includes all of the following tools and techniques except:		Ch.4
	a	Project plan updates.	
	b	Expert judgement.	
	c	Change control meetings.	
	d	A change control board to approve or reject changes.	
Answers		<i>Reference: PMBOK® Guide p.98-99 Sect:4.5.2</i>	
	e	The best answer is A	
	i	Project plan updates are an output from Integrated Change Control.	
	ii	Expert judgement and the change control meetings, of the change control board are the defined tools and techniques for this process.	

5	All of the following are true concerning expected monetary value (EMV) except:		Ch.11
	a	Decision tree analysis is more effective using net present values (NPV) in its calculations rather than EMV.	
	b	The EMV of an opportunity is generally a positive value.	
	c	EMV is a statistical concept that calculates the average value of a future scenario that may, or may not happen by multiplying the value of each possible outcome by the probability of it occurring and summing the products.	
	d	The EMV of a threat is generally a negative value.	
Answers		<i>Reference: PMBOK® Guide p298 Sect: 11.4.2.2</i>	
	e	The best answer is A	
	i	EMV is calculated by $EMV = probability * impact$.	
	ii	If there are several different possibilities, the EMV is calculated for each option and the EMVs added together to give an overall, value.	
	iii	Decision tree analysis is based on EMV.	

6	Co-location is one of the techniques used to:		Ch.9
	a	Ensure effective control over the work of the project team.	
	b	Develop the project team.	
	c	Define the organisation structure.	
	d	Acquire the project team.	
Answers		<i>Reference: PMBOK® Guide p234 Sect: 9.3.2.5</i>	
	e	The best answer is B	
	i	Co-location involves placing the active project team members in one location to enhance their ability to perform as a team.	
	ii	This is one of the tools and techniques listed in the Develop Project Team process.	
	iii	Co-location may assist in improving the coordination and control of the project's work but this is a secondary benefit and consequently not the best answer from the PMBOK's perspective.	

7	When managing a complex, cross functional project; which of the following structures will give the project manager the most authority?		Ch.2
	a	Balanced matrix.	
	b	Strong matrix.	
	c	Functional.	
	d	Weak matrix.	
Answers		<i>Reference: PMBOK® Guide p28-30 Sect:2.4.2</i>	
	e	The best answer is B	
	i	Strong matrix organisations provide the project manager with a similar high level of authority to a projectized organisation and full time project administration staff.	
	ii	Matrix organisations include both functional and projectized management structures.	

8	Leadership in a project environment should demonstrate all of the following characteristics except:		Apx.G
	a	The focusing of the efforts of a group of people on achieving a common objective.	
	b	High levels of respect and trust.	
	c	The ability to get things done through others.	
	d	A primary focus on external senior managers and other key stakeholders to ensure the project is a success through managing upwards.	
Answers		<i>Reference: PMBOK® Guide Appendix G, p409</i>	
	e	The best answer is D	
	i	Whilst managing upwards (or advising upwards) is a key skill of the project manager, it is not the primary focus of leadership.	
	ii	The primary focus of project leadership is on developing the project team and empowering them to achieve the project outcomes.	

9	The processes included in project communication management are:		Ch.10
	a	Collect Requirements, Plan Communications, Distribute Information, Manage Expectations and Report Performance.	
	b	Identify Stakeholders, Collect Requirements, Plan Communications, Distribute Information, Manage Stakeholder Expectations and Report Performance.	
	c	Identify Stakeholders, Plan Communications, Distribute Information, Manage Stakeholder Expectations and Report Performance.	
	d	Collect Requirements, Plan Communications, Distribute Information, Update Project Documentation and Report Performance.	
Answers		<i>Reference: PMBOK® Guide p243-244</i>	
	e	The best answer is C	
	i	This is a common type of question.	
	ii	Collect Requirements is a Scope Management process.	
	iii	Update project documentation is an output from a range of processes.	

10	Which of the following is true concerning the work breakdown structure (WBS)?		Ch.5
	a	The PMI WBS and PRINCE2 product breakdown structure (PBS) are effectively the same thing.	
	b	The WBS is the same as the organisational breakdown structure (OBS).	
	c	The WBS is a deliverable oriented, hierarchical decomposition of the work to be executed by the project team.	
	d	The WBS is the bill of materials (BoM) needed to accomplish the work of the project.	
Answers		<i>Reference: PMBOK® Guide p116 Sect: 5.3</i>	
	e	The best answer is C	
	i	The difference between the PBS and the WBS is the PBS only contains the products to be delivered, the WBS contains all of the work needed to achieve the project's objectives which will include all of the deliverables (not just the 'product'). Non-product elements in the WBS can include project management work, safety and hygiene work, etc.	
	ii	The OBS is the document that defines the lines of management responsibility within the project. The point where the OBS and WBS intersect is known as a 'control account' and defines the manager responsible for a section of the project work.	
	iii	The BoM only describes the materials used in the work, not the other elements of the project (eg, labour). The WBS defines all of the work and consequently all of the costs.	

11	All of the following are true of cost plus fixed fee (CPFF) contracts, except:		Ch.12
	a	The seller is reimbursed for all allowable costs incurred performing the contract work.	
	b	The seller receives a fixed fee calculated as a percentage of the initial estimated project cost.	
	c	The fee does not change based on the performance of the seller.	
	d	The seller receives a fee calculated as a fixed percentage of the actual project cost.	

Answers		<i>Reference: PMBOK® Guide p323 Sect: 12.1.2.3</i>	
	e	The best answer is D	
	i	CPFF contracts pay a fixed fee to the seller based on the initial estimated value of the work.	
	ii	All allowable costs are reimbursed by the buyer.	
	iii	The only time the fee will change is if the buyer changes the scope of the work.	

12	Analogous estimating when applied to a duration is:		Ch.6
	a	Based on expert judgement and is consequently more accurate than standard critical path estimating.	
	b	Used when there is a limited amount of detailed information available.	
	c	A calculation based on a three point estimate using a modified BETA distribution.	
	d	The same as 'bottom up' estimating.	
Answers		<i>Reference: PMBOK® Guide p149 Sect: 6.4.2.2</i>	
	e	The best answer is B	
	i	Analogous estimating uses the duration from a similar completed activity or project as the basis for the current estimate. This is a 'top down' estimating technique used when there is little detailed information available.	
	ii	The critical path method is a precise set of calculations applied to the schedule (including the estimated durations). It is not an estimating process.	
	iii	The PERT technique uses three point estimates and a modified BETA distribution to assess the probability of completing the project in a given timeframe.	

13	The code of accounts:		Gloss.
	a	Is the system used to keep track of purchases and contracts.	
	b	Is any numbering system used to uniquely identify each component of the work breakdown structure.	
	c	Links the work breakdown structure to the schedule task identifier.	
	d	Is the alpha-numeric reference used in the organisations accounts system to identify cost centres.	
Answers		<i>Reference: PMBOK® Guide Glossary p421</i>	
	e	The best answer is B	
	i	The chart of accounts refers to the accounting system, the code of accounts to the WBS. Whilst these should be linked, they are not the same.	
	ii	Links between the WBS and the activities in the schedule are required; however, this information is usually in a code field or a text field, not the Task ID. There are likely to be several activities to each WBS element and the WBS code of accounts is a fixed structure. Task IDs can change.	

14	A procurement audit will consider all of the following except:		Ch.12
	a	The changes in market conditions between the contract date and the current time.	
	b	Any successes or failures in the process that warrant recognition.	
	c	The complete procurement process from initial planning through to the administration of the procurement.	
	d	Any lessons learned that can be applied to future procurement processes.	
Answers		<i>Reference: PMBOK® Guide p343 Sect: 12.4.2.1</i>	
	e	The best answer is A	
	i	PMBOK audits are focused on process improvement. They review how the system is working to learn lessons to apply to future procurements both within the project and on other projects within the organisation.	

15	The Delphi technique has all of the following characteristics except:		Ch.11
	a	It is a technique to reduce bias and prevent any one person from exerting undue influence.	
	b	It is a way to reach a consensus of experts.	
	c	It is an Oracle® database application used to optimise future outcomes.	
	d	Individual experts are unaware of who else is participating in the process.	
Answers		<i>Reference: PMBOK® Guide p286 sect:11.2.2.2</i>	
	e	The best answer is C	
	i	The Delphi technique is a facilitated process to reach a consensus of experts using questions and feedback. Only the facilitator is aware of who is participating.	
	ii	No PMI question is likely to have a proprietary tool as the correct answer.	

16	The basic decision making styles normally used by project managers include all of the following except:		Apx.G
	a	Coin flip (random).	
	b	Command.	
	c	Consultation.	
	d	Rational choice theory	
Answers		<i>Reference: PMBOK® Guide Appendix G6 p412</i>	
	e	The best answer is D	
	i	Rational choice theory is a framework for understanding and often formally modelling social and economic behaviour.	
	ii	The 4 options in the PMBOK are command, consultation, consensus and coin flip.	
	iii	Coin flip is used when it really does not matter which option is chosen as long as there is a decision (eg, should we meet at McDonald's or Burger King for lunch).	

17	The Control Costs process includes all of the following except:		Ch.7
	a	Informing appropriate stakeholders of all approved changes and associated costs.	
	b	Influencing factors that create changes in the authorised cost baseline.	
	c	Developing the cost performance baseline.	
	d	Acting to bring expected cost overruns within acceptable limits.	
Answers		<i>Reference: PMBOK® Guide p179-180 Sect 7.3</i>	
	e	The best answer is C	
	i	Developing the cost performance baseline is part of the Determine Budget process (see: 7.2.3.1).	
	ii	All of the other options are listed as inclusions in the Control Costs process.	

18	All of the following statements are true about product and project life cycles except:		Ch.2
	a	Generally a product lifecycle is contained within a project lifecycle.	
	b	A project life cycle is determined by the organisation and generally consists of phases that may be sequential or overlapping.	
	c	A product lifecycle is determined by the organisation and generally consists of sequential phases.	
	d	Generally a project lifecycle is contained within a product lifecycle.	
Answers		<i>Reference: PMBOK® Guide p18 Sect: 2.1.2</i>	
	e	The best answer is A	
	i	Products are created, marketed, upgraded and eventually retired or decommissioned. The phases are determined by the organisation.	
	ii	Projects are used to create the product, upgrade the product and potentially decommission the product. Projects typically fit within or form one phase of the overall product lifecycle.	
	iii	The phases of a project's lifecycle (eg, design, build, install) are different to the 'project management phases' discussed in the PMBOK; project management phases are synonymous with the five process groups. The five process groups (initiate, plan, execute, monitor & control, and close) occur at different levels of intensity in each project, and each phase of a project.	

19	As part of a successful communication, the receiver is responsible for:		Ch.10
	a	Making sure the information is clear and complete, understood and acknowledged.	
	b	Making sure the information is received in its entirety, understood correctly and acknowledged.	
	c	Making sure the information is clear and complete, understood and agreed with.	
	d	Listening actively to ensure all of the information is received.	
Answers		<i>Reference: PMBOK® Guide p255 Sect: 10.2.2.3</i>	
	e	The best answer is B	

	i	Communication can be written or oral, therefore 'd' is not the best answer. Both the sender and receiver need to use active listening if the communication is oral.	
	ii	The sender is responsible for making sure the information is clear and complete, not the receiver.	
	iii	For a communication to be successful the receiver needs to acknowledge its receipt to the sender, the receiver does not have to agree with the information.	
	iv	Communication can be written or oral, therefore 'd' is not the best answer. Both the sender and receiver need to use active listening if the communication is oral.	

20	The project charter has all of the following characteristics except:		Ch.4
	a	Its primary use is to authorise the start of a project or phase.	
	b	It provides the project manager with authority to apply resources and expend money on project activities.	
	c	Its primary use is to request bids or proposals for the work it defines.	
	d	The project charter can be created by the person external to the project, responsible for the authorisation of the work, or that person can delegate the creation of the project charter to the project manager.	
Answers		<i>Reference: PMBOK® Guide p73-74 Sect: 4.1</i>	
	e	The best answer is C	
	i	Statements of work (SOW) and other procurement documents are used to request bids or proposals.	
	ii	The work of creating the project charter can be delegated to the project manager, however, the charter should be signed by the person responsible for authorising the project.	

21	All of the following are true concerning enterprise environmental factors (EEF) except:		Ch.1
	a	EEF do not include the organisations purchasing guidelines because this type of function is managed by the Accounts Department	
	b	EEF include the tools, systems and software that comprise the project management information system (PMIS).	
	c	EEF incorporates the organisation's culture, structure and processes.	
	d	EEF include all relevant laws, regulations and standards imposed by all levels of government, industry bodies and society.	
Answers		<i>Reference: PMBOK® Guide p14, sect: 1.8</i>	
	e	The best answer is A	
	i	EEF refer to both the internal and external environmental factors that surround or influence a project.	
	ii	Purchasing guidelines constrain the project management's options in respect of acquiring goods and services.	

22	All of the following statements concerning the project scope statement are true except:		Ch.5
	a	It is an output of the Verify Scope process.	
	b	It describes the project's deliverables and the work needed to create them.	
	c	It may contain explicit scope exclusions that can assist in managing stakeholder expectations.	
	d	It provides a common understanding of the project's scope among the project's stakeholders.	
Answers		<i>Reference: PMBOK® Guide p115 Sect: 5.2.3.1</i>	
	e	The best answer is A	
	i	The project scope statement is an output from the Define Scope process.	
	ii	Clearly documenting work that is 'out of scope' helps everyone. A typical example is a project may be scoped to develop training materials for the product being developed, but not to conduct the training. A clear statement that 'All training will be undertaken by others and is outside of the scope of this project' prevents stakeholders expecting the project team will undertake the initial training or 'train-the-trainer' training. If these requirements are needed, they can be brought into the project's scope through a change management process.	

23	The cost of quality includes all of the following except:		Ch.8
	a	Buying professional indemnity insurance.	
	b	The cost of defects and rework caused by failing to achieve requirements.	
	c	The cost of inspecting and appraising conforming products produced by the project.	
	d	Preventing non-conformance to requirements.	
Answers		<i>Reference: PMBOK® Guide p195 Sect: 8.1.2.2</i>	
	e	The best answer is A	
	i	Buying insurance is a risk transference process (the risk is transferred to the insurer).	
	ii	The cost of quality (COQ) is the direct costs incurred in prevention, inspection and repairs.	

24	The responsibility assignment matrix (RAM) shows:		Ch.9
	a	The connections between activities and project team members.	
	b	The delegation of responsibility through the hierarchically organised management structure.	
	c	Accountabilities to assist in team performance appraisals.	
	d	The sequence of activities a named resource is responsible for accomplishing.	
Answers		<i>Reference: PMBOK® Guide p221 Sect: 9.1.2.1</i>	
	e	The best answer is A	
	i	The RAM chart is used to illustrate the connections between work packages or activities and project team members.	

25	Which of the following represent a discretionary dependency?		Ch.6
	a	Not starting design until all of the approvals have been received.	
	b	Waiting the specified 72 hours before stripping formwork from a newly poured concrete slab.	
	c	Applying a start-to-start link between two tasks in a PDM network.	
	d	Applying a lag of 4 days between two tasks.	
Answers		<i>Reference: PMBOK® Guide p139-140 Sect: 6.2.2.2</i>	
	e	The best answer is A	
	i	Any link between two tasks (or activities) may be discretionary or mandatory. The link types in a Precedence network (PDM) are: - Finish-to-start - Start-to-start - Finish-to-finish - Start-to-finish. A lead or a lag may be applied to any of the link types.	
	ii	Mandatory dependencies are either inherent in the nature of the work (eg, you cannot put concrete into a foundation until you have dug the hole!), or are contractually required. The specification typically forms part of a contract and would mandate the 'curing time'.	
	iii	Discretionary dependencies are desirable and/or represent best practice. Whilst it is desirable to wait for the final approvals for a project before starting the design it is not mandatory. The project team may decide to take a calculated risk and start some design work before all of the approvals are received.	

References:

- **Ch.X** = PMBOK® Guide Chapter #
- **Gloss.** = PMBOK® Guide Glossary
- **Apx.G** = PMBOK® Guide Appendix G (Interpersonal Skills)

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