



## **ITIL<sup>®</sup> Intermediate Capability Stream:**

### **PLANNING, PROTECTION AND OPTIMIZATION (PPO) CERTIFICATE**

*Sample Paper 2, version 6.1*

Gradient Style, Complex Multiple Choice

### **ANSWERS AND RATIONALES**

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***Answer Key:***

<b>Scenario</b>	<b>Question</b>	<b>Correct: 5 Marks</b>	<b>2<sup>nd</sup> Best: 3 Marks</b>	<b>3<sup>rd</sup> Best: 1 Mark</b>	<b>Distracter: 0 Marks</b>
<b>One</b>	<b>1</b>	B	A	D	C
<b>Two</b>	<b>2</b>	B	D	A	C
<b>Three</b>	<b>3</b>	C	B	A	D
<b>Four</b>	<b>4</b>	C	B	A	D
<b>Five</b>	<b>5</b>	D	A	C	B
<b>Six</b>	<b>6</b>	C	A	B	D
<b>Seven</b>	<b>7</b>	A	C	D	B
<b>Eight</b>	<b>8</b>	B	A	D	C

QUESTION	One	Scenario	One
<b>Question Rationale</b>	This question focuses on the contents of the information security policy, who should authorize it and the relationship between the policy and the information security management system (ISMS). Candidates must be able to recognize, from among the contents listed in each option, what is part of the policy and what is part of the ISMS.		
<b>MOST CORRECT (5)</b>	<b>B</b>	This is the most correct answer, as it specifies the sub-policies that make up the information security policy and defines when this will be maintained and updated. It includes senior management support from IT and the business, which is important, and also ensures that the policy is communicated to all staff, including the call centres, using TC's IT systems.	
<b>SECOND BEST (3)</b>	<b>A</b>	This is the second best answer as it correctly states that the policy needs to be appropriate for business need and should be authorized by the CEO. It is correct to include policies for asset control and disposal. However, the management procedures and guidelines should be specified in the information security system, and would not be documented in the policy – the system should support the policy but is separate.	
<b>THIRD BEST (1)</b>	<b>D</b>	This is the third best answer. This answer correctly states that the information security policy should be authorized and is mandatory. Security training and awareness is important, but this would not be part of the policy. Issuing the policy to all new call centre staff would be useful but inadequate, as it does not include the staff in the retail outlets that have access to the same customer information.	
<b>DISTRACTER (0)</b>	<b>C</b>	This answer is the distracter. The policy should not be authorized by the information security manager, as it would be more appropriate for it to be authorized by senior management (such as the CEO) within the business and IT. The management procedures and guidelines should be specified in the information security system, and not the policy. The policy would include the specific security policies that address strategy and controls, however the policy would not mandate the tools and processes that would be used to operate the security system. The emergency change process would be determined by the change management policy, and would not be documented in the information security policy.	
<b>Syllabus Unit / Module supported</b>	ITIL SC: PPO05 Information security management		
<b>Blooms Taxonomy Testing Level</b>	Level 3 Applying – Use ideas, principles and theories in new, particular and concrete situations. Behavioural tasks at this level involve both knowing and comprehension and might include choosing appropriate procedures, applying principles, using an approach or identifying the selection of options.  Application – The candidate must apply their knowledge of information security management and the objective described in the scenario to correctly identify the best answer option. All answer options except the distracter have some valid points but only one (B) covers ITIL best practices correctly AND addresses the issues in the scenario.		
<b>Subjects covered</b>	Categories covered: <ul style="list-style-type: none"><li>Information security management</li></ul>		
<b>Book Section Refs</b>	SD 4.7.4 – Service design processes – Information security management – Policies, principles and basic concepts SD 4.7.4.1 Service design processes – Information security management – Policies, principles and basic concepts – The information security policy SD 4.7.4.3 Service design processes – Information security management – Policies, principles and basic concepts – The information security management system (ISMS)		
<b>Difficulty</b>	Moderate		

QUESTION	Two	Scenario	Two
Question Rationale	This question focuses on the decision whether to use a software tool set based on a proprietary architecture, or to use “best of breed” tools.		
MOST CORRECT (5)	B	<p>This is the best answer. According to ITIL guidance, while an approach based on proprietary management architecture will normally require less effort, it can leave gaps, while an approach based on “best of breed” can lead to longer-term cost savings.</p> <p>In this case, company C’s service transition and service operations are not considered any better than the current tools, and the current design tools offer additional functionality which, while not required, is a “should have” option. Forcing either group to switch tools is unlikely to result in improvements.</p> <p>The six months wait for the extractor is the shortest of the intervals for any of the options. There is some risk involved in the extractor approach but, as it will be part of company B’s standard product set rather than a custom adaptation for the insurance company, the risk is reduced.</p>	
SECOND BEST (3)	D	<p>This is the second best answer. If company A is able to develop design tools of comparable quality to company B, then a switch, while disruptive, would allow the insurance company to have the benefit of an integrated tool set which also includes design tools with the necessary functionality. However, the ability to process non-IT data would be lost, and there is uncertainty about company A’s ability to deliver the promised tools, indicating a higher degree of risk than the best answer.</p>	
THIRD BEST (1)	A	<p>This is the third best answer. While it would eventually provide the insurance company with an integrated tool set with the required functionality, the current users in the service transition and service operations lifecycle stages would be forced to undergo a year’s transition period, when they are satisfied with the tools they have now. Also, the ability to handle non-IT data would be lost.</p>	
DISTRACTER (0)	C	<p>This answer is the distracter. There is no benefit in having the design users switch to company C’s tool in the short term, since the data to make it useful will not be available for a year. After the transition is complete, the insurance company might have a satisfactory tool set but only after considerable disruption.</p>	
Syllabus Unit / Module supported	ITIL SC: PPO08 Technology and implementation considerations		
Blooms Taxonomy Testing Level	<p>Level 4 Analysis – The ability to use the practices and concepts in a situation or unprompted use of an abstraction. Can apply what is learned in the classroom in workplace situations. Can separate concepts into component parts to understand structure and can distinguish between facts and inferences.</p> <p>Application – The candidate must apply their understanding of the process of tool selection to an environment in which tools are already in place but in which there have been problems, and consider other alternatives that are available.</p>		
Subjects covered	Categories covered: <ul style="list-style-type: none"><li>Technology management</li></ul>		
Book Section Refs	SD 3.7.3.1 – Service design – Service design principles – Design aspects – Designing technology architectures and management architectures – Technology management		
Difficulty	Hard		

QUESTION	Three	Scenario	Three
<b>Question Rationale</b>	This question focuses on the identification of risks relating to capacity management and IT service continuity management during the service design phase of the service lifecycle.		
<b>MOST CORRECT (5)</b>	<b>C</b>	This is the most correct answer, as it addresses the need for the strategy to be aligned with business need. This option also identifies the risk caused by the supplier not having access to the BCM plan and process. Finally, it is correct in noting that the lack of involvement by the IT department in the design phase may result in a design which is insufficient to meet the IT department's requirements.	
<b>SECOND BEST (3)</b>	<b>B</b>	This is the second best answer. It correctly identifies the risk in perception given by the supplier taking responsibility for delivering IT service continuity management to the IT organization. It is also a valid risk that the business continuity and service continuity plans might not be sufficiently aligned if the supplier does not have visibility of the business continuity plan. The risk that the output from the risk assessment is not passed to the supplier is valid, however it would be more correct to identify this as the risk presented by the risk assessment not being performed jointly by the IT organization and the supplier.	
<b>THIRD BEST (1)</b>	<b>A</b>	This is the third best answer. The risk that the plan is not version-controlled is minimal as the plan should be recorded within the CMDB (the scenario states that configuration management within the IT organization is effective). The reliance on tools to manage capacity is not a risk, as this would be necessary to handle the information provided. If this were not done through effective tools and technology, then it is likely that the supplier would have difficulty handling large volumes of data. The lack of involvement by the IT department is a valid risk, as noted above.	
<b>DISTRACTER (0)</b>	<b>D</b>	This is the distracter. The risk that there would be a lack of management commitment within the supplier is minimal because the scenario outlines the importance of this contract and the customer to the supplier's longer-term plans. The risk regarding combining the roles is not appropriate, as the goals of IT service continuity management and capacity management do not conflict. The risk regarding the CAB involvement is incorrect – assessing changes is a valid activity for this manager and the risk would be if the manager was not involved in the CAB.	
<b>Syllabus Unit / Module supported</b>	ITIL SC: PPO02 Capacity management ITIL SC: PPO04 IT service continuity management ITIL SC: PPO07 PPO roles and responsibilities		
<b>Blooms Taxonomy Testing Level</b>	Level 4 Analysis – The ability to use the practices and concepts in a situation or unprompted use of an abstraction. Can apply what is learned in the classroom in workplace situations. Can separate concepts into component parts to understand structure and can distinguish between facts and inferences.  Application – The candidate must be able to distinguish which risk are the most prevalent ones given how the process ownership for capacity and ITSCM are assigned to the supplier. Careful analysis of the scenario is needed to understand the risks that are present and which are most important.		
<b>Subjects covered</b>	Categories covered: <ul style="list-style-type: none"><li>Challenges, CSFs and risks for capacity management and IT service continuity management</li><li>Roles and responsibilities for capacity management and IT service continuity management</li></ul>		
<b>Book Section Refs</b>	SD 4.5.8 – Service design processes – Capacity management – Critical success factors SD 4.5.9 – Service design processes – Capacity management – Challenges and risks		

	SD 4.6.8 – Service design processes – IT service continuity management – Critical success factors SD 4.6.9 – Service design processes – IT service continuity management – Challenges and risks SD 6.3.9 – Organizing for service design – Capacity management roles SD 6.3.10 – Organizing for service design – IT service continuity management roles
<b>Difficulty</b>	Moderate

QUESTION	Four	Scenario	Four
<b>Question Rationale</b>	This question focuses on the interfaces between service design processes. In this case, as the service is a new one involving new technology and uncertainty in demand, certain interfaces are more crucial than they would be in the case of an established service. These are the following: <ul style="list-style-type: none"><li>• Determination of the vital business functions (VBFs) (required for all three processes)</li><li>• Risk assessment (required by both availability management and ITSCM)</li><li>• Establishing recovery options (required by availability management and ITSCM)</li><li>• Determining resilience requirement (all three processes but especially capacity and availability management)</li></ul>		
<b>MOST CORRECT (5)</b>	<b>C</b>	This is the best answer. It includes all of the crucial interfaces.	
<b>SECOND BEST (3)</b>	<b>B</b>	This is the second best answer. Planned service outages will become more important once the service becomes operational but, in the design phase, it is much less important than ensuring that resilience is built into the design.	
<b>THIRD BEST (1)</b>	<b>A</b>	This is the third best answer. As with planned service outages, testing schedules, although they should be established during the design phase, is less important at this stage than understanding patterns of business activity.	
<b>DISTRACTER (0)</b>	<b>D</b>	This answer is the distracter. This answer includes none of the relevant areas as mentioned above but, in addition to the comments noted above, the preventive maintenance schedule, while an important output of the availability management process, is not a crucial interface at this time. The same can be said for updating the KEDB since, at this stage of the service's lifecycle, there are no known errors.	
<b>Syllabus Unit / Module supported</b>	ITIL SC: PPO02 Capacity management ITIL SC: PPO03 Availability management ITIL SC: PPO04 IT service continuity management		
<b>Blooms Taxonomy Testing Level</b>	Level 3 Applying – Use ideas, principles and theories in new, particular and concrete situations. Behavioural tasks at this level involve both knowing and comprehension and might include choosing appropriate procedures, applying principles, using an approach or identifying the selection of options.  Application – The candidate must evaluate several choices which represent the most important interfaces between processes for a particular stage in the lifecycle of a service.		
<b>Subjects covered</b>	Categories covered: <ul style="list-style-type: none"><li>• Interfaces between processes</li></ul>		
<b>Book Section Refs</b>	SD 4.4.2 – Service design – Service design processes – Availability management – Scope SD 4.4.5.2 – Service design – Service design processes – Availability management – Process activities, methods and techniques – Proactive activities SD 4.4.5.4 – Service design – Service design processes – Availability management – Process activities, methods and techniques – Proactive availability management SD 4.5.5.4 – Service design – Service design processes – Capacity management – Process activities, methods and techniques – Design-related activities SD 4.6.2 – Service design – Service design processes – IT service continuity – Scope SD 4.6.5.2 – Service design – Service design processes – IT service continuity management – Process activities, methods and techniques – Stage 2 – Requirements and strategy		
<b>Difficulty</b>	Moderate		

QUESTION	Five	Scenario	Five
Question Rationale	This question focuses on the value ITSCM adds to the business and the stages required to ensure that ITSCM supports BCM.		
MOST CORRECT (5)	D	This is the most correct answer. It lists the lifecycle stages and further considers the relationships between business operations and the IT organization. It also clearly indicates that the business continuity strategy should be developed by business operations, and then used by ITSCM to develop the ITSCM strategy.	
SECOND BEST (3)	A	This is the second best answer. It is almost as good as D. It correctly states that the output from the BIA and RA will be used to determine the business continuity strategy. It is also correct that the ITSCM strategy will underpin the business continuity strategy. However, this answer is not as good as option D as it does not include the specific business operations involvement in the planning and completion of the BIA and RA.	
THIRD BEST (1)	C	This is the third best answer. The answer correctly states that business operations will be involved; however the stages are incorrect. It is also incorrect to state that the ITSCM strategy should be used to drive the business continuity strategy as this is the wrong way around.	
DISTRACTER (0)	B	This is the distracter. It lists four incorrect stages and only focuses on technology. It only involves the business from the point of view of informing them how much the technology will cost.	
Syllabus Unit / Module supported	ITIL SC: PPO04 IT service continuity management		
Blooms Taxonomy Testing Level	Level 3 Applying – Use ideas, principles and theories in new, particular and concrete situations. Behavioural tasks at this level involve both knowing and comprehension and might include choosing appropriate procedures, applying principles, using an approach or identifying the selection of options.  Application – The candidate must first use their knowledge of ITSCM and the stages within it then select the answer option that also has the assignment of the BCM ownership correct.		
Subjects covered	Categories covered: <ul style="list-style-type: none"><li>IT service continuity management</li></ul>		
Book Section Refs	SD 4.6.4 - Service design processes – IT service continuity management – Policies, principles and basic concepts SD 4.6.5 - Service design processes – IT service continuity management – Process activities, methods and techniques		
Difficulty	Easy		

QUESTION	Six	Scenario	Six
Question Rationale	This question focuses on the need to establish monitoring of service and component performance, and to establish thresholds based on historical trends and patterns. It also emphasizes the importance of workload characterization in predicting future capacity requirements.		
MOST CORRECT (5)	C	This is the most correct answer. It highlights the need for comprehensive monitoring, not just component performance but also service performance. This answer highlights that correct prediction of future demand depends on characterizing the workload. It also indicates that thresholds should be set based on deviation from normal behaviour rather than arbitrary standards, and also that the thresholds should warn proactively before performance is degraded. The answer also recognizes that some reports require significantly more resources than others for generation. It anticipates that the IT organization may want to understand that greater predictability in performance might be obtained by some form of demand management through scheduling resource intensive activities at appropriate times. With respect to the security application, it is important that any decision is based on discussions with the IT security manager.	
SECOND BEST (3)	A	This is the second best answer. Like the most correct answer, it includes comprehensive monitoring including service demand. However, option C is more correct than option A as it considers utilization and performance, rather than utilization only. It also indicates that thresholds need to be based on historical trends and patterns, and not arbitrary standards. However, the thresholds should be set to create incidents before rather than after a service level has been breached. The answer includes the analysis of the data with possible recommendations for running high resource activities overnight. The suggestion about the security application is flawed because it does not include trying to understand the purpose of the security application and why it has to run in the middle of the day. Finally, this answer also recognizes that workload characterization is essential to correct prediction of demand increase.	
THIRD BEST (1)	B	This is the third best answer. It does indicate the importance of monitoring. However, thresholds should not be based on arbitrary technology limits, but on observations of typical behaviour historically. Response time monitoring may be useful for measuring conformance to SLAs but is a reactive approach, and the generation of dummy report requests may cause further capacity issues at peak times. Setting the security software to run at midnight may not be appropriate and the impact of running this at midnight would need to be understood. The prediction approach fails to do workload characterization, and is only based on historical data, so cannot result in accurate predictions.	
DISTRACTER (0)	D	This is the distracter. There is a need to understand the current performance before the requirement for technology upgrades can be determined; basing this on an assessment of peak period alone is insufficient. The approach of encouraging users to submit their report viewing requests may not be in line with the business need, and until an assessment has been performed of the current activity and performance, this may not resolve the issue. Finally, the “demand management” approach may be justified in the long term, but only after the workload characterization has been done so that your requests which are contributing to excess demand can be understood.	
Syllabus Unit / Module supported	ITIL SC: PPO02 Capacity management		
Blooms Taxonomy Testing Level	Level 3 Applying – Use ideas, principles and theories in new, particular and concrete situations. Behavioural tasks at this level involve both knowing and comprehension and might include choosing appropriate procedures, applying principles, using an approach or identifying the selection of options.  Application – The candidate must analyse the scenario to determine the possible		

	causes for the service degradation and then which answer option addresses them properly without trying to fix issues that are not capacity driven and directly related to the issues. The candidate must also realize that future business activities will require a need to plan now for the impact and management of capacity for these same services.
<b>Subjects covered</b>	Categories covered: <ul style="list-style-type: none"> <li>• Capacity management</li> </ul>
<b>Book Section Refs</b>	SD 4.5.5 – Service design processes – Capacity management – Process activities, methods and techniques
<b>Difficulty</b>	Moderate

QUESTION	Seven	Scenario	Seven
Question Rationale	This question focuses on the use of demand management techniques to design service packages from core services and service options in the company.		
MOST CORRECT (5)	A	This is the most correct answer. Access to the service desk and confidentiality are enabling services, which all customers expect. Therefore, they are included in the core services. Access to standard reports is included, since all customer types require it. However, the actual reports requested will vary from customer to customer. Therefore, the core services do not specify the actual reports to be provided, but allow the customer to choose a specified number. Access to all reports would be available as a service option. It makes sense to bundle activities 1, 2, and 3 together, since customer types C and D typically use all three. Customer types A and E need only one of the three services, so making them available as individual service options also makes sense. As activity 5 involves a completely different service asset (analysts), which is not required by all customers, it should only be available under a separate service option.	
SECOND BEST (3)	C	This is the second best answer as it does not acknowledge that confidentiality is an enabling service, which all customers would expect. In addition, this answer does not acknowledge that activity 4 differs across customers, since some customers may need more reports than others.	
THIRD BEST (1)	D	This is the third best answer in that it fails to acknowledge that both the service desk and confidentiality are enabling services and would be demanded by the customer as part of the core services. Therefore, the company would not be justified in including them as part of separate service options.	
DISTRACTER (0)	B	This answer is the distracter as it identifies activities 3 and 5 as being part of the core services even though these activities are only used by one customer type, making them an inappropriate choice. It also fails to acknowledge that the service desk and confidentiality should be part of the core services. Although each of the five activities is also made available as a separate service option, activities 3 and 5 would duplicate the contents of the core services.	
Syllabus Unit / Module supported	ITIL SC: PPO06 Demand management		
Blooms Taxonomy Testing Level	Level 4 Analysis – The ability to use the practices and concepts in a situation or unprompted use of an abstraction. Can apply what is learned in the classroom in workplace situations. Can separate concepts into component parts to understand structure and can distinguish between facts and inferences.  Application – The candidate must use their knowledge of demand management and patterns of business activity analysis and the specific patterns identified in the scenario in order to select the answer option that best packages services appropriately. The candidate will need to analyse numerous options that can be possible from the PBA and user profiles and detect that there are certain combinations of core services and service options that are optimal here and address the needs described in the scenario.		
Subjects covered	Categories covered: <ul style="list-style-type: none"><li>• Demand management</li></ul>		
Book Section Refs	SS 4.4.5 – Service strategy processes – Demand management – Process activity, methods and techniques SS 4.4.5.5 - Service strategy processes – Demand management – Process activity, methods and techniques – Develop differentiated offerings SS 3.4.8 Service strategy principles – How to define services – Step 8 – Define service units and packages SS 4.4.5.2 - Service strategy processes – Demand management – Process activity, methods and techniques – Patterns of business activity SS 4.4.5.4 - Service strategy processes – Demand management – Process activity,		

	methods and techniques – Activity-based demand management SS figure 4.4.0 – Examples of patterns of business activity SS figure 4.4.1 – Business activity influences patterns of demand SS Figure 4.4.2 – Examples of activity-based demand management
<b>Difficulty</b>	Hard

QUESTION	Eight	Scenario	Eight
<b>Question Rationale</b>	This question focuses on the key metrics that should be used to demonstrate the efficiency and effectiveness of successful availability management. The candidate is required to recognize a variety of possible KPIs related to the conditions described in the scenario and discern those which are appropriate for the specific question being asked (problems being experienced) and which are availability-related.		
<b>MOST CORRECT (5)</b>	<b>B</b>	This is the most correct answer. The KPIs given are all valid, and cover the areas suggested in the Service Design book (manage availability and reliability of IT service; satisfy business needs for access to IT services; and availability of IT infrastructure achieved at optimum costs).	
<b>SECOND BEST (3)</b>	<b>A</b>	This is the second best answer. The KPI relating to the reduction of unavailability is valid. The measure of improvement in the accuracy of forecasts and business trends is more appropriate as a measure of the efficiency and effectiveness of capacity management, rather than availability management. Also, the reduction in the number of events recorded may be useful but this measure does not consider the impact of those events, so may be a misleading metric; an increased number of events could also be indicative of better proactive monitoring.	
<b>THIRD BEST (1)</b>	<b>D</b>	This is the third best answer. Whilst the perception of service management processes is important, this KPI would be difficult to measure, and a more appropriate measure would be to use an objective score, such as a customer satisfaction score, as a more specific measurable KPI. The number of incidents having an impact on availability would be of limited use as a standalone number; it would be more beneficial to measure the percentage decrease, rather than the number, in order that the KPI can indicate a trend over time. The percentage reduction in incorrectly assigned incidents is a measure of the effectiveness of the service desk, rather than of the availability management process. Also, the component reliability would be less useful as a KPI than an end-to-end measure of the reliability of services to users.	
<b>DISTRACTER (0)</b>	<b>C</b>	This is the distracter. The measure of the updates to the PSO would not represent a measure of the efficiency and effectiveness of the availability management process. Improving the accuracy of recording incidents related to unavailability would not in itself be a meaningful metric to address the issues identified in this scenario. A reduction in the MTBSI would indicate that the service is getting worse, as this would suggest there have been more service incidents, and the amount of time spent managing the availability plan would not necessarily indicate that activities were being performed in an efficient or effective manner (as more effort might be an indication that the activities are being managed badly).	
<b>Syllabus Unit / Module supported</b>	ITIL SC: PPO03 Availability management		
<b>Blooms Taxonomy Testing Level</b>	Level 3 Applying – Use ideas, principles and theories in new, particular and concrete situations. Behavioural tasks at this level involve both knowing and comprehension and might include choosing appropriate procedures, applying principles, using an approach or identifying the selection of options.  Application – The candidate must apply their knowledge of availability management and the associated KPIs, and analyse the scenario to determine which of the KPI is best suited in this situation. Many of the KPIs are valid ones, but only certain ones in the correct combination help address the organization's issues.		
<b>Subjects covered</b>	Categories covered: <ul style="list-style-type: none"><li>• Availability management</li></ul>		
<b>Book Section Refs</b>	SD 4.4.8 Service design processes – Availability management – Key performance indicators		
<b>Difficulty</b>	Moderate		