

ISO/IEC 20000
Professional Support of IT Services according to ISO/IEC 20000
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Introduction

This is the sample exam for the Professional: Support of IT Services according to ISO/IEC 20000.

This sample exam consists of 40 multiple-choice questions. Each multiple-choice question has a number of possible answers, of which only one is the correct answer.

The maximum number of points that can be obtained for this exam is 40. Each correct answer is worth one point. If you obtain 26 points or more you will pass.

The time allowed for this exam is 90 minutes.

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Good luck!

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Sample exam

1 of 40

What is **not** part of incident management?

- A. assess the impact of incidents against service level targets
- B. call reception
- C. consideration of security issues
- D. first line customer liaison

2 of 40

As a manager of a regional service desk, a member of staff has just informed you that the service level for an important service is going to be breached within a few minutes. The service is completely down.

What is the action you and your staff should take?

- A. Inform the customers and users that depend upon the service that it will not be available.
- B. Inform the problem manager that there is a major incident.
- C. Inform the IT service continuity manager of the downtime.
- D. Inform the availability manager that the service will be not available for some time.

3 of 40

You work as an employee of the service desk, and your organization is being audited by an external auditor. The auditor asks you when an incident needs to be documented.

What is the best answer when taking the requirements of ISO/IEC 20000 into account?

- A. Only incidents that cannot be solved by the service desk need to be documented.
- B. Only incidents that take longer to document than to solve need to be documented.
- C. All incidents that do not directly link to a recorded problem record need to be documented.
- D. All incidents need to be documented.

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After the quarterly review of the problem management process, the process manager decides to make some improvements in the prioritization procedure.

What is the next step the problem manager should take?

- A.** Instigate a formal change to record the actions that she is going to take.
- B.** Raise a request for change (RFC) and discuss her ideas with the other process managers to investigate the overall impact.
- C.** Set up a work group of members from her problem team to start working out the discussed actions in more detail.
- D.** Apply for a budget increase, to make sure that there is sufficient funding for the desired improvements.

5 of 40

As process manager for the incident management process you are asked to formulate the difference between the incident management process and the major incident management process.

What is the reason for differentiating between the incident management process and the major incident management process taking ISO/IEC 20000 into account?

- A.** A major incident has a major impact on the organization, requiring a faster process to be performed by the same people in the incident management process.
- B.** A major incident has a major impact on the organization, requiring the business to perform the major incident management process.
- C.** Major incidents have to be handled faster, requiring that the assigned person managing the process, has the required authority to change the process and to effectively mobilize the best group of people to resolve the major incident.
- D.** Major incidents have to be handled faster, requiring the mobilization of a dedicated team to process these incidents independently from the incident management process.

6 of 40

You are in charge of incident management for an external service provider which provides IT services for several customers. A service level manager reports that her new customers complain that critical incident resolution times are too long and that service desk staff spends too much time resolving irrelevant incidents. A review shows that all service level targets have been met and that staff handles all incidents according to priorities.

What would be the best action to take?

- A.** You ask the customer to provide examples of both critical and irrelevant incidents to improve classification of incidents.
- B.** You inform the service level manager that the service desk is meeting service level targets and the customer is receiving the agreed level of service.
- C.** You tell service desk staff to increase the priority of these customer's incidents.
- D.** You instruct the service desk staff to ask users in which order the incidents should be resolved.

7 of 40

As the problem manager for a USA based firm, you are defining the policy for the maintenance of the IT service management knowledge base. You want to focus on the high priority elements that will provide business value as early as possible.

What should be a prime consideration when maintaining the knowledge base?

- A.** The database schema that is to be used.
- B.** The global use of the knowledge base.
- C.** The infrastructure components that are used.
- D.** The value and importance of the information.

8 of 40

The IT director of a large retail clothing company is extremely concerned at the number of problems that were assumed to be resolved but need to be re-opened. She has commissioned a review and has asked you to focus on quick wins for priority cases.

What should be the recommendation to the IT director?

- A.** Ask the incident management team to collate more information.
- B.** Employ more problem managers to deal with the volume.
- C.** Enhance the service management tool to provide more problem reports.
- D.** Introduce a problem review process for the high-impact problems.

9 of 40

As the problem manager you receive information from a supplier of a key IT component that a new BIOS update for this hardware component is available for download.

How should you best proceed with this information from the supplier management process?

- A.** Analyze the past and present problem records to determine if the update will result in a permanent solution addressing the root cause for the problems.
- B.** Do nothing, as long as no problem occurs that would require an investigation into the new BIOS capabilities.
- C.** Inform the IT operational personnel that there is a new BIOS update available.
- D.** Initiate a request for change (RFC) to have the new BIOS update installed on all IT systems that use the hardware component.

10 of 40

The specialist staff of the service desk manager complains of excessive workloads caused by incidents. There seem to be several major incidents every day and people have to ignore their normal work to resolve the incidents. However, customers are not dissatisfied.

What should be the correct reaction?

- A.** Review the classification procedures and check if the number of incidents that are classified as major can be reduced.
- B.** Complaints are normal, they can be ignored.
- C.** In order to reduce the workload, more specialist staff should be hired.
- D.** In order to be able to handle the major incidents, more service desk staff should be hired.

11 of 40

As the process owner for the incident management process you want to confirm that recent changes to the process are having the desired effect of improving incident resolution times.

Which of the following metrics will help you to directly identify this?

- A.** increase in first line fix
- B.** increase in the number of changes raised
- C.** increase in the number of identified known errors
- D.** increase in the number of problem records raised

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Lately there have been several incidents involving shortage of disk space. This is caused by a new application which uses more space than expected. The service desk can allocate more space as a standard request.

What is the best action to be taken?

- A.** Proactive problem management should prevent the incidents from recurring.
- B.** Capacity management should make changes to the capacity plans.
- C.** Change management should make a change to increase disk space.
- D.** Service level management should negotiate new service level agreements (SLAs).

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What is the attribute of priority that is based on the time between the problem or incident being detected and the time that the customer's business is impacted?

- A.** effort
- B.** impact
- C.** priority
- D.** urgency

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According to the ISO/IEC 20000 Code of Practice - Part 2 it is considered to be of highest importance that individual authority levels are adequate to the role of coordinating and controlling all aspects for the resolution, including the responsibility for effective escalation and communication across all areas involved in resolution, and to the customers affected.

To what occurrence is this description referring?

- A. major incident
- B. major outage
- C. major problem
- D. major problem review

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You are reviewing the procedures for the management of the impact of incidents.

What aspect should the focus be on?

- A. The focus should always be on the impact on the customer's business.
- B. The focus should be on the number of configuration items (CIs) involved.
- C. The focus should be on the part of the network that is affected by the incident.
- D. The focus should be on the users and their position in the organization.

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A major incident occurs at a military aircraft company. One of the application analysts is appointed as the major incident manager (MIM) to manage the situation. The people who are supporting the resolution of the major incident do not want to deviate from the normal procedures. The MIM struggles to get them to change their minds.

How could this issue be addressed?

- A. Appoint a MIM with appropriate authority.
- B. Appoint a network analyst as the MIM from within IT service management.
- C. Ask a senior manager to work with the MIM to demonstrate the importance of the process.
- D. Ask the development teams to document their concerns.

17 of 40

To which procedure must the reporting and recording of a security incident conform?

- A. business relationship management
- B. incident management procedure
- C. help desk procedure
- D. problem management procedure

18 of 40

As the senior problem manager in an IT service organization you are approached by a junior staff asking you to demonstrate the Pareto analysis of the incident records.

Which of the following statements is correct when using the Pareto observation to analyze the incident records within the problem management process?

- A. 20% of all incident records are caused by 80% of all problems.
- B. 20% of all problems cause 80% of all incident records.
- C. 80% of all incident records will lead to a first call close rate of 20% at the service desk.
- D. 80% of all problems cause 20% of all incidents that have not been solved within the service targets.

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When assessing evidence of service management planning which documents would suffice as evidence of intention?

- A. changes
- B. incidents
- C. meeting minutes
- D. policies

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The service desk manager has had a meeting with the problem manager to discuss how to enhance the problem management process. He is concerned that useful information such as workarounds for addressing incidents is not being made available.

When updating the problem management process what key integration should be evident to address this issue?

- A. Known error information is up to date and available to incident management.
- B. Problem records are updated with known error information.
- C. Service reports for problem data are produced.
- D. Up to date configuration information is available to incident management.

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What is not a specified set of procedures to ensure proper supplier management under ISO/IEC 20000 Code of Practice - Part 2?

- A. That the supplier understands their obligations to the service provider.
- B. That disputes are resolved.
- C. The business transactions between all parties are recorded.
- D. The legitimate and agreed requirements are met within agreed service levels and scope.

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You have been asked to identify the elements that are required in a methodology to define the priority of problems within the problem management process.

Which elements are used for prioritization according to ISO/IEC 20000?

- A.** People available to do the research to determine the cause of the problem.
- B.** Priority of the IT service as stated by the customer.
- C.** Urgency, impact and time required to find the root cause.
- D.** Scale of damage to the customer's business and remaining time until the customer's business is impacted.

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Which process within the ISO/IEC 20000 Code of Practice - Part 2 supports problem prevention through the approval of a resolution to address a known error?

- A.** availability management
- B.** change management
- C.** configuration management
- D.** release management

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You are improving resolution processes as the first step in an IT service management improvement project. The processes have been in use for two years but the level of maturity is quite low. The configuration management database (CMDB) solution is inadequate and there is no knowledge management system in place. The question of tools comes up.

Which statement is correct?

- A.** A fully integrated, expensive state-of-the-art system is not suitable at the moment, considering the level of maturity of the process.
- B.** It will be impossible to implement the resolution processes without a comprehensive CMDB.
- C.** Problem management will not be effective without an adequate knowledge management system.
- D.** There is no need to upgrade the tools.

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As process manager for the incident management process you are asked to comment on the idea of abandoning the reactive problem management process and have this activity included in the incident management process.

What is the best answer when taking ISO/IEC 20000 and best practice into account?

- A.** Having only one resolution process will cut down the number of processes and thereby reduce the number of interfaces required between the different processes, therefore this course of action should be considered.
- B.** It is not advisable to abandon the reactive problem management process as this is required in the standard and the goals of both processes are conflicting, therefore this course of action should not be considered.
- C.** It is possible to abandon the reactive problem management process as the steps taken in this process can easily be integrated into the incident management process, resulting in increased process efficiency.
- D.** One should not abandon the reactive problem management process; on the contrary, one should integrate the incident management process into the reactive problem management process, since the experts are the ones performing the work.

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As a help desk manager you have the task to train the new help desk agents when they join the organization.

During one of these training sessions a new member of staff asks: 'Maybe it is more efficient not to use the standard analysis scripts and directly search the knowledge base for a solution of the incident?'.

What would be the best answer to give to this new staff member?

- A.** Good idea to abandon the standard analysis scripts as not every help desk agent likes using them and they believe the scripts are a waste of time.
- B.** Good idea to abandon the standard analysis scripts as they have no value in the incident management process.
- C.** Not using the standard analysis scripts is against the policy established for the incident management process.
- D.** Not using the standard analysis scripts will increase the odds that an important detail is overlooked and existing workarounds will not be found in the knowledge base.

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A process owner decided to use three performance indicators to measure the effectiveness of the incident management process.

What is a correct indicator to measure effectiveness?

- A.** percentage of incidents forwarded to third parties
- B.** percentage of incidents incorrectly assigned
- C.** percentage of problems re-assigned
- D.** percentage of incidents solved first time right

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According to ISO/IEC 20000 Code of Practice, how are incidents to be recorded?

- A. Any mechanism can be used as long as all incidents shall be recorded.
- B. In a manner that allows relevant information to be recorded.
- C. In an integrated service management tool capable of sharing information with problem management.
- D. In the incident management information system (IMIS).

29 of 40

Which service delivery process is/are the primary interface for problem prevention?

- A. capacity management
- B. change management
- C. incident management
- D. service continuity and availability management

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When organizing the incident management process, one must ensure that the appropriate technical resource is available to resolve the identified incident in a timely manner, especially for major incidents.

If a new major incident occurs and first level support is not technically capable of resolving it, what should be the next action?

- A. contact the customer
- B. contact the manager of the first level support specialists
- C. escalate
- D. transfer to another first level support specialist

31 of 40

To report on the efficiency of the problem management process the problem manager uses the performance indicator: cost of solving a problem. He calculates this by taking the number of problems solved during a week and divides this by the labor costs of the people in his problem team.

Is this the best way to calculate this performance indicator?

- A. Yes, because it is easy and effective. When the people in his team work dedicated on problems this is a good way of calculating.
- B. No, because also material and other costs can be involved. This calculation is therefore insufficient.
- C. It depends, the organizational chart needs to be explored to be able to judge this way of calculating.
- D. No, because this performance indicator has nothing to do with measuring the efficiency of the process.

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During a recent series of major incidents the senior service desk analyst on duty was tasked as the major incident manager. During the review of the major incidents there seemed a perceived lack of urgency from the network operations and the directory services teams.

What is the most probable cause of the lack of urgency for different teams when attempting to resolve the major incident?

- A.** Incident prioritization was not communicated to the network operations and directory service teams.
- B.** The operational level agreement (OLA) did not state there was urgency to be applied when resolving major incidents.
- C.** There is no major incident process thus the network operations and directory service teams prioritized the incident normally.
- D.** The senior support analyst did not have the appropriate level of authority to coordinate necessary resources to resolve the major incidents.

33 of 40

When should the final closure of the incident take place within the incident lifecycle?

- A.** After confirmation from the business customer that the incident has a workaround and the service is restored.
- B.** After confirmation from the business customer that the service has been restored and the incident is resolved.
- C.** After confirmation from the initiating user that the incident is resolved and service is restored.
- D.** After confirmation from the initiating user that the incident has a workaround and service is restored.

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When planning a problem review you have to define the people that should take part in the problem review meeting.

What best describes the selection of people and reasons for the invitation to a problem review meeting?

- A.** The chief financial officer since he is responsible for paying the bills, the service level agreement manager, and the availability manager since his availability targets suffered due to the large number of incidents.
- B.** The incident manager, the availability manager and the chief technology officer, since the chief technology officer had to find the root cause.
- C.** The main suppliers that delivered the service components at fault, the business representatives, service level agreement manager and incident manager.
- D.** The main suppliers that delivered the service components at fault, the service level agreement manager and business continuity manager since the business continuity manager had to ensure the business continuity at all times.

35 of 40

What needs to be done and reported when identifying items of non-compliance to the service management objectives and plan?

- A.** record findings, identify remedial actions, communication to relevant parties
- B.** record findings, identify remedial actions, remediation schedule
- C.** record findings, remediation schedule, communication to relevant parties
- D.** record findings, remediation schedule, senior management communication

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Why do major incident details get passed to problem management?

- A.** Cross functional expertise is often necessary for the timely resolution of a major incident. Problem management coordinates the major incident resolution.
- B.** In order to manage the impact of incidents all incident details must be available to problem management to help reduce the impact of incidents.
- C.** Major incidents are by definition “high impact” and therefore should be resolved by problem management.
- D.** Major incidents require escalation and therefore the major incident details will need to be reviewed by the problem manager as problem management manages escalation.

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During your investigation as problem manager you find the root cause of an operating system failure. This failure is caused by an internal system routine that you cannot change or fix with a patch update from the operating system vendor. Only a small number of very business critical users are experiencing this problem.

A workaround is possible but will take some time to be introduced into the live environment. It will require a change of several hardware components using this component of the operating system. The decision to workaround has not been taken.

How should you address this information if you are assisting to fulfill the requirements of ISO/IEC 20000?

- A.** All identified problems and subsequently resulting known errors need to be recorded, requiring this operating system known error to be recorded.
- B.** All identified problems have to be recorded; the resulting known errors need only to be recorded when they have a known workaround.
- C.** Only problems have to be recorded that cause a widespread service breakdown subsequently the known error does not need to be recorded.
- D.** Only those known errors that are definitely going to be fixed by a change need to be recorded.

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Proactive problem management should include reference to information that assists in analysis and finding a permanent solution or workaround to resolve the problem.

Which of the following is **not** a reference used by proactive problem management to assist in the analysis?

- A. asset and configuration
- B. historical information on similar problems
- C. published workaround or known error
- D. system outages

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To provide a weekly overview of the performance of the problem management process, the problem manager decides to report on three relevant performance indicators, to measure the efficiency and effectiveness of the process.

What are the best indicators to use?

- A. number of problems closed, average number of open problems, number of problems opened
- B. number of problems opened, average time to close a problem, average number of open problems
- C. number of problems re-opened, number of incidents resolved by known errors, average time to close a problem
- D. number of problems opened, number of incidents opened, cost of solving a problem

40 of 40

Problem management has not identified many trends in the causes of incidents.

What is a likely cause of the failure of problem management to identify causes of incidents?

- A. Incidents are not always classified correctly when closed.
- B. Incidents were not logged into the problem management information system and thus not available for problem management to research.
- C. Problem management does not have the appropriate authorization to identify trends.
- D. Problem management is too busy resolving known errors.

Answer key

1 of 40

What is **not** part of incident management?

- A. assess the impact of incidents against service level targets
- B. call reception
- C. consideration of security issues
- D. first line customer liaison

A. Correct. This is part of problem management. See ISO/IEC 20000 part 2 8.3.8.
B. Incorrect. The service desk is delivered by incident management. See part 2 8.2.1.
C. Incorrect. This is an activity of incident management. See part 2 8.2.1.
D. Incorrect. The day-to-day contact with the users is the task of the service desk. See part 2 8.2.1.

2 of 40

As a manager of a regional service desk, a member of staff has just informed you that the service level for an important service is going to be breached within a few minutes. The service is completely down.

What is the action you and your staff should take?

- A. Inform the customers and users that depend upon the service that it will not be available.
- B. Inform the problem manager that there is a major incident.
- C. Inform the IT service continuity manager of the downtime.
- D. Inform the availability manager that the service will be not available for some time.

A. Correct. The users and the customers need to be informed that the service they depend upon is not going to be available as expected.
B. Incorrect. The focus should be upon informing those who depend upon the service. In addition, the incident manager will manage the incident to closure, not the problem manager.
C. Incorrect. IT service continuity management does not need to be informed.
D. Incorrect. The availability manager will need to be informed of trends in incidents impacting the availability of the service, but does not need to be informed for every service level breach.

3 of 40

You work as an employee of the service desk, and your organization is being audited by an external auditor. The auditor asks you when an incident needs to be documented.

What is the best answer when taking the requirements of ISO/IEC 20000 into account?

- A.** Only incidents that cannot be solved by the service desk need to be documented.
- B.** Only incidents that take longer to document than to solve need to be documented.
- C.** All incidents that do not directly link to a recorded problem record need to be documented.
- D.** All incidents need to be documented.

- A. Incorrect. All incidents need to be documented as required by ISO/IEC 20000.
- B. Incorrect. All incidents need to be documented as required by ISO/IEC 20000.
- C. Incorrect. All incidents need to be documented as required by ISO/IEC 20000.
- D. Correct. According to ISO/IEC 20000 all incidents need to be documented.

4 of 40

After the quarterly review of the problem management process, the process manager decides to make some improvements in the prioritization procedure.

What is the next step the problem manager should take?

- A.** Instigate a formal change to record the actions that she is going to take.
- B.** Raise a request for change (RFC) and discuss her ideas with the other process managers to investigate the overall impact.
- C.** Set up a work group of members from her problem team to start working out the discussed actions in more detail.
- D.** Apply for a budget increase, to make sure that there is sufficient funding for the desired improvements.

- A. Incorrect. A RFC must be done first, only after an integral discussion can a change be made.
- B. Correct. To make sure that the improvements do not negatively affect other processes, an overall impact analysis is required.
- C. Incorrect. First the overall impact must be assessed and resources must be available. For this a formal RFC needs to be in place.
- D. Incorrect. First the overall impact must be discussed, the outcome of that discussion might affect the budget.

5 of 40

As process manager for the incident management process you are asked to formulate the difference between the incident management process and the major incident management process.

What is the reason for differentiating between the incident management process and the major incident management process taking ISO/IEC 20000 into account?

- A.** A major incident has a major impact on the organization, requiring a faster process to be performed by the same people in the incident management process.
- B.** A major incident has a major impact on the organization, requiring the business to perform the major incident management process.
- C.** Major incidents have to be handled faster, requiring that the assigned person managing the process, has the required authority to change the process and to effectively mobilize the best group of people to resolve the major incident.
- D.** Major incidents have to be handled faster, requiring the mobilization of a dedicated team to process these incidents independently from the incident management process.

- A. Incorrect. The ISO/IEC 20000 standard does not specifically point out that only the people of the incident management process should perform the major incident management process.
- B. Incorrect. It might be helpful to have the business being part of the team to solve a major incident, but it is not specified in the ISO/IEC 20000 standard.
- C. Correct. The ISO/IEC 20000 standard Part 2 specifies that the person who is in charge of the major incident process should have the required authority to change the process and assemble the best group of people fit to solve the incident as fast as possible.
- D. Incorrect. The ISO/IEC 20000 standard does not specify that there needs to be a dedicated team to manage major incidents.

6 of 40

You are in charge of incident management for an external service provider which provides IT services for several customers. A service level manager reports that her new customers complain that critical incident resolution times are too long and that service desk staff spends too much time resolving irrelevant incidents. A review shows that all service level targets have been met and that staff handles all incidents according to priorities.

What would be the best action to take?

- A.** You ask the customer to provide examples of both critical and irrelevant incidents to improve classification of incidents.
- B.** You inform the service level manager that the service desk is meeting service level targets and the customer is receiving the agreed level of service.
- C.** You tell service desk staff to increase the priority of these customer's incidents.
- D.** You instruct the service desk staff to ask users in which order the incidents should be resolved.

- A. Correct. Classification and setting of priorities is important.
- B. Incorrect. This would escalate the situation. This does nothing to answer the customer complaint.
- C. Incorrect. This might satisfy one customer but might create complaints from other customers.
- D. Incorrect. This would be inefficient and could lead to conflict situations.

7 of 40

As the problem manager for a USA based firm, you are defining the policy for the maintenance of the IT service management knowledge base. You want to focus on the high priority elements that will provide business value as early as possible.

What should be a prime consideration when maintaining the knowledge base?

- A.** The database schema that is to be used.
- B.** The global use of the knowledge base.
- C.** The infrastructure components that are used.
- D.** The value and importance of the information.

A. Incorrect. This will be a consideration but not a “prime consideration”.

B. Incorrect. This will be important if the database is to be used globally but in this case the knowledge base is to be used in the USA only.

C. Incorrect. This will be a consideration but not a “prime consideration”.

D. Correct. If there is little value or importance in the information then it should not be stored in the knowledge base and this is therefore a “prime consideration”.

8 of 40

The IT director of a large retail clothing company is extremely concerned at the number of problems that were assumed to be resolved but need to be re-opened. She has commissioned a review and has asked you to focus on quick wins for priority cases.

What should be the recommendation to the IT director?

- A.** Ask the incident management team to collate more information.
- B.** Employ more problem managers to deal with the volume.
- C.** Enhance the service management tool to provide more problem reports.
- D.** Introduce a problem review process for the high-impact problems.

A. Incorrect. The issue is that the success of problem resolving is not reviewed, the cause is not necessarily with the incident data.

B. Incorrect. This would not address the root cause of the issue which is that the success of problem resolving is not reviewed.

C. Incorrect. The issue is already known – producing more reports will only serve to confuse matters potentially.

D. Correct. This addresses the “quick win” requirement and the issue of “assumed” success.

9 of 40

As the problem manager you receive information from a supplier of a key IT component that a new BIOS update for this hardware component is available for download.

How should you best proceed with this information from the supplier management process?

- A.** Analyze the past and present problem records to determine if the update will result in a permanent solution addressing the root cause for the problems.
- B.** Do nothing, as long as no problem occurs that would require an investigation into the new BIOS capabilities.
- C.** Inform the IT operational personnel that there is a new BIOS update available.
- D.** Initiate a request for change (RFC) to have the new BIOS update installed on all IT systems that use the hardware component.

- A. Correct. As problem manager you need to check whether existing problems or known errors could be solved using this new update.
- B. Incorrect. Doing nothing is not an option.
- C. Incorrect. Supplier management will have informed the operational personnel and raise the appropriate RFC for the new BIOS update. Problem management does not need to inform them as well.
- D. Incorrect. Raising a change without the need to do so is not very efficient and should not be done.

10 of 40

The specialist staff of the service desk manager complains of excessive workloads caused by incidents. There seem to be several major incidents every day and people have to ignore their normal work to resolve the incidents. However, customers are not dissatisfied.

What should be the correct reaction?

- A.** Review the classification procedures and check if the number of incidents that are classified as major can be reduced.
- B.** Complaints are normal, they can be ignored.
- C.** In order to reduce the workload, more specialist staff should be hired.
- D.** In order to be able to handle the major incidents, more service desk staff should be hired.

- A. Correct. Customers would not be satisfied if there really were major incidents every day.
- B. Incorrect. You should see what can be done before considering ignoring.
- C. Incorrect. Try first to improve processes.
- D. Incorrect. Try first to improve processes.

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As the process owner for the incident management process you want to confirm that recent changes to the process are having the desired effect of improving incident resolution times.

Which of the following metrics will help you to directly identify this?

- A.** increase in first line fix
- B.** increase in the number of changes raised
- C.** increase in the number of identified known errors
- D.** increase in the number of problem records raised

- A. Correct. If first line fix is increasing it is likely that the resolution time is reducing.
- B. Incorrect. The number of changes “raised” does not show how quickly the incidents are being fixed.
- C. Incorrect. The use of the known errors may reduce fix times but simply “identifying” them is not enough.
- D. Incorrect. By having a problem it means there is no fix as yet.

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Lately there have been several incidents involving shortage of disk space. This is caused by a new application which uses more space than expected. The service desk can allocate more space as a standard request.

What is the best action to be taken?

- A.** Proactive problem management should prevent the incidents from recurring.
- B.** Capacity management should make changes to the capacity plans.
- C.** Change management should make a change to increase disk space.
- D.** Service level management should negotiate new service level agreements (SLAs).

- A. Correct. Recurring incidents are a problem.
- B. Incorrect. This might be a consequence of problem management.
- C. Incorrect. Error control must make the request.
- D. Incorrect. This might be a consequence of problem management.

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What is the attribute of priority that is based on the time between the problem or incident being detected and the time that the customer's business is impacted?

- A.** effort
- B.** impact
- C.** priority
- D.** urgency

A. Incorrect. Effort to provide the resolution is not one of the primary attributes to determine priority.
B. Incorrect. Impact should be based on the scale of actual or potential damage to the customer's business.
C. Incorrect. Priority should be determined by two attributes which include impact and urgency.
D. Correct. Urgency should be based on the time between the problem or incident being detected and the time that the customer's business is impacted.

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According to the ISO/IEC 20000 Code of Practice - Part 2 it is considered to be of highest importance that individual authority levels are adequate to the role of coordinating and controlling all aspects for the resolution, including the responsibility for effective escalation and communication across all areas involved in resolution, and to the customers affected.

To what occurrence is this description referring?

- A.** major incident
- B.** major outage
- C.** major problem
- D.** major problem review

A. Correct. Nomination as manager of a major incident should give the individual authority levels that are adequate to the role of coordinating and controlling all aspects for the resolution. This should include the responsibility for effective escalation and communication across all areas involved in resolution, and to the customers affected by the major incident.
B. Incorrect. According to the ISO/IEC 20000 Code of Practice - Part 2 the correct naming is major incident.
C. Incorrect. According to the ISO/IEC 20000 Code of Practice - Part 2 the correct naming is major incident.
D. Incorrect. Major problem reviews occur after the fact.

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You are reviewing the procedures for the management of the impact of incidents.

What aspect should the focus be on?

- A.** The focus should always be on the impact on the customer's business.
- B.** The focus should be on the number of configuration items (CIs) involved.
- C.** The focus should be on the part of the network that is affected by the incident.
- D.** The focus should be on the users and their position in the organization.

- A. Correct. The business impact is the leading indicator to determine the impact.
- B. Incorrect. It can involve very few but critical CIs.
- C. Incorrect. Not IT but the business is the critical factor.
- D. Incorrect. Not the position of the users, but how it effects the business should be leading.

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A major incident occurs at a military aircraft company. One of the application analysts is appointed as the major incident manager (MIM) to manage the situation. The people who are supporting the resolution of the major incident do not want to deviate from the normal procedures. The MIM struggles to get them to change their minds.

How could this issue be addressed?

- A.** Appoint a MIM with appropriate authority.
- B.** Appoint a network analyst as the MIM from within IT service management.
- C.** Ask a senior manager to work with the MIM to demonstrate the importance of the process.
- D.** Ask the development teams to document their concerns.

- A. Correct. It would seem that a lack of authority from someone outside of the IT service management arena is causing the issue.
- B. Incorrect. Although this role would normally be within IT service management and be perhaps more acceptable the same "lack of seniority" issue would arise.
- C. Incorrect. This may address the issue in the short-term but will not be efficient.
- D. Incorrect. This would not directly address the issue.

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To which procedure must the reporting and recording of a security incident conform?

- A.** business relationship management
- B.** incident management procedure
- C.** help desk procedure
- D.** problem management procedure

- A. Incorrect. Business relationship management does not record security incidents.
- B. Correct. Security incidents shall be reported and recorded in line with the incident management procedure as soon as possible. Procedures shall be in place to ensure that all security incidents are investigated, and management action taken.
- C. Incorrect. Help desk is a function and is not a requirement for the ISO/IEC 20000 standard.
- D. Incorrect. Problem management is primarily focused on determining root cause and proactive analysis to identify trends.

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As the senior problem manager in an IT service organization you are approached by a junior staff asking you to demonstrate the Pareto analysis of the incident records.

Which of the following statements is correct when using the Pareto observation to analyze the incident records within the problem management process?

- A.** 20% of all incident records are caused by 80% of all problems.
- B.** 20% of all problems cause 80% of all incident records.
- C.** 80% of all incident records will lead to a first call close rate of 20% at the service desk.
- D.** 80% of all problems cause 20% of all incidents that have not been solved within the service targets.

- A. Incorrect. It is the other way around.
- B. Correct. This is the correct application of Pareto when analyzing incidents.
- C. Incorrect. The first call close rate is a help desk metric.
- D. Incorrect. This has no relevance to the principle.

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When assessing evidence of service management planning which documents would suffice as evidence of intention?

- A.** changes
- B.** incidents
- C.** meeting minutes
- D.** policies

- A. Incorrect. Changes are considered evidence of activities rather than evidence of intention.
- B. Incorrect. Incidents are considered evidence of activities rather than evidence of intention.
- C. Incorrect. Meeting minutes are considered evidence of activities rather than evidence of intention.
- D. Correct. Policies are considered evidence of intention.

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The service desk manager has had a meeting with the problem manager to discuss how to enhance the problem management process. He is concerned that useful information such as workarounds for addressing incidents is not being made available.

When updating the problem management process what key integration should be evident to address this issue?

- A.** Known error information is up to date and available to incident management.
 - B.** Problem records are updated with known error information.
 - C.** Service reports for problem data are produced.
 - D.** Up to date configuration information is available to incident management.
- A. Correct. Workarounds should be made available according to ISO/IEC 20000-1:2005.
B. Incorrect. These are activities within problem management and not key integration points to other processes.
C. Incorrect. Service reporting will ensure this working with problem management.
D. Incorrect. Configuration management will ensure this working with incident management.

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What is not a specified set of procedures to ensure proper supplier management under ISO/IEC 20000 Code of Practice - Part 2?

- A.** That the supplier understands their obligations to the service provider.
 - B.** That disputes are resolved.
 - C.** The business transactions between all parties are recorded.
 - D.** The legitimate and agreed requirements are met within agreed service levels and scope.
- A. Incorrect. This is considered when developing supplier management procedures.
B. Correct. The standard specifies that disputes with the supplier be resolved under a process specified in the contract.
C. Incorrect. This is considered when developing supplier management procedures.
D. Incorrect. This is considered when developing supplier management procedures.

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You have been asked to identify the elements that are required in a methodology to define the priority of problems within the problem management process.

Which elements are used for prioritization according to ISO/IEC 20000?

- A.** People available to do the research to determine the cause of the problem.
- B.** Priority of the IT service as stated by the customer.
- C.** Urgency, impact and time required to find the root cause.
- D.** Scale of damage to the customer's business and remaining time until the customer's business is impacted.

- A. Incorrect. The priority needs to be defined independently from the people – the standard mentions skills available.
- B. Incorrect. This would mean that only important services will get their problems solved. This is not very economical as minor services can have the same business impact as more important ones.
- C. Incorrect. The time required is an unknown element therefore this cannot be put into a prioritization methodology. The standard mentions elapsed time.
- D. Correct. This describes impact and urgency.

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Which process within the ISO/IEC 20000 Code of Practice - Part 2 supports problem prevention through the approval of a resolution to address a known error?

- A.** availability management
- B.** change management
- C.** configuration management
- D.** release management

- A. Incorrect. Availability management assists problem management by presenting possible new technologies such as a better network to assist in preventing issues, but it does not approve final resolution.
- B. Correct. Change management is responsible for approving the authorized change to correct and address the known error in the infrastructure.
- C. Incorrect. Configuration management provides valuable asset and configuration information to assist problem management in identifying offending configuration items, but it does not approve the resolution.
- D. Incorrect. Release management implements the change but does not approve the request for change (RFC).

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You are improving resolution processes as the first step in an IT service management improvement project. The processes have been in use for two years but the level of maturity is quite low. The configuration management database (CMDB) solution is inadequate and there is no knowledge management system in place. The question of tools comes up.

Which statement is correct?

- A.** A fully integrated, expensive state-of-the-art system is not suitable at the moment, considering the level of maturity of the process.
- B.** It will be impossible to implement the resolution processes without a comprehensive CMDB.
- C.** Problem management will not be effective without an adequate knowledge management system.
- D.** There is no need to upgrade the tools.

- A. Correct. The toolset should match the maturity of the organization.
- B. Incorrect. One must start somewhere.
- C. Incorrect. Problem management will be more effective with an adequate knowledge management system but not effective without it.
- D. Incorrect. The CMDB solution is inadequate.

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As process manager for the incident management process you are asked to comment on the idea of abandoning the reactive problem management process and have this activity included in the incident management process.

What is the best answer when taking ISO/IEC 20000 and best practice into account?

- A.** Having only one resolution process will cut down the number of processes and thereby reduce the number of interfaces required between the different processes, therefore this course of action should be considered.
- B.** It is not advisable to abandon the reactive problem management process as this is required in the standard and the goals of both processes are conflicting, therefore this course of action should not be considered.
- C.** It is possible to abandon the reactive problem management process as the steps taken in this process can easily be integrated into the incident management process, resulting in increased process efficiency.
- D.** One should not abandon the reactive problem management process; on the contrary, one should integrate the incident management process into the reactive problem management process, since the experts are the ones performing the work.

- A. Incorrect. This seems efficient but it will be very inefficient to restore the service and look for the cause at the same time.
- B. Correct. The ISO/IEC 20000 standard requires the two processes to be in place and conflicting goals exist within these two processes. This is the main reason why these processes are separate.
- C. Incorrect. The objectives and therefore the activities within the two processes are different.
- D. Incorrect. The focus in the two processes is different and so the experts are not necessarily the same.

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As a help desk manager you have the task to train the new help desk agents when they join the organization.

During one of these training sessions a new member of staff asks: 'Maybe it is more efficient not to use the standard analysis scripts and directly search the knowledge base for a solution of the incident?'.

What would be the best answer to give to this new staff member?

- A.** Good idea to abandon the standard analysis scripts as not every help desk agent likes using them and they believe the scripts are a waste of time.
- B.** Good idea to abandon the standard analysis scripts as they have no value in the incident management process.
- C.** Not using the standard analysis scripts is against the policy established for the incident management process.
- D.** Not using the standard analysis scripts will increase the odds that an important detail is overlooked and existing workarounds will not be found in the knowledge base.

- A. Incorrect. To like and to believe are no valid grounds for using or not using analysis scripts.
- B. Incorrect. The analysis scripts do have value in the incident management process.
- C. Incorrect. This is a possible answer but not acceptable in a training.
- D. Correct. Only with a correctly analyzed incident it is possible to find workarounds in the knowledge base.

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A process owner decided to use three performance indicators to measure the effectiveness of the incident management process.

What is a correct indicator to measure effectiveness?

- A.** percentage of incidents forwarded to third parties
- B.** percentage of incidents incorrectly assigned
- C.** percentage of problems re-assigned
- D.** percentage of incidents solved first time right

- A. Incorrect. The percentage of incidents forwarded to third parties is not a performance indicator, it does not indicate wrong or right.
- B. Correct. This performance indicator measures the effectiveness of incident management.
- C. Incorrect. Problems are not measured in the incident management process.
- D. Incorrect. Percentage of incidents solved within 24 hours is a performance indicator against a service level agreement criterion.

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According to ISO/IEC 20000 Code of Practice, how are incidents to be recorded?

- A.** Any mechanism can be used as long as all incidents shall be recorded.
- B.** In a manner that allows relevant information to be recorded.
- C.** In an integrated service management tool capable of sharing information with problem management.
- D.** In the incident management information system (IMIS).

- A. Incorrect. This comes from the specification not the Code of Practice.
- B. Correct. This is from the ISO/IEC 20000 standard part 2: Code of Practice.
- C. Incorrect. ISO/IEC 20000 does not mention tools.
- D. Incorrect. ISO/IEC 20000 does not mention an incident management information system (IMIS).

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Which service delivery process is/are the primary interface for problem prevention?

- A.** capacity management
- B.** change management
- C.** incident management
- D.** service continuity and availability management

- A. Incorrect. Capacity management can assist in problem prevention by ensuring sufficient capacity exists, however availability management has a strong interfacing point into problem management and prevention.
- B. Incorrect. This is a control process.
- C. Incorrect. This is a resolution process.
- D. Correct. Service continuity and availability management are the service delivery processes most closely linked and interfacing with problem management. Problem prevention should range from prevention of individual incidents, such as repeated difficulties with a particular feature of a system, through to strategic decisions. The latter can require major expenditure to implement such as investment in a better network, at this level proactive problem management merges into availability management.

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When organizing the incident management process, one must ensure that the appropriate technical resource is available to resolve the identified incident in a timely manner, especially for major incidents.

If a new major incident occurs and first level support is not technically capable of resolving it, what should be the next action?

- A.** contact the customer
- B.** contact the manager of the first level support specialists
- C.** escalate
- D.** transfer to another first level support specialist

A. Incorrect. You will eventually contact the customer, but most importantly you must first escalate the issue since this a major incident requiring immediate attention.
B. Incorrect. Contacting their manager is a good idea, but you must first get this major incident escalated to the right level of technical expertise.
C. Correct. They need to escalate immediately to the next level of technical expertise since this is a major incident.
D. Incorrect. Transferring to another first level support specialist puts the customer at risk since this is a major incident and more than likely the customer would be best served by escalating to a higher level of technical expertise.

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To report on the efficiency of the problem management process the problem manager uses the performance indicator: cost of solving a problem. He calculates this by taking the number of problems solved during a week and divides this by the labor costs of the people in his problem team.

Is this the best way to calculate this performance indicator?

- A.** Yes, because it is easy and effective. When the people in his team work dedicated on problems this is a good way of calculating.
- B.** No, because also material and other costs can be involved. This calculation is therefore insufficient.
- C.** It depends, the organizational chart needs to be explored to be able to judge this way of calculating.
- D.** No, because this performance indicator has nothing to do with measuring the efficiency of the process.

A. Incorrect. There can be more and substantial costs involved; e.g. test equipment.
B. Correct. Total costs are the labor, the material and other costs.
C. Incorrect. Exploring the organizational chart focuses only on the labor costs, but these are not the only relevant costs.
D. Incorrect. Measuring the cost is a good indicator to measure efficiency.

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During a recent series of major incidents the senior service desk analyst on duty was tasked as the major incident manager. During the review of the major incidents there seemed a perceived lack of urgency from the network operations and the directory services teams.

What is the most probable cause of the lack of urgency for different teams when attempting to resolve the major incident?

- A.** Incident prioritization was not communicated to the network operations and directory service teams.
- B.** The operational level agreement (OLA) did not state there was urgency to be applied when resolving major incidents.
- C.** There is no major incident process thus the network operations and directory service teams prioritized the incident normally.
- D.** The senior support analyst did not have the appropriate level of authority to coordinate necessary resources to resolve the major incidents.

- A. Incorrect. The perceived lack of urgency indicates the major incident status was communicated and not acted on by the network operations and directory services teams.
- B. Incorrect. Major incidents by definition imply urgency.
- C. Incorrect. Assigning the senior service desk analyst as major incident manager indicates there is a major incident process.
- D. Correct. The network operations and directory services teams seem to not have recognized the authority of the role of major incident manager to coordinate necessary resources.

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When should the final closure of the incident take place within the incident lifecycle?

- A.** After confirmation from the business customer that the incident has a workaround and the service is restored.
- B.** After confirmation from the business customer that the service has been restored and the incident is resolved.
- C.** After confirmation from the initiating user that the incident is resolved and service is restored.
- D.** After confirmation from the initiating user that the incident has a workaround and service is restored.

- A. Incorrect. Keep in mind there is a distinct difference between business customer and user. The ISO/IEC 20000 standard very clearly points out that the incident being reported is from the user perspective.
- B. Incorrect. The ISO/IEC 20000 standard very clearly points out that the incident being reported is from the user perspective, not the customer perspective.
- C. Correct. Final closure of an incident should only take place when the initiating user has been given the opportunity to confirm that the incident is now resolved and service restored.
- D. Incorrect. Although a workaround can assist in providing relief it does not permanently resolve the incident.

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When planning a problem review you have to define the people that should take part in the problem review meeting.

What best describes the selection of people and reasons for the invitation to a problem review meeting?

- A.** The chief financial officer since he is responsible for paying the bills, the service level agreement manager, and the availability manager since his availability targets suffered due to the large number of incidents.
- B.** The incident manager, the availability manager and the chief technology officer, since the chief technology officer had to find the root cause.
- C.** The main suppliers that delivered the service components at fault, the business representatives, service level agreement manager and incident manager.
- D.** The main suppliers that delivered the service components at fault, the service level agreement manager and business continuity manager since the business continuity manager had to ensure the business continuity at all times.

- A. Incorrect. These are the wrong people, invited for the wrong reason.
- B. Incorrect. The chief technology officer is most likely not the person that had to determine the root cause of the problem.
- C. Correct. This is the best collection of people; this group can define improvements to the problem and incident management processes.
- D. Incorrect. The business continuity manager has to ensure business continuity at all times, and he most likely has no input for this problem review. In case of a major problem review he might have some input to deliver to the meeting.

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What needs to be done and reported when identifying items of non-compliance to the service management objectives and plan?

- A.** record findings, identify remedial actions, communication to relevant parties
- B.** record findings, identify remedial actions, remediation schedule
- C.** record findings, remediation schedule, communication to relevant parties
- D.** record findings, remediation schedule, senior management communication

- A. Correct. Findings need to be recorded with identified remedial actions. In addition, any significant areas of non-compliance or concern shall be communicated to relevant parties.
- B. Incorrect. Answer is missing identifying remedial actions, which is a critical piece when documenting non-compliance. Also communication to relevant parties is an element that is missing.
- C. Incorrect. Answer is missing identifying remedial actions, which is a critical piece when documenting non-compliance.
- D. Incorrect. Answer is missing identifying remedial actions, which is a critical piece when documenting non-compliance. Also communication to relevant parties is an element that is missing.

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Why do major incident details get passed to problem management?

- A.** Cross functional expertise is often necessary for the timely resolution of a major incident. Problem management coordinates the major incident resolution.
- B.** In order to manage the impact of incidents all incident details must be available to problem management to help reduce the impact of incidents.
- C.** Major incidents are by definition “high impact” and therefore should be resolved by problem management.
- D.** Major incidents require escalation and therefore the major incident details will need to be reviewed by the problem manager as problem management manages escalation.

A. Incorrect. The Code of Practice recommends there is a major incident manager whose authority lasts the duration of the major incident. This deals with execution of the process and not the information details.

B. Correct. Management of the impact of incidents can lead to procedural improvements which will lessen the impact of incidents to the service provider and customer.

C. Incorrect. Incidents are not resolved by problem management. Someone from the problem management staff may perform the role of the major incident manager but is following the major incident process.

D. Incorrect. Major incidents require an independent assessment that is part of classification and escalation. The problem manager does not manage escalation of major incidents.

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During your investigation as problem manager you find the root cause of an operating system failure. This failure is caused by an internal system routine that you cannot change or fix with a patch update from the operating system vendor. Only a small number of very business critical users are experiencing this problem.

A workaround is possible but will take some time to be introduced into the live environment. It will require a change of several hardware components using this component of the operating system. The decision to workaround has not been taken.

How should you address this information if you are assisting to fulfill the requirements of ISO/IEC 20000?

- A.** All identified problems and subsequently resulting known errors need to be recorded, requiring this operating system known error to be recorded.
- B.** All identified problems have to be recorded; the resulting known errors need only to be recorded when they have a known workaround.
- C.** Only problems have to be recorded that cause a widespread service breakdown subsequently the known error does not need to be recorded.
- D.** Only those known errors that are definitely going to be fixed by a change need to be recorded.

A. Correct. Stated in Part 1 and 2 is that all known errors need to be recorded.

B. Incorrect. The ISO/IEC 20000 standard does not specify that you will only record known errors when you have a known workaround.

C. Incorrect. The ISO/IEC 20000 standard does not distinguish between the scope of the breakdown and subsequently the need to record the error.

D. Incorrect. The ISO/IEC 20000 standard does not distinguish between known errors that are fixed and those which are not going to be fixed. All of them need to be recorded.

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Proactive problem management should include reference to information that assists in analysis and finding a permanent solution or workaround to resolve the problem.

Which of the following is **not** a reference used by proactive problem management to assist in the analysis?

- A.** asset and configuration
- B.** historical information on similar problems
- C.** published workaround or known error
- D.** system outages

A. Incorrect. Asset and configuration information is used during analysis.
B. Incorrect. Historical information on similar problems is used during analysis.
C. Incorrect. Published workaround or known error is used during analysis.
D. Correct. System outages are not the best references used by proactive problem management to assist in analysis to find a permanent solution or workaround.

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To provide a weekly overview of the performance of the problem management process, the problem manager decides to report on three relevant performance indicators, to measure the efficiency and effectiveness of the process.

What are the best indicators to use?

- A.** number of problems closed, average number of open problems, number of problems opened
- B.** number of problems opened, average time to close a problem, average number of open problems
- C.** number of problems re-opened, number of incidents resolved by known errors, average time to close a problem
- D.** number of problems opened, number of incidents opened, cost of solving a problem

A. Incorrect. These indicators focus on efficiency only, not on effectiveness. They also indicate more about the volume of problems than the process itself.
B. Incorrect. Again, these indicators show more about the volume than efficiency/effectiveness.
C. Correct. Average time to close a problem indicates efficiency, number of incidents resolved by known errors and number of problems re-opened indicate the effectiveness.
D. Incorrect. Number of incidents is not a relevant problem indicator.

Problem management has not identified many trends in the causes of incidents.

What is a likely cause of the failure of problem management to identify causes of incidents?

- A.** Incidents are not always classified correctly when closed.
- B.** Incidents were not logged into the problem management information system and thus not available for problem management to research.
- C.** Problem management does not have the appropriate authorization to identify trends.
- D.** Problem management is too busy resolving known errors.

A. Correct. When incidents are not properly classified when closed this will result in faulty trending information and will hinder problem management from effectively identifying the cause of incidents.

B. Incorrect. Details of incidents can be in any media as long as the information is available. The information does not have to be in any specific information system.

C. Incorrect. Problem management does have the appropriate authorization to identify trends from the recorded incidents.

D. Incorrect. This is a capacity management issue.

Evaluation

The table below shows the correct answers to the questions in this sample examination.

number	answer	points
1	A	1
2	A	1
3	D	1
4	B	1
5	C	1
6	A	1
7	D	1
8	D	1
9	A	1
10	A	1
11	A	1
12	A	1
13	D	1
14	A	1
15	A	1
16	A	1
17	B	1
18	B	1
19	D	1
20	A	1

number	answer	points
21	B	1
22	D	1
23	B	1
24	A	1
25	B	1
26	D	1
27	B	1
28	B	1
29	D	1
30	C	1
31	B	1
32	D	1
33	C	1
34	C	1
35	A	1
36	B	1
37	A	1
38	D	1
39	C	1
40	A	1