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ITIL® Intermediate Capability Stream:

PLANNING, PROTECTION AND OPTIMIZATION (PPO) CERTIFICATE

Sample Paper 1, version 6.1

Gradient Style, Complex Multiple Choice

SCENARIO BOOKLET

This booklet contains the scenarios upon which the 8 examination questions are based. All questions are contained within the Question Booklet and each question will clearly state the scenario to which it relates. In order to answer each of the 8 questions, you will need to read the related scenario carefully.

On the basis of the information provided in the scenario, you will be required to select which of the four answer options provided (A, B, C or D) you believe to be the optimum answer. You must choose ONE answer only, and the Gradient Scoring system works as follows:

- If you select the CORRECT answer, you will be awarded 5 marks for the question
- If you select the SECOND BEST answer, you will be awarded 3 marks for the question
- If you select the THIRD BEST answer, you will be awarded 1 mark for the question
- If you select the DISTRACTER (the incorrect answer), you will receive no marks for the question.

In order to pass this examination, you must achieve a total of 28 marks or more out of a maximum of 40 marks (70%).

Scenario One

SC is a subsidiary of a major bank. SC provides mortgage loans for high-earning clients and has a reputation for responding to mortgage requests quickly. SC offers a service called Mortgage Express which guarantees that mortgage proposals will be issued to clients within two days.

Three months ago, SC launched a new service providing mortgages for the purchase of holiday homes and has since seen a 19% increase in mortgage requests.

All of SC's IT services are provided by the parent bank's Central Technology Group (CTG), and service level agreements (SLAs) are in place for each service.

The main IT service supporting Mortgage Express is the Premier Loan Application System (PLAS). PLAS collects and validates client data and performs risk assessments. PLAS also interfaces with an external service called V-FACT. V-FACT provides details of a client's credit rating which is used in the risk assessment.

The PLAS service has a target availability of 99% during the agreed service hours of 08:00 to 20:00, seven days a week. Availability reports for the PLAS service are produced monthly.

Three months ago there were a number of short periods of unavailability which did not have an impact on the business. At the beginning of this month there was a major incident that resulted in the PLAS being unavailable for 3 hours 18 minutes. Two weeks later, PLAS performance was severely degraded for 5 hours 45 minutes. During that time, very slow responses were experienced and many of the mortgage requests had to be re-processed due to system timeouts. Both of this month's incidents caused mortgage requests to be delayed and the two day guarantee target was missed.

The CTG service report for this month shows PLAS availability of 99.09%, which includes the downtime from the first incident. The second incident did not affect the availability figure because, although PLAS had been slow, it had still been available for use.

SC's business manager has raised concerns about the availability of the PLAS service provided by CTG.

Scenario Two

A public utility company supplies electricity to nearly 40 million people. Although it is a private company, it is subject to regulation.

Five years ago, the IT Director of the company initiated a project to adopt service management best practice. Today, the utility has well-established processes for service transition and service operations. The service desk is particularly well-regarded for its ability to respond rapidly to incidents and service requests. The utility company has implemented an integrated suite of service management software tools.

The most recently introduced process is problem management. This had not been part of the original plan, however a series of recurring incidents convinced management that a formal process was needed to identify and fix root causes. This process has identified a number of design flaws and instigated corrections through change management.

Following this successful project, the IT director resigned in order to become an independent consultant on IT service management.

Although the effectiveness of the change and release and deployment processes has meant that new services are introduced with minimal disruption, business management has expressed frustration that implementation projects are completed late, over budget, and lacking critical functionality. They also note that the development teams are working in isolation and produce services which are difficult to use and incompatible with one another.

The utility company's revenue comes from the rates paid by its customers. Each year, it presents its requested rates for the coming year to the responsible agency. In the past, requests for rate increases have been routinely granted. Recently, however, the ratepayers have been pressuring government officials to examine more closely the reasons for the proposed increases.

Scenario Three

An engineering company called EC specializes in the design and manufacture of electronic goods. EC has two sites, one in the south of the country (EC-South) and the other in the north (EC-North). EC-South is used for manufacturing and also accommodates the IT organization and all management and technical design functions. EC-North is used for manufacturing only. Both sites have a stockroom holding spare parts for the production line.

EC has 12 technical design engineers whose role is to understand customer requirements and design new products. Customers expect new designs and changes to be delivered quickly.

Three of these engineers were previously based in EC-North and have recently moved to EC-South due to a decision to consolidate the team into one location. The engineers' office and the computer room in EC-North are now empty, as all IT has been moved to the computer room in EC-South.

The engineers use a 3D Computer-Aided Design (CAD) system installed on their desktop PCs, which is linked to a central database of design drawings. This design database is held in a secure computer room at EC-South which also houses a stock control system that records the spare parts held on each site. These parts are used to keep the production line running and are managed by the engineers. The stock control system includes automated ordering of parts from EC's two equipment suppliers.

It is important that the engineers have accurate information about the spare parts currently in stock and are able to order replacement stock quickly.

A recent power outage to the EC-South computer room resulted in the design database and stock control system being unavailable for two days. Although the engineers were able to operate to a limited extent using their desktop CAD systems, this incident caused significant delays to design work. The production line was also interrupted as there were no manual processes for stock management or for ordering spare parts.

After a cost benefit analysis, an Uninterrupted Power Supply (UPS) has been installed in the EC-South computer room and manual processes have been implemented, which enable stock management in the event of failure. This means that EC are able to continue working effectively for up to one working day without the stock control system and design database. The managing director has agreed that it is acceptable to operate for up to 24 hours using manual processes, but failure for any greater length of time would cause significant operational difficulties.

Scenario Four

In response to news reports of intrusions into highly sensitive information systems in other companies, the management at a large manufacturer has ordered a thorough review of all security procedures, in particular information security. Fortunately, the review determined that there have been no significant breaches, and that the few security incidents which did occur were appropriately handled with minimal disruption.

However, management believes that massive data loss through a security breach represents a business risk and has formed a team to conduct a business impact analysis of such an event and make recommendations as to how the risk should be managed. The team determined that there would be significant damage to the company's business interests, including the following:

- Discovery by competitors of:
 - Proprietary manufacturing processes
 - Price structures
 - The customer database
- Loss of confidence in the company's ability to protect sensitive customer information
- Regulatory sanctions for not adhering to privacy laws
- Loss of prestige.

The team recommended that plans be developed to minimize the chances of data theft occurring and suggested that the following is taken into account:

1. The event management manager must ensure that intrusion events are detected promptly and handled appropriately.
2. Application development must ensure that all applications accessing the data are designed for maximum security (for instance, all data is to be held centrally and not stored on laptops or removable disks).
3. Application management must carry out simulated intrusions on a regular basis to test the effectiveness of the security measures.
4. Strict access controls must be established, to be implemented by the service desk in collaboration with the company's human resources organization.
5. If a serious data loss occurs, the information security manager must conduct a review and work with corporate governance to ensure that customers and regulators are kept informed of actions taken.
6. Upon detection of an intrusion, the source of the intrusion must be identified and locked out immediately.

Scenario Five

FSC, a financial services company, provides online brokerage services. Customers use these services to undertake research on investments and submit trade orders online at a significant discount over trade executed with traditional brokerage firms. FSC guarantees that orders submitted during trading hours will be executed within one minute.

FSC pioneered online brokerage services and rapidly grew to dominance in its market segment in the late 1990s. It gained market share at the expense of traditional firms, which it portrayed in its television commercials as being very out-of-date.

In recent years, however, competition has emerged from those traditional brokerage firms. FSC retains market leadership but no longer dominates. Other firms are now able to offer the same one minute guarantee and there is constant pressure on the price of trade.

During the company's initial period of rapid growth, little attention was paid to formal capacity planning. Whenever the average utilization of a server exceeded 30%, an additional server was ordered. This simplistic approach meant that servers usually ran significantly under capacity. This was an expensive strategy, however the aggressive drive for market share was seen as sufficient justification. In fact, on one occasion last year, this strategy delivered a major advantage. On that day, FSC was able to meet its one minute commitment, while other firms' servers crashed due to unexpectedly high transaction volumes. FSC prides itself on the fact that it has NEVER breached its one minute commitment during trading hours.

FSC now finds itself under increasing pressure to reduce prices, which has forced the company to cut costs. Not wanting to sacrifice its performance guarantee to customers, FSC has reduced costs in other areas. Last month the company had to reduce its workforce for the first time, and all departments have been instructed to identify areas for additional savings.

FSC recently announced a plan to add online banking to the services it provides. Customers will be able to move funds easily between their banking accounts and their investment accounts and pay bills online. Access to customers' accounts will be available 24 hours a day, seven days a week. This new online banking service has been identified as being absolutely critical for FSC's future success. As a result, service design and development costs are not an issue. However, there is significant pressure not to purchase more capacity than required.

Scenario Six

A financial services company provides a variety of services to banks including credit checking for loan applications and reporting to meet regulatory and tax requirements. Their largest customer is a bank which provides financial services including business and consumer loans.

The service company has identified the following patterns of business activity:

Service	When performed	Response required	Use of resources
Loan application processing	Monday to Friday 9a.m.-5p.m.	Rapid	Light
Regulatory and tax reporting	Every day 6p.m. to 8a.m.	Rapid	Heavy
Internal reporting	Monday to Friday	Rapid	Moderate
Board of directors reports	Due on the 15th of each month	Moderate	Moderate

As these patterns of business activity do not overlap, the services company has been able to make the most efficient use of its computing resources.

To ensure high availability, the capacity and availability management have determined that 30% redundancy be maintained.

Recently, a major storm caused billions of dollars of damage, including the destruction of many homes and businesses. The government has made cash available for low-interest loans to be administered by the banks. Loan applications have increased significantly. The bank has hired additional loan officers and rented temporary office space. The offices are open from 7a.m. until 10p.m. Mondays to Fridays, and from 9a.m. to 5p.m. at weekends. Management expects this emergency to last at least six months.

In the bank's contract with the services company, payment is based on the number of transactions processed. Currently the volume of transactions exceeds the contractual agreement, so the service company is not required to undertake extraordinary efforts to meet the demand. However, the bank has made it clear that the service company's ability to provide support during the emergency will be a major factor in the decision regarding the forthcoming contract renewal.

Scenario Seven

A company is preparing to implement IT service continuity management. The availability, capacity, and information security management processes have been in place for a year, and each has a full-time process manager. The IT service manager needs to appoint a process manager for the new process, but cannot hire any additional staff. In addition, the budget has been cut. The process manager positions need to be made part-time, and one person must lose their job.

The IT service manager wants to use this as an opportunity to re-evaluate the appropriateness of each role currently assigned, so each of the process managers has been evaluated in several skill areas. Each understands that he or she, if retained, may be responsible for more than one process manager role. Each was assigned a score based on demonstrated skill. A higher score indicates greater proficiency. The highest possible score is 100.

	Current role	Knowledge of technology	Ability to work in a team	Ability to assess risk	Analytical skills	Understanding of business requirements	Communication skills
Person A	Manager, capacity management	95	87	75	90	92	90
Person B	Manager, availability management	90	92	95	93	88	89
Person C	Manager, information security management	99	73	90	85	82	80

Scenario Eight

A company called APC is an established publisher of high-quality textbooks and technical journals.

Another publishing company, FinDoc was recently made available for sale. FinDoc specializes in printing financial documents for corporate customers. These documents include annual reports to shareholders and reports to government regulatory agencies. Although FinDoc's business covers a different market segment, APC's management feels that financial publishing shares many of the same characteristics as technical publishing, including the need for accuracy, quality, and low volume of production. APC therefore decided to acquire FinDoc.

FinDoc has enjoyed great success. In recent years, however, FinDoc has had some embarrassing failures. The worst occurred when a reporter for a national newspaper took advantage of a FinDoc employee's carelessness with his password, and accessed confidential information. FinDoc's management felt that the IT organization was to blame for having inadequate password controls. The incident contributed to an overall atmosphere of distrust and a lack of communication between FinDoc's senior management and their IT organization.

APC's management has now started to realize that there are some critical differences between technical publishing and financial publishing:

- Publication deadlines are more strictly observed in financial publishing than in technical publishing. In technical publishing, deadlines can be missed with little or no impact. In financial publishing, failure to meet deadlines can result in fines and other penalties.
- Premature disclosure of financial results and other breaches of security can result in fines, loss of business or, in extreme cases, criminal penalties.
- Publication schedules for technical journals and textbooks are highly predictable. Journals are published monthly or quarterly, and textbooks are scheduled 12 months in advance. The need for urgent publication is rare. Most financial publishing is similar, driven by predictable legal or regulatory timetables. However, financial publications can sometimes be required at very short notice.