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Question: 1

You create Microsoft Windows-based client applications. You are designing a smart client application for warehouse packaging clerks. The application must permit the clerks to add and delete items in the packaging invoices they create at their workstations. Each workstation has only a keyboard and a hand-held barcode scanner for input. You need to design the user interface for the application such that the clerks can add and delete items with minimum effort. What should you do?

- A. Add to the form a context menu that has Add to Invoice and Remove from Invoice menu items.
- B. Add to the form a menu that has Add to Invoice and Remove from Invoice menu items.
- C. Add to the form a KeyPress event handler that toggles between Add to Invoice and Remove from Invoice modes.
- D. Add to the form a ToolStrip control that has a button that toggles between Add to Invoice and Remove from Invoice modes.

Answer: C

Question: 2

You create Microsoft Windows-based applications. You are enhancing an application for a medical transcription service. Users need to view a long list of medical codes and descriptions. The users displays are set at 800 x 600 resolution. The existing application requires the user to regularly obtain printouts that contain pages of medical codes. These medical codes frequently change. The application must be updated to assist users in entering medical codes into a database. The application must enable the user to view and enter medical codes and descriptions on screen at the same time. You need to evaluate the user environment and recommend a design that best meets the requirements of the users. What should you recommend?

- A. Design a form that contains a ListBoxControl control. Load the medical codes into the ListBoxControl control. Place the ListBoxControl control next to the input controls that accept the medical input.
- B. Design a form that accepts the medical input. Create a context menu for this form to display all the medical codes when the user right-clicks.
- C. Design a form that has a left and a right panel by using a Split Container control. Display the list of medical codes and descriptions on the left panel and all input controls on the right panel.
- D. Design a form that contains a Table Layout control to display the medical codes in a two column table. Next to the Table Layout control display the medical data input controls.

Answer: C

Question: 3

You create Microsoft Windows-based applications. You are developing an application that will be used by stock traders. The project scope contains the following requirements:

- The application must permit users to set thresholds for minimum and maximum values for different stocks.
- The application must alert the user when stock prices reach the pre-defined thresholds.
- The application must permit the user to either buy or sell stock and specify the quantity of stock to trade.
- The application must permit multiple alerts to be displayed simultaneously.
- Use a modal dialog box to show each alert and to permit the user to trade stocks.
- Use a message box to show each alert and the main application form to permit the user to trade stocks.
- Use a BalloonTip control to display multiple alerts and the main application form to permit the user to trade stocks.
- Use a custom BalloonTip control to display multiple alerts and to permit the user to trade stocks.

You need to decide how to implement the alert mechanism. What should you do?

Answer: D

Question: 4

You create Microsoft Windows-based applications. You create an application that loads bulk weather data into a data warehouse for analysis. The application is used by data-entry technicians. One data-entry technician is visually impaired. The data-entry technicians provide a large flat file as the source of the data, and they typically minimize the application so that they can use other programs while the data is being loaded. The data entry technicians must load as many data files as possible during the course of their work day. The user interface contains a progress bar control that has a text label. The text label indicates the current percentage of progress. You need to provide appropriate status feedback to the user by indicating that the process is complete. Which two actions should you perform? (Each correct answer presents part of the solution. Choose two.)

- A. Write code to change the title bar text of the application when the process is complete.
- B. Write code to reset the progress bar to its minimum value.
- C. Write code to play a sound that indicates the process is complete.
- D. Write code to update the status bar text to indicate the number of records processed.
- E. Write code to display an animated balloon tip when the process completes.

Answer: C, E

Question: 5

You create Microsoft Windows-based applications. You participate in the planning phase of an incident tracking tool for technical support analysts. The incident tracking tool must meet the following requirements:

- Technical support analysts must open multiple incidents simultaneously.
- The application can run only one instance at a time.
- Users must be able to adjust the order and layout of the incident screens.

You need to design an application user interface that meets these requirements with the minimum amount of code. Which action should you perform?

- A. Create a Multiple Document Interface (MDI) application with a menu strip. Utilize the `MdiWindowListItem` property of the menu strip to automatically merge MDI child forms to the Window list.
- B. Create a Single Document Interface application that launches multiple forms. Write code to enable the user to toggle between the active forms.
- C. Create a Multiple Document Interface application with a menu strip. Write code to add child Windows to the menu strip to add MDI child forms to the Window list.
- D. Create a Single Document Interface application. Create a custom-dockable control that can display each support incident.

Answer: A

Question: 6

You create Microsoft Windows-based applications. You are designing an application that streams multimedia data. The application must have minimal impact on the network. The application will be used by Microsoft Windows XP Professional client computers and Microsoft Windows Server 2003 client computers. The media you need to use is stored on a file server in a nonproprietary raw video format and the files are unedited. You need to choose an appropriate design modification that requires the least amount of programming effort. What should you do?

- A. Write code to convert the video files to Microsoft Windows Media Video (WMV) format in real time.
- B. Convert the video files to Microsoft Windows Media Video (WMV) format, and resample the video to a bit rate that is acceptable.
- C. Write a custom file format filter for Microsoft DirectShow, and distribute the filter to the client computers.
- D. Convert the video files into separate audio and video files.

Answer: B

Question: 7

You create Microsoft Windows-based applications. You are designing a user interface for a multi-page questionnaire. You need to ensure that the user interface meets the following business requirements:

- The user interface is reusable.
- The user interface requires the user to select three out of five choices for each question.
- The user interface permits the user to check a box to select the correct answer or answers.

What should you do?

- A. Create a custom Windows user control that inherits from a CheckedListBox control.
- B. Use a multi-select ListBox control that displays the possible answers.
- C. Use a TextBox control for the user to enter answers separated by commas.
- D. Use a CheckedListBox control to display the possible answers.

Answer: A

Question: 8

You create Microsoft Windows-based applications. You design a composite user control that is used to enter e-mail addresses. The control is as shown in the following exhibit.



The control validates the user input by using a regular expression. The control validates e-mail addresses and prevents the user from submitting blocked e-mail addresses. The control must permit the user to correct the entry if the user enters a blocked e-mail address. You need to provide feedback if the user enters a blocked e-mail address in the txtEmailAddress text box. What should you do?

- A. Write a code segment to throw an application exception.
- B. Set a custom property of the composite user control to indicate a data validation error.
- C. Write a code segment to display a message box if the user enters a blocked e-mail address.
- D. Write a code segment to clear the txtEmailAddress text box if the user enters a blocked e-mail address.

Answer: C

Question: 9

You create Microsoft Windows-based applications. You are designing an application that permits insurance agents to provide insurance quotes to prospective customers. The application permits insurance agents to survey the customer and enter the customers responses into the application. Each customer response adjusts the computed level of risk for the customer depending on how the customer answers the question. The application must meet the following requirements:

- The application must continuously display a thermometer indicating the level of risk.
- The prospective customers risk must be updated after each question.
- The application must ensure that the user interacts with the thermometer component as little as possible.

You need to evaluate a user interface design for the thermometer component of the application. What should you do?

- A. Design the thermometer component as a movable tool Window that is always displayed as the top most Window.

- B. Design the thermometer component as a part of the main questionnaire form that is always visible.
- C. Design the thermometer component to be displayed as a modal Window when the insurance agent clicks a button.
- D. Design the thermometer component to display a non-modal Window that can be dismissed by the insurance agents when they are ready to ask the next question.

Answer: B

Question: 10

You create Microsoft Windows-based applications. You are designing a unit test for a form in an application. You write the following code segment. (Line numbers are included for reference only.)

```
01 public partial class frmCalculation : Form { 02 public frmCalculation() { 03 InitializeComponent(); 04 } 05 private void
cmdFib_Click(object sender, EventArgs e) { 06 lblResult.Text = Fibonacci(int.Parse(txtNumber.Text)).ToString();07 } 08 private void
cmdFac_Click(object sender, EventArgs e) { 09 lblResult.Text = Factorial(int.Parse(txtNumber.Text)).ToString(); 10 } 11 private int
Fibonacci(int number) { 12 if (number < 3) 13 return 1; 14 else 15 return Fibonacci(number - 1) + Fibonacci(number - 2); 16 } 17
private int Factorial(int number) {
18 int total = 1; 19 for (int x = number; x > 1; x--) 20 total *= x; 21 return total; 22 } 23 }
```

You need to identify the methods that must be included for unit testing. Which methods should you choose?

- A. frmCalculation, cmdFib_Click, cmdFac_Click, Fibonacci, and Factorial
- B. frmCalculation, cmd_Fib_Click, and cmdFac_Click
- C. cmdFib_Click, cmdFac_Click, Fibonacci, and Factorial
- D. Fibonacci and Factorial

Answer: D

Question: 11

You create Microsoft Windows-based applications. You are reviewing code for an application that is created for a bank. You find that a Microsoft Windows Form includes the following code segment.

```
public partial class ATMDeposit : Form {private BankAccount account; public ATMDeposit() { InitializeComponent(); } private void
ATMDeposit_Load(object sender, EventArgs e) { account = new BankAccount(); } private void cmdDeposit_Click(object sender,
EventArgs e) { account.Deposit(decimal.Parse(txtAmount.Text)); } }
```

You analyze the code segment and find that the form handles no other events. You need to suggest changes to improve reliability. Which two actions should you perform? (Each correct answer presents part of the solution. Choose two.)

- A. Add an event handler for the TextChanged event for the txtAmount textbox to validate the data typed by the user.
- B. Add an event handler for the Validating event for the txtAmount textbox to validate the data typed by the user.
- C. Add a Try...Catch block to the cmdDeposit_Click method.
- D. Add a Try...Catch block to the ATMDeposit_Load method.
- E. Add a Try...Catch block to the ATMDeposit constructor.

Answer: B, C

Question: 12

You create Microsoft Windows-based applications. You are designing the integration test for an application. You write the following lines of code. (Line numbers are included for reference only.)

```

01 private void cmdCompare_Click(object sender, EventArgs e) {
02 decimal flightFare, carRental, hotelPrice, travelCost; 03 flightFare = wsFlyHigh.GetBestFare(txtOrigin.Text, txtDest.Text,
datDateOut, datDateBack); 04 cmdGetRentalPrice.Parameters.Add("@DAYS", SqlDbType.Int); 05
cmdGetRentalPrice.Parameters[0].Value=int.Parse(txtDays.Text); 06 carRental = cmdGetRentalPrice.ExecuteScalar(); 07 hotelPrice
= bigDeal.GetHotelPrice(int.Parse(txtDays.Text)); 08 travelCost = flightFare + carRental + hotelPrice; 09 txtTravelCost.Text =
travelCost.ToString("C"); 10 }

```

You analyze the code and discover the following features:

wsFlyHigh is a Web service that is hosted on a partners extranet.
cmdGetRentalPrice runs a stored procedure on a corporate database server.
bigDeal is a COM component.

You need to create a report that lists the parts of the code to be considered during integration testing. Which lines of code should you add to your report?

- A. 03, 04, 05, 06, and 07
- B. 03, 06, and 07
- C. 03 and 07
- D. 07

Answer: B

Question: 13

You create Microsoft Windows-based applications. You are designing a unit test class to test the functionality of a component named Calculator. The Calculator must function as a standard nonscientific calculator. A developer on your team writes the following lines of code for the test class. (Line numbers are included for reference only.)

```

01 [TestClass()] 02 public class CalculatorTest { 03 private TestContext testContextInstance; 04 public TestContext TestContext { 05
get{return testContextInstance;} 06 set{testContextInstance = value;} 07 } 08 [TestMethod()] 09 public void AddTest() { 10 Calculator
target = new Calculator(); 11 Assert.AreEqual(target.Add(1,1),2); 12 target.Dispose(); 13 } 14 [TestMethod()] 15 public void
SubtractTest() { 16 Calculator target = new Calculator(); 17 Assert.AreEqual(target.Subtract(10,2),8); 18 target.Dispose(); 19 } 20 }

```

You need to ensure that appropriate assertions are tested. Which additional assertion should you test?

- A. AreSame
- B. IsInstanceOfType
- C. IsNotNull
- D. Inconclusive

Answer: C

Question: 14

You create Microsoft Windows-based applications. You create an application that requires the user to be authenticated by a domain controller. The application consumes Web services. During acceptance testing, you detect that for some users a security exception is thrown while calling a method. The users should have access to the method. The method contains the following lines of code.

```

[PrincipalPermission(SecurityAction.Demand,Role=Manager)] public void ApproveOrder(int ordered) {... }

```

You need to resolve this bug. What should you do?

- A. Ask an administrator to enable Windows Integrated authentication in IIS.
- B. Modify the code access security machine policies for the computer running the code such that the code is permitted to execute.
- C. Change the SecurityAction from Demand to Deny.
- D. Ask an administrator to add the users to the YourDomain\Manager group.

Answer: D

Question: 15

You create Microsoft Windows-based applications. You are developing a component that will be used by multiple Windows-based applications in a bank. Your specification states the following requirements for the BankAccount class:

Store the balance value.

Implement a public property to contain the value of balance.

Implement a Deposit method that receives the amount to be deposited. This method does not return anything.

- Implement a Withdraw method that receives the amount to be withdrawn. This method does not return anything.

The withdraw and deposit methods must throw exceptions in the following cases:

Negative values are used as amounts for withdrawal or deposit.

Amounts larger than the current balance are used for withdrawal.

You need to create a unit test for the component. What should you do?

- A. The test must attempt to deposit a positive amount. The test must attempt to withdraw a positive amount. The test must attempt to get the value of balance using the property.
- B. The test must attempt to deposit a negative amount. The test must attempt to withdraw a negative amount. The test must attempt to get the value of balance using the property. The test must attempt to withdraw an amount larger than the current balance.
- C. The test must attempt to deposit both negative and positive amounts. The test must attempt to withdraw both negative and positive amounts.
- D. The test must attempt to deposit both negative and positive amounts. The test must attempt to withdraw both negative and positive amounts. The test must attempt to get the value of balance using the property. The test must attempt to withdraw an amount larger than the current balance.

Answer: D

Question: 16

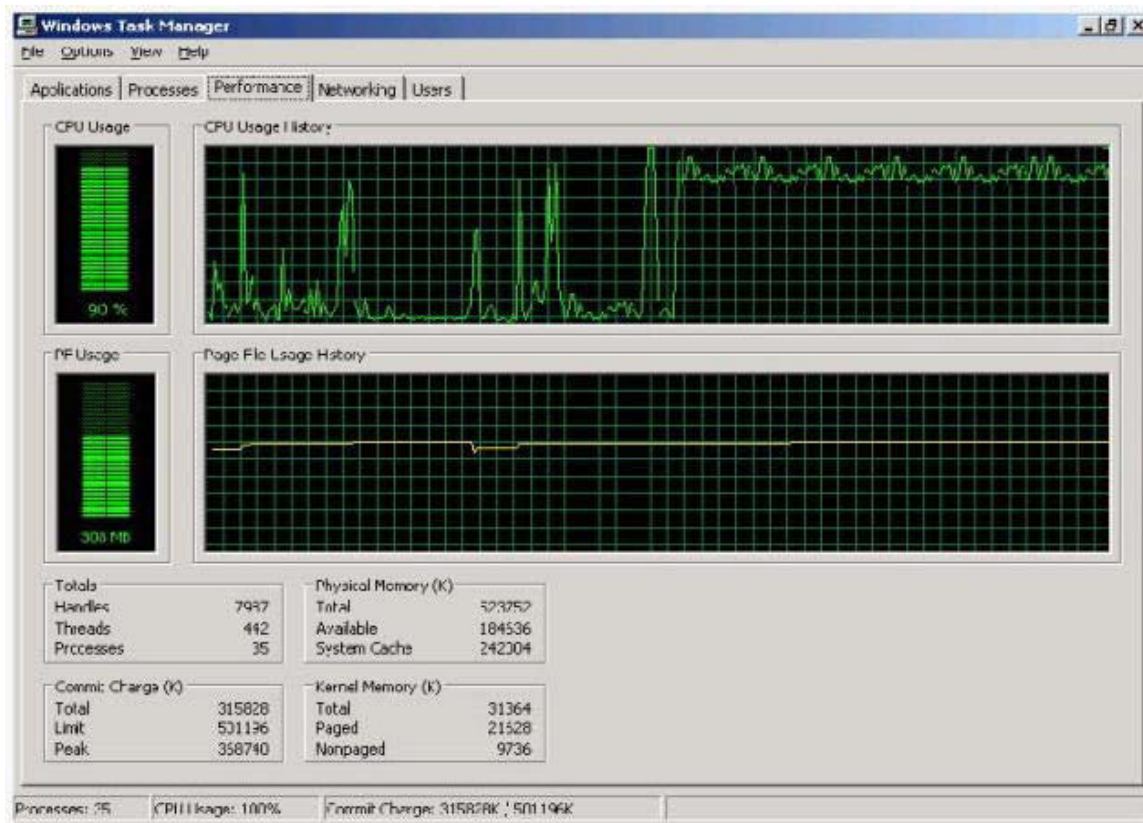
You create Microsoft Windows-based applications. You are creating an accounting application. One of the methods in this application is marked as bugged. The method calculates compound interest on a daily basis by using recursive calls. The bug description specifies that the method fails every time when 500 or more recursive calls are made. You verify the code from source control and run it. You confirm that the bug exists. You need to debug the code to discover what happens at the five hundredth recursive call. You also need to view the call stack and variable values at that limit. What should you do? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Actions	Answer Area
Create an integer variable named counter, initialize it to 0, and increment it in code every time the recursive method is called.	
Set the hit count for the break point to 499.	
Set the condition of the break point to "counter==500" .	
Step through code to analyze the call stack and variable values.	
Add the necessary variables to a Watch window.	
Open the Memory window to check the necessary variables.	
Add a breakpoint to the beginning of the method.	

Answer: Question: 17

Actions	Answer Area
Create an integer variable named counter, initialize it to 0, and increment it in code every time the recursive method is called.	Add a breakpoint to the beginning of the method.
Set the hit count for the break point to 499.	Set the hit count for the break point to 499.
Set the condition of the break point to "counter==500" .	Add the necessary variables to a Watch window.
Step through code to analyze the call stack and variable values.	Step through code to analyze the call stack and variable values.
Add the necessary variables to a Watch window.	
Open the Memory window to check the necessary variables.	
Add a breakpoint to the beginning of the method.	

You create Microsoft Windows-based applications. You are creating an application that runs statistical sales models. The application will be used by 400 users on the local network. After the application is deployed, users report that the application stops responding. The application takes more than 10 minutes to resume to normal when a specific action is performed. The performance chart is shown in the Performance exhibit.



And the task list of the application that is running on a sample computer is shown in the Processes exhibit.

The screenshot shows the Windows Task Manager Processes tab. It displays a list of running processes with columns for Image Name, User Name, CPU, and Mem Usage. The status bar at the bottom shows: Processes: 35, CPU Usage: 100%, Commit Charge: 313628K / 501136K.

Image Name	User Name	CPU	Mem Usage
Performance.vshost.exe	Administrator	97	15,772
taskmgr.exe	Administrator	03	2,084
csrss.exe	SYSTEM	00	896
csrss.exe	SYSTEM	00	228
csrss.exe	SYSTEM	00	224
svchost.exe	SYSTEM	00	3,604
ctfmon.exe	Administrator	00	2,268
VMUSvc.exe	Administrator	00	2,444
explorer.exe	Administrator	00	7,112
mspaint.exe	Administrator	00	1,868
wmiprvse.exe	SYSTEM	00	4,908
svchost.exe	SYSTEM	00	3,656
svchost.exe	SYSTEM	00	5,152
VPCMap.exe	SYSTEM	00	1,360
svchost.exe	LOCAL SERVICE	00	1,200
devenv.exe	Administrator	00	83,980
sqlservr.exe	NETWORK SERVICE	00	6,496
inetinfo.exe	SYSTEM	00	8,520

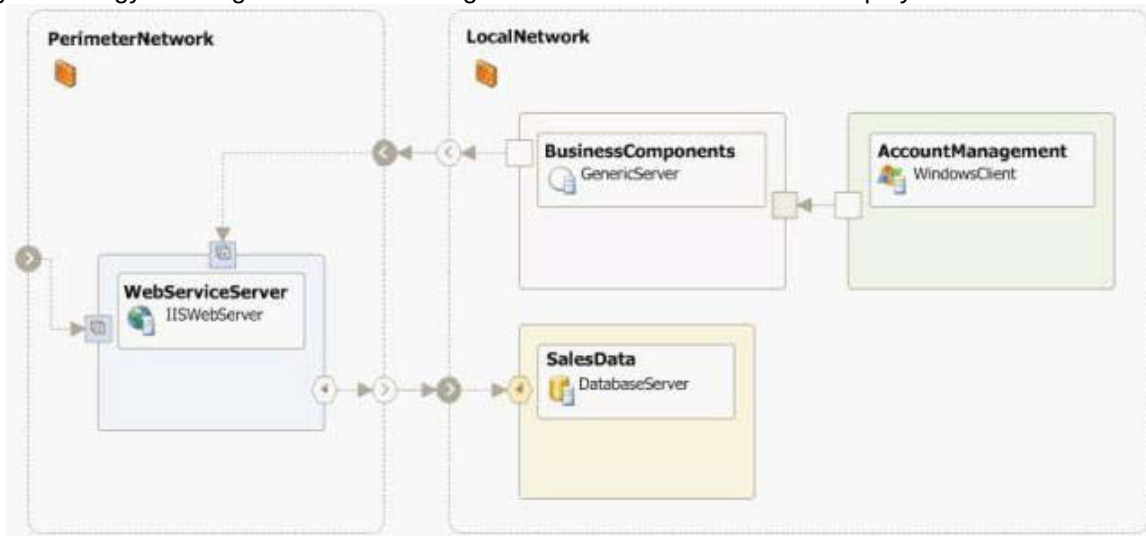
You need to evaluate the problem by analyzing the monitored data. What should you conclude?

- A. The computer does not have enough memory to perform the task. A memory upgrade is necessary.
- B. The computer does not have enough space in the paging file. The paging file has to be extended.
- C. The application has a memory leak. The application needs to be debugged to find the root cause.
- D. The application consumes too much processor time. The application needs to be debugged to find the root cause.

Answer: D

Question: 18

You create Microsoft Windows-based applications. You are creating a sales management application. The application does not use message queuing technology. The logical datacenter diagram for the current solution is displayed in the exhibit.



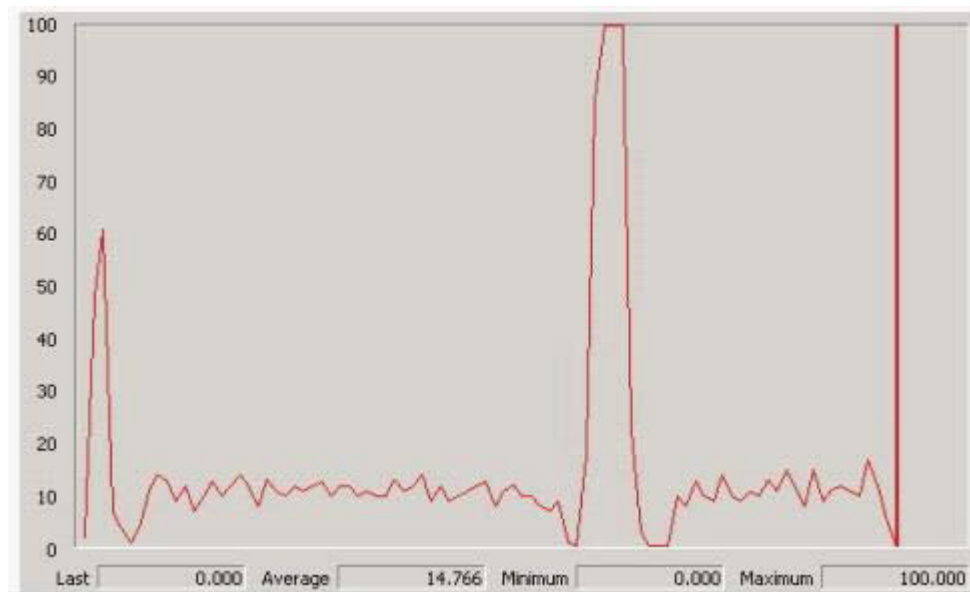
Before deploying the application, you verify the list of operational requirements. You decide to meet the following operational requirements: Access to the data must be available even if a database server or a Web server is offline. Access to the database must resume automatically. You need to decide how to implement the solution. Which two actions should you perform? (Each correct answer presents part of the solution. Choose two.)

- A. Place the business components in a component load-balancing cluster.
- B. Add a database server to the network and place the database in a failover cluster.
- C. Add a Web server to the network and place the Web services in a Network Load Balancing cluster.
- D. Maintain an offline copy of the business components on a backup server.
- E. Maintain an offline copy of the database on a backup server.
- F. Maintain an offline copy of the Web services on a backup server.

Answer: B, C

Question: 19

You create Microsoft Windows-based applications. You are creating an application that is used to run statistical sales models. Users run this application from 09:00 to 17:00 hours every day to run their analysis. The application requirements state that the application must not consume more than 20 percent of the processor time. The network administrator in your company sends you a graph displaying the processor usage for the application on a specific machine. The graph shows the processor usage for an entire day. The graph referenced by the network administrator is shown in the exhibit.



You need to evaluate the design to find whether the application performance is within the requirements. What should you conclude?

- A. The application performance meets the requirements. The spikes display specific points in time when the application usage is at its peak.
- B. The analysis of the performance chart conclusively indicates that the application has a bug that needs to be fixed.
- C. The analysis of the performance chart is inconclusive. Code profiling must be used to find what is happening with the application.
- D. The analysis of the performance chart is inconclusive. A load test must be used to find what is happening with the application.

Answer: C

Question: 20

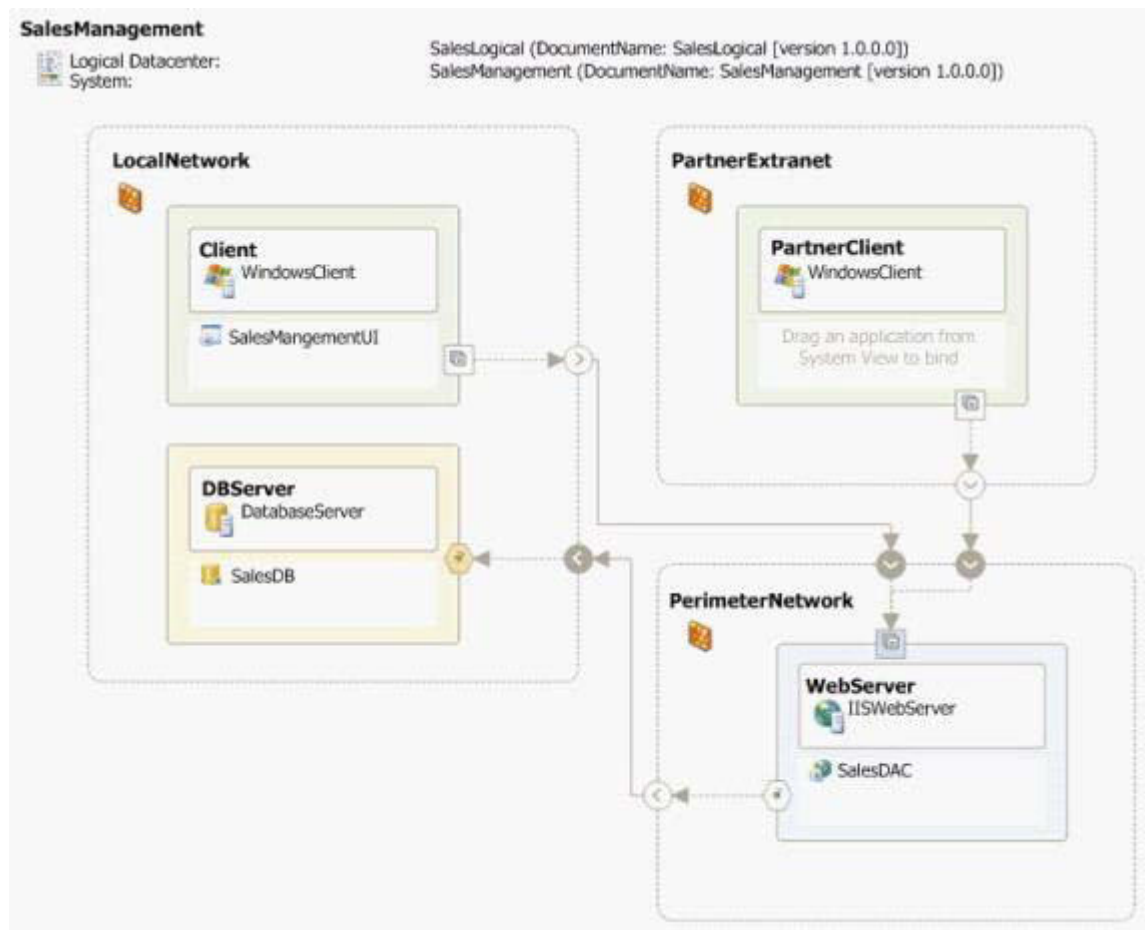
You create Microsoft Windows-based applications. You are creating a sales management application that accesses data from a Microsoft SQL Server 2005 database. The application uses Microsoft Windows Authentication Mode to access SQL Server 2005. After testing, the design team moves the database from the test server to the production server. The design team modifies the connection string on the application. You test the new configuration on your computer and the application runs successfully. You deploy the application to five client computers. The five client computers use other applications on the network that access different databases on the production server by using Windows Authentication Mode. You evaluate the application design and the production configuration. You conclude that the application will not connect to the database. What is the most likely cause of the problem?

- A. Users do not have valid logons for SQL Server.
- B. Users do not have the correct permissions for the sales database.
- C. Client computers are not configured correctly to use the network.
- D. The database server is not configured correctly to use the network.

Answer: B

Question: 21

You create Microsoft Windows-based applications. You are creating a sales management application. The application will consume Web services to retrieve and save data to a database server. These Web services will be exposed to a partner extranet so that partners can write applications that will access the same data. The deployment diagram for the entire solution is as shown in the following exhibit.



After deploying the solution, local users and partners report that they are not able to retrieve any data. You find that the client computers are able to access Web applications and Web services hosted by the Web server. You also find that the local applications are able to access other databases on the database server. You need to troubleshoot the issue. What should you conclude?

- A. Firewall settings are blocking access from the Web server to the database server.
- B. Firewall settings are blocking access from the client computers to the Web server.
- C. The Web server is offline.
- D. The database server is offline.

Answer: A

Question: 22

You create Microsoft Windows-based applications. You are creating an application to manage projects. Your company network consists of a single Microsoft Windows Server 2003 Active Directory domain. All servers in the domain run Microsoft Windows Server 2003. All workstations run Microsoft Windows XP Professional. You are provided with the following requirements:

- 1 Identify the user for workflow functionality.
- 2 Store data in a central location to help users access the data from anywhere on the network.
- 3 Permit data to be stored locally for offline access.
- 4 Permit access to the central data storage so that future applications can reuse the data.

- 5 Store application settings locally.
- 6 Make network communication as secure as possible.

You create an application that relies on Windows domain-based authentication and authorization to identify the user without logging on to the application. You also decide to use Microsoft SQL Server 2005 as the database engine and save the data locally as XML for offline access. You need to validate that the proposed solution meets the requirements. Which four requirements does the proposed solution meet? (Each answer presents part of the solution. Choose four.)

- A. requirement 1
- B. requirement 2
- C. requirement 3
- D. requirement 4
- E. requirement 5
- F. requirement 6

Answer: A, B, C, D

Question: 23

You create Microsoft Windows-based applications. You need to evaluate the design concept of an application. The application must meet the following requirements:

- The application relies on the operating system for authentication.
- The application minimizes the amount of data sent over the network when connecting to the database.
- The application exposes data access code so that the future Web-based and mobile applications can reuse them.
- The application permits users to view and edit data contained in tables from a Microsoft SQL Server 2005 database.
 - The application controls access to the SQL Server 2005 database at the table level.
- The design contains the following elements:
 - The SQL Server 2005 database uses the Windows Authentication mode.
 - A database schema that grants rights to the users at the table level.
 - A stored procedure in Transact-SQL that accesses the necessary data required by the application.
 - A Web service that uses a pre-defined credential to access the database and run the stored procedures.
 - A Microsoft Windows-based application that impersonates the logged-on user and calls the Web service to retrieve and update the data.
- The design meets all the requirements.
- Change the Windows-based application to use Windows Authentication.
- Change the Web service to impersonate the caller.
- Change the database schema to use stored procedures in C#.

You need to evaluate the design and recommend appropriately. What should you recommend?

Answer: C

Question: 24

You create Microsoft Windows-based applications. You are creating a banking application. ATMs will use the application. The application will authenticate a user, based on a personal identification number (PIN). When the user is authenticated, a list of accounts that belongs to the user will be displayed. The user can select any account. On selecting an account, the user can perform the following actions: view the account number and current balance, print a list of transactions, withdraw, deposit, and transfer money. You are representing the outlined specifications in the form of classes. You create a class named Account to represent bank accounts. You need to identify minimal number of the properties and methods that belong to the Account class. Which properties and methods should belong to the Account class? To answer, drag the appropriate properties and methods to the correct locations in the answer area.

Properties and Methods	Answer Area	
Username	Properties	Methods
Balance		
Number		
Logon		
Logoff		
Withdraw		
Deposit		
Transfer		
GetTransactions		

Answer: Question: 25

Properties and Methods	Answer Area	
Username	Properties	Methods
Balance	Balance	Withdraw
Number	Number	Deposit
Logon	Username	Transfer
Logoff	Logon	GetTransactions
Withdraw	Logoff	
Deposit		
Transfer		
GetTransactions		

You create Microsoft Windows-based applications. You are creating a sales management application. This application will permit sales personnel to search for customer information in a Microsoft SQL Server 2005 database. All communication with the database server is done by using an SSL channel. When a user needs to search for customer information based on a name, the following sequence of actions occurs:

- 1 The user types a name into a text box.
- 2 The user clicks a button to initiate the search.
- 3 The component validates that the value the user types is less than 200 characters.
- 4 The value that is typed is passed as a string to a component.

- 5 The component concatenates the typed value to a Select statement in the Where clause of the component.
- 6 The statement is executed to generate a DataTable object.
- 7 The DataTable object is used to display the results to the user.

You need to identify the risk factor in this application design. What should you conclude?

- A. SQL injection can be used to execute malicious SQL statements.
- B. Code injection can be used to elevate privileges of malicious code.
- C. A buffer overflow can be caused by typing a very large string in the text box.
- D. Canonicalization can be used to add invalid characters to the search string.

Answer: A

Question: 26

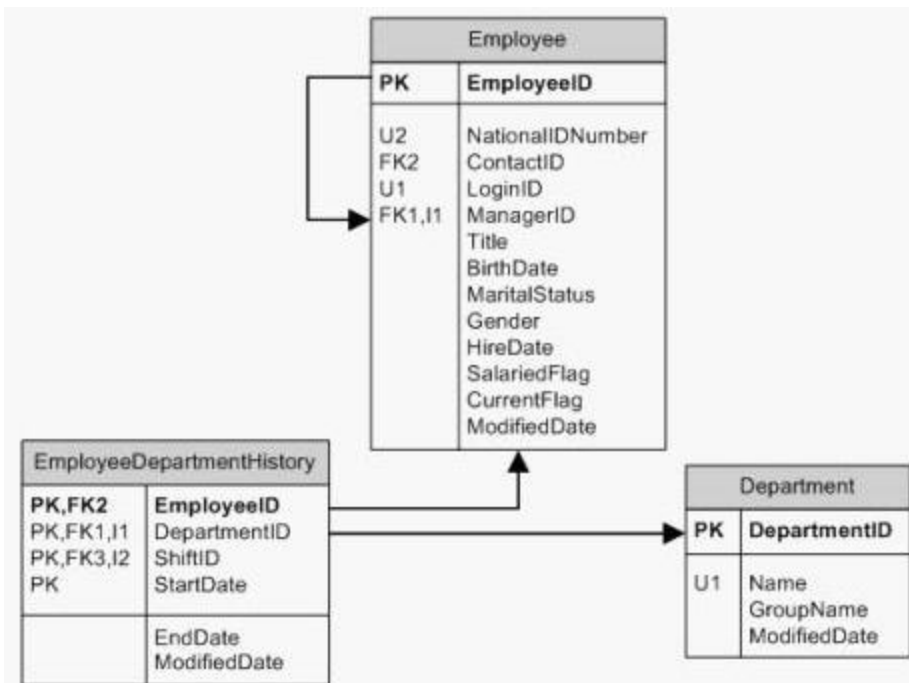
You create Microsoft Windows-based applications. You are creating a sales management application for your company. The application will be used by 250 users on the company's network. In the future, the company will be expanding the user base to include at least 1,000 more users. The application will be stored locally on every computer. The application uses a set of assemblies that are installed in the global assembly cache for business rules. The application retrieves data from a Microsoft SQL Server 2005 database by using a set of methods from a Web service. The SQL Server 2005 database is hosted on a local server. The Web service is maintained at a local IIS 6.0 Server. You need to evaluate which aspects of the physical design can be modified to accommodate more users. Which two aspects should you consider modifying? (Each answer presents part of the solution. Choose two.)

- A. Windows-based application
- B. assemblies in the global assembly cache
- C. database on the SQL Server 2005 server
- D. Web service on the IIS 6.0 Server
- E. number of assemblies installed by the application

Answer: C, D

Question: 27

You create Microsoft Windows-based applications. You are creating an application that uses Microsoft Visual Studio 2005 to support the human resources department. The application stores information in a Microsoft SQL Server 2005 database. The application tracks information on the following fields: EmployeesManagersDepartmentsRelationships between them. The database diagram is as shown in the following exhibit.



You need to evaluate the database diagram to ensure that the application correctly handles the data. Which three conclusions should you reach? (Each correct answer presents part of the solution. Choose three.)

- A. The database does not store data about managers.
- B. The data about employees and managers is stored in the same table.
- C. An employee can work for only one department.
- D. An employee can work for any number of departments.
- E. An employee has only one job title.
- F. An employee can have any number of job titles.

Answer: B, D, E

Question: 28

You create Microsoft Windows-based applications. You are creating an application to manage projects. Your current customers use Microsoft Windows 2000, Windows XP Professional, and Windows Server 2003, in workgroup and domain settings. The application must meet the following requirements:

- Identify the user for workflow functionality.
- Store data in a central location on your company's network.
- Permit data to be stored locally for offline access.

Your application relies on Windows domain-based authentication to identify the user without logging on to the application itself. You decide to use Microsoft SQL Server 2005 as the database engine and save the data locally in XML format for offline access. You need to identify the risks that are related to your design. Which risk should you identify?

- A. The use of XML might limit the number of customers who will use the application.
- B. The use of SQL Server 2005 might limit the number of customers who will use the application.
- C. The use of the .NET Framework might limit the number of workstations that can use the application.
- D. The use of a Windows domain might limit the number of customers who will use the application.

Answer: D

Question: 29

You create Microsoft Windows-based applications. You are creating a component that will encapsulate a data source. Dozens of applications will use the component. The component must meet the following design requirements:

- 1 The component must be able to be modified within a Rapid Application Development environment.
- 2 The component must be without a user interface.

You propose to derive the component from the `System.Windows.Forms.Control` class and to implement the `IComponent` interface. You need to decide whether the component will meet the requirements. What should you conclude?

- A. The solution meets both the design requirements.
- B. The solution does not meet any of the design requirements.
- C. The solution meets the second requirement but not the first requirement.
- D. The solution meets the first requirement but not the second requirement.

Answer: D

Question: 30

You create Microsoft Windows-based applications. You are designing a component that will draw a series of graphics based on an interactive user input. You need to ensure that the user can use the input without waiting for the graphics to be drawn. What should you do?

- A. Design the component as a single-threaded component.
- B. Design the component as a single-threaded apartment component.
- C. Design the component as a multi-threaded component that has a thread for user input and a thread for graphics. Grant the user input thread a higher priority than the graphics thread.
- D. Design the component as a multi-threaded component that has a thread for user input and a thread for graphics. Grant the user input thread a lower priority than the graphics thread.

Answer: C

Question: 31

You create Microsoft Windows-based applications. You create a component that calls an existing function. The design for the function specifies that it might throw an application-specific exception named `InvalidChecksumException`, which inherits from `System.ApplicationException`. The `InvalidChecksumException` exception is an error that can be handled. But the component cannot handle any other type of error. The component does not have any additional information that can be added to other types of errors. You need to design the component to correctly handle exceptions. You also need to ensure that the exception-handling strategy does not affect performance. What should you do?

- A. Use a catch statement that has a filter for `ApplicationExceptions` and find the exception type. If it is `InvalidChecksumException`, handle it automatically or rethrow the exception.
- B. Use only a catch statement that has a filter for `InvalidChecksumExceptions` and handle them automatically.
- C. Use a catch statement that has an empty filter. Verify the `Message` property to see if the exception is an `InvalidChecksumException` and perform the automatic recovery or rethrow the exception.
- D. Use a catch statement that has a filter for `InvalidChecksumException`, followed by another catch statement that has a filter for `Exception`. In the first catch block, automatically handle the exception. In the second catch block, log the error and rethrow the exception.

Answer: B

Question: 32

You create Microsoft Windows-based applications. You create a component to process daily reports. These daily reports are data-driven. Eight database tables dictate the following properties:

- the data that is printed
- the format of the data
- the order of output

The component loads the configuration data into a specific internal structure. Subsequently, the component retrieves and outputs the report data based on the configuration settings that are stored in the internal structure. The database is not updated. You need to develop the data handling capabilities of the component to manage the configuration data and the report data. You also need to ensure that the reports are generated as quickly as possible. Which two data handling mechanisms should you choose? (Each correct answer presents part of the solution. Choose two.)

- A. Use a `DataReader` object to load the report data based on the configuration data. Perform the required calculations.
- B. Use a `DataReader` object to load the configuration data from the database.
- C. Use a `DataAdapter` object and a `DataSet` object to load the configuration data from the database.
- D. Use a `DataAdapter` object and a `DataSet` object to load the report data based on the configuration data. Perform the required calculations.

Answer: A, B

Question: 33

You create Microsoft Windows-based applications. You are designing a class to be used by multiple client applications. This class will be used to generate unique account numbers. Your company guidelines state that unique number generating components must comply with the following design pattern:

- Classes must be designed so that they cannot be instantiated directly by client applications.
- Only a single instance of the class must be used by all the client applications.
- Instance methods and properties for these classes must be accessible to client applications.

You need to define how this class will implement the design pattern. Which two actions should you perform? (Each correct answer presents part of the solution. Choose two.)

- A. Declare the class constructors as private.
- B. Declare the class constructors as internal.
- C. Create a public static method to retrieve an existing instance of the class, or a new instance if one does not exist.
- D. Create a public instance method to retrieve an existing instance of the class, or a new instance if one does not exist.
- E. Create a private static method to retrieve an existing instance of the class, or a new instance if one does not exist.

Answer: B, C

Question: 34

You create Microsoft Windows-based applications. You are creating a component. The component performs statistical computations by using sets of data from a large, complex database. According to the design specification, the component performs a full set of calculations in not more than 5 seconds. Currently, the component takes more than 20 seconds to perform the required calculations. The project is almost complete and you must resolve the performance issues quickly. You need to identify the major processing performance issues in the component. Which two actions should you perform? (Each correct answer presents part of the solution. Choose two.)

- A. Add custom instrumentation to the component for operations that you expect will exceed performance requirements.
- B. Use SQL Profiler when you run the component to identify long-running database queries.
- C. Use Microsoft Network Monitor to identify long-running or large network data transfers.
- D. Use the common language runtime (CLR) profiler to identify the most used and long-running functions in the component and the specific external functions they call.
- E. Create a custom test harness that calls individual functions and measures how long they take to run.

Answer: B

Question: 35

You create Microsoft Windows-based applications. You are responsible for maintaining your company's application framework. You analyze the requirements for some of the applications that your company develops. You identify a common functionality. The functionality includes user interface elements as well as data-binding logic and display logic. You need to implement the functionality in such a way that other applications can reuse it. Which type of component should you implement?

- A. data access component
- B. business logic component
- C. control library
- D. data structure component

Answer: C

Question: 36

You create Microsoft Windows-based applications. Two of your Windows-based applications require the use of graphical progress indicators. These indicators are based on bitmap files. Such a component is not available in the .NET Framework. To facilitate the search for a component, you identify the following requirements:

The component exposes methods to increment and decrement the progress bar, along with a method or a property to manually change the value of the progress bar.

The component permits the use of different types of progress indicators, such as a regular progress bar or a circular progress bar.

The component represents multiple progress indicators, permitting the developers to dynamically change the number of indicators.

You research three third party components and find a component that matches the first two criteria. The component you find represents a single progress indicator. The component also exposes extra methods and properties that the developers must not use. You need to implement a strategy to use the third party component. You want to achieve this goal by using the minimum amount of programming effort. What should you do?

- A. Extend the component and override the properties and the methods that the developers must not access.
- B. Extend the component and hide the properties and the methods that the developers must not access.
- C. Wrap the component in a class by using an array to handle the multiple instances of the component. Expose the permissible properties and methods to control the functionality of the progress indicators.
- D. Wrap the component in a class by using an ArrayList object to handle the multiple instances of the component. Expose the permissible properties and methods to control the functionality of the progress indicators.

Answer: D

Question: 37

You create Microsoft Windows-based applications. You are creating an internal application. The application requirements are that you can audit the application to discover when users logged on and when they logged off from the application. Logon and logoff events must be stored in a centralized location. The application is designed to use the security credentials of the logged on Windows user. The auditing logon and logoff events policy is enabled for all computers on the network. Because of these settings, the application does not log any data that is related to logon and logoff events. You need to evaluate the design to find if the application meets the auditing requirements. What should you conclude?

- A. The design meets the requirements. Logon and logoff events are tracked in the security log for the local machine.
- B. The design does not meet the requirements. The application must be changed to use tracing to send data to the security log.
- C. The design does not meet the requirements. The application must be changed to use tracing to send data to a local database.
- D. The design does not meet the requirements. The application must be changed to use tracing to send data to a database server.

Answer: D

Question: 38

You create Microsoft Windows-based applications. You create a purchase order application. Sales personnel use the application to place orders for customers. Sales personnel need to connect to the network to use the application. The application saves data to a database server on the network. Multiple sales personnel use the application simultaneously. The purchase order application requires a logging mechanism to permit auditing of sales. The logging mechanism must meet the following requirements:

- Log entry is created for every sales order created, saved, or deleted.
- Log data is available only to administrators.
- Log entries for all sales are stored together.
- Current log data can be read while the application is running.

You need to decide on a storage mechanism for the logged data. Which storage mechanism should you choose?

- A. Use a listener to trace data to the Windows System log.
- B. Use a listener to trace data to a text file in the local machine. Protect the file by using NTFS permissions.
- C. Write code to save log information to a database server. Configure the database so that only administrators can access it.
- D. Write code to save log information to an XML file in a file share. Configure the share so that only administrators can access it.

Answer: C

Question: 39

You create Microsoft Windows-based applications. You are creating an application that will monitor sales data. The application must meet the following requirements:

- Users must be able to customize display settings and the amount of data to monitor.
- Users must be able to log on to any computer on the network to use the application.
- User settings must be retrieved based on the logged-on user from any computer on the network.

You need to decide where to store the user settings. What should you do?

- A. Use a XML file stored in the application folder.
- B. Use the HKEY_LOCAL_MACHINE hive to store user settings.
- C. Use a table in a central database to store settings for each user.
- D. Use a serialized settings class and store an object for each user in memory.

Answer: C Question: 40

You create Microsoft Windows-based applications. You are creating an application to be used by the employees of a multinational

company. The application must meet the following requirements:

- Employees from any location can retrieve the latest price quotes from the companys Microsoft SQL Server database.
- Employees can submit orders online.
- The companys business partners can submit orders by using the software that they design themselves.
- The company cannot restrict the business partners choice of platform.

You need to ensure that the application and the server communicate as effectively as possible. Which technology should you use?

- A. ASP.NET Web service
- B. SQL connection over a Virtual Private Network (VPN) connection
- C. Microsoft Message Queuing
- D. .NET Remoting
- E. COM+ components

Answer: A

Question: 41

You create Microsoft Windows-based applications. You create a banking application that will be used by the account managers of the bank. You identify a method to simulate the deposit functionality of a savings account. The method will calculate the final balance when monthly deposit, number of months, and quarterly rate are given. The application requirements state that the following criteria must be used to calculate the balance amount:

- Apply the quarterly interest rate to the balance amount of the account every three months.
- Apply the quarterly interest rate before the monthly deposit is calculated for the third month.

You translate the outlined specification into pseudo code. You write the following lines of code. (Line numbers are included for reference only.)

Method public static decimal SimulateSavings

Input parameters

int months decimal monthlyPayment decimal quarterlyRate

Pseudo code

01 Declare balance variable, initialize it to zero

03 Return balance

You need to insert the appropriate code in line 02. Which code segment should you insert?

- A. 01 Declare integer variable, x02 For x=1 to months/32.1 balance = balance + 3 * monthlyPayment2.2 balance = (1 + quarterlyRate) * balance
- B. 01 Declare integer variable, x02 For x=1 to months/32.1 balance = balance + 2 * monthlyPayment2.2 balance = (1 + quarterlyRate) * balance2.3 balance = balance + monthlyPayment
- C. 01 Declare integer variable, x02 For x=1 to months2.1 balance = balance + monthlyPayment2.2 if x mod 3 is 0 then balance = (1 + quarterlyRate) * balance
- D. 01 Declare integer variable, x02 For x=1 to months2.1 if x mod 3 is 0 then balance = (1 + quarterlyRate) * balance2.2 balance = balance + monthlyPayment

Answer: D

Question: 42

You create Microsoft Windows-based applications. You create a Microsoft Windows-based application that stores information in a Microsoft SQL Server 2005 database. Your company requires that all database access is done by using stored procedures. The stored procedures must meet the following requirements:

- The procedures return data that can be used in any data-bound control in the application.
- The procedures return data in the most compact format available.

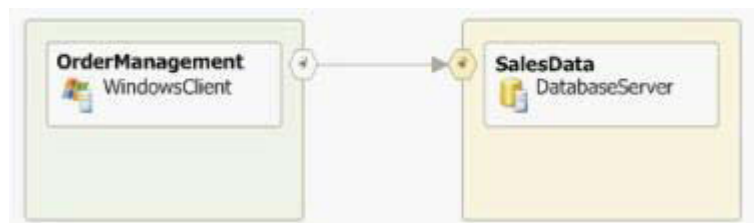
No complex logic is needed in the procedures. You need to implement the most appropriate technology to write stored procedures that meet these requirements. You also need to ensure that the stored procedures can be easily updated as application requirements change. What should you do?

- A. Use Transact-SQL that returns relational data.
- B. Use Transact-SQL that returns XML data.
- C. Use the .NET Framework language that returns relational data.
- D. Use the .NET Framework language that returns XML data.

Answer: A

Question: 43

You create Microsoft Windows-based applications. You are creating a sales management application. An overview of the logical design for the application is as shown in the following exhibit.



The application will be used by 300 users in the company. The application will connect directly to the sales database and use stored procedures. The data will also be accessed through the Internet by applications developed by your company's business partners. The security settings must be configured to permit external applications to access the database from the Internet. You need to ensure that the outlined requirement is met by changing the network and security settings to the minimum extent possible. Which two changes should you propose? (Each correct answer presents part of the solution. Choose two.)

- A. Separate the code that accesses the database as a COM+ component.
- B. Separate the code that accesses the database as a Web service.
- C. Separate the code that accesses the database as a different Windows-based application.
- D. Add a generic server to the application logical datacenter to host the database access component.
- E. Add a Web server to the application logical datacenter to host the database access component.

Answer: B, E

Question: 44

You create Microsoft Windows-based applications. You create a component that is used by 10 Windows-based applications. The component contains classes that represent persons. The three main classes are named Customer, Contractor, and Employee. These three classes serve as base classes for other classes. All classes have similar properties. The properties are implemented in a base

abstract class called Person. The Customer, Contractor, and Employee classes can be instantiated. The following table describes what each method does in these classes.

Method	Customer	Contractor	Employee
Save	Saves properties in a database	Saves properties in a database	Saves properties in a database
Retrieve	Populates object based on data from a database	Populates object based on data from a database	Populates object based on data from a database
Pay	Not implemented	Calculates contractor pay based on hourly rate	Calculates employee pay based on annual salary
PlaceOrder	Creates a sales order for the customer	Creates a sales order as sold by the contractor	Creates a sales order as sold by the employee

Methods are included and implemented as high up in the hierarchy as possible. You need to define the appropriate method to be implemented in the appropriate base class. What should you do? To answer, drag the appropriate methods to the correct class or classes in the answer area.

Methods	Answer Area			
	Person	Customer	Contractor	Employee
virtual Save				
virtual Retrieve				
virtual Pay				
virtual PlaceOrder				
abstract PlaceOrder				

Answer: Question: 45

Methods	Answer Area			
	Person	Customer	Contractor	Employee
virtual Save	virtual Save			
virtual Retrieve	virtual Retrieve			
virtual Pay	virtual Pay			
virtual PlaceOrder		abstract PlaceOrder		
abstract PlaceOrder		virtual PlaceOrder		

You create Microsoft Windows-based applications. You are creating a component for an application. You will use the component to process a high rate of business transactions. The performance of the component is critically important to maximize the performance of the application. The operations of the component differ depending on the properties of the business transaction that is processed at any given time. You need to ensure that performance issues are identified quickly over the life of the component. What should you do?

- Profile the performance of the component frequently by using the common language runtime (CLR) profiler to identify potential performance constraints.
- Hold weekly code reviews to permit other developers to spot potential performance issues before they arise.
- Include custom instrumentation that will record performance data of various operations, including the context of each operation.
- Include a series of tests that will automatically time the operations of the component and find whether the performance of the

component is getting better or worse.

Answer: C

Question: 46

You create Microsoft Windows-based applications. You are upgrading an application that contains custom data-centric user controls. Each of these controls implements its own custom data-binding logic. Much of the data-binding code is similar from control to control. You create a new component that combines the common data-binding logic. You change the existing controls so they use this new component. You need to decide which tier of the application architecture this component will belong to. Where should you place the component?

- A. Presentation tier
- B. Business tier
- C. Data access tier
- D. Data tier

Answer: A

Question: 47

You create Microsoft Windows-based applications. You create an application that is used by the marketing department. The application permits users to browse through a list of products obtained from a local XML file. The XML file is generated by a business layer process. The business layer process performs the following tasks:

- accesses a Microsoft SQL Server 2005 database
 - accesses a Microsoft Office Access database
 - combines data from both databases
- The application must meet the following requirements:
- Enable users to print reports based on data contained in the XML file.
 - Enable users to save the reports.

You need to define the appropriate Code Access Security (CAS) permissions that must be applied to this application. You want to follow the concept of least privilege to achieve this goal. Which three CAS permissions should you choose? (Each correct answer presents part of the solution. Choose three.)

- A. Directory Services
- B. File IO
- C. OleDb
- D. User Interface
- E. SQL Client
- F. Printing
- G. Isolated Storage File

Answer: B, D, F

Question: 48

You create Microsoft Windows-based applications. You are designing an inventory management solution for a warehouse. The solution must address the following requirements:

- Access inventory data in a Microsoft SQL Server 2005 database.

Generate XML documents representing purchase orders based on an XML schema provided by a trading partner.
Use the minimum amount of C# code possible.
Use the minimum amount of I/O operations possible.

You need to develop the data handling capabilities of the solution to meet the requirements. Which three data handling mechanisms should you select? (Each correct answer presents part of the solution. Choose three.)

- A. Use an XmlReader object to retrieve inventory data from the database and populate a DataSet object.
- B. Use a DataAdapter object to retrieve inventory data from the database and populate a DataSet object.
- C. Use methods from the DataSet class to generate a new XML file that contains data to be used to generate a purchase order.
- D. Use methods from the DataSet class to generate a new XmlDataDocument object that contains data to be used to generate a purchase order.
- E. Use an XslCompiledTransform object to generate the purchase order XML file.
- F. Use an XmlWriter object to generate the purchase order XML file.

Answer: B, D, E

Question: 49

You create Microsoft Windows-based applications. You are creating a component that will be used by several client applications. The component contains the following code segment. (Line numbers are included for reference only.)

```
01 namespace MyComponent { 02 public class Account { 03 private string mAccountNo; 04 private decimal mBalance; 05 public
Account(string AcctNo) { 06 ... 07 } 08 public void Withdraw(decimal Amount) { 09 ... 10 } 11 public void Deposit(decimal Amount) { 12
... 13 } 14 } 15 public class SavingsAccount:Account { 16 public SavingsAccount(string AcctNo):base(AcctNo) { 17 ... 18 } 19 public
void ApplyInterestRate(decimal Amount) { 20 ... 21 } 22 } 23 }
```

You need to redesign the Account class and the SavingsAccount class to meet the following requirements:

Developers must not be able to instantiate the Account class from client applications.
Developers must not be able to extend the functionality of the SavingsAccount class.
Developers must be able to instantiate the SavingsAccount class from client applications.

Which two actions should you perform? (Each correct answer presents part of the solution. Choose two).

- A. Implement only private constructors for the Account class.
- B. Implement only private constructors for the SavingsAccount class.
- C. Implement only internal constructors for the Account class.
- D. Implement the SavingsAccount class as an abstract public class.
- E. Implement the SavingsAccount class as a concrete non-inheritable class.

Answer: C, E

Question: 50

You create Microsoft Windows-based applications. You create an application that accesses data on a Microsoft SQL Server 2005 database. You write the following code segment. (Line numbers are included for reference only.)

```
01 private void LoadData() 02 {
03     cn.Open(); 04 cn.Open(); 05 daProducts.Fill(ds); 06
daCategories.Fill(ds);
07 cn.Close();
}
```

09 }

The cn variable points to a SqlConnection object. The SqlConnection object will be opened almost every time this code segment executes. You need to complete this code segment to ensure that the application continues to run even if the SqlConnection object is open. You also need to ensure that the performance remains unaffected. What should you do?

- A. Add a Try block on line 03 along with a matching Catch block beginning on line 08 to handle the possible exception.
- B. Add a Try block on line 03 along with a matching Finally block beginning on line 08 to handle the possible exception.
- C. Add the following code to line 03.if (cn.ConnectionState!=ConnectionString.Open)
- D. Add the following code to line 03.if (cn.ConnectionState==ConnectionString.Closed)

Answer: C

Question: 51

You create Microsoft Windows-based applications. You are creating an application that uses Windows Authentication. After authentication, the application retrieves a list of databases that are available to the logged-on user. The application also permits the user to select the following features:

- A model database to work on
- A type of chart to create
- Display settings for the chart

The application must store default values as application settings to be retrieved the next time the user logs on. The settings will be stored in the registry under the HKEY_CURRENT_USER hive. You need to decide on the settings you must store. Which three settings should you store? (Each correct answer presents part of the solution. Choose three.)

- A. user name
- B. name of the last-used database
- C. list of databases the user has access to
- D. type of chart
- E. display settings

Answer: B, D, E

Question: 52

You create Microsoft Windows-based applications. You are creating a stock trading application. The application keeps track of stock prices and raises events when the stock prices increase or decrease. The events are raised based on specific thresholds. When the events are raised, users specify whether to buy, sell, or hold the stocks. The stock trading application currently uses the Trace class to log the events raised by the application and the user responses. The raised events and the user responses are then logged to a Windows application log. You change the application logging mechanism to meet the following requirements:

- Log entries are saved in a central database.
- Log entries are also saved to the local application log.
- Other applications are able to use the same logging mechanism.
- The application code is changed as little as possible.

You create a central database to store log entries for multiple databases. You need to choose a system-wide logging mechanism that is reused by the application and is a part of the application design structure. What should you do?

- A. Create a custom TraceListener class to save data to a central database. Compile the class to a dynamic-link library (DLL). Use

the DLL in the application. Change the code to add an instance of the custom `TraceListener` class to the `Listeners` collection of the `Trace` class.

- B. Create a custom `TraceListener` class to save data to a central database. Compile the class to a dynamic-link library (DLL). Use the DLL in the application. Change the code to add an instance of the custom `TraceListener` class to the `Listeners` collection of the `Trace` class. Change the application code where log entries are created to create the entry twice, one for the local log and one for the database.
- C. Change the application to use a `DataSet` object to store logging information and save the dataset to the central database.
- D. Change the application to use a `SqlCommand` object to insert log entries to the central database.

Answer: A

Question: 53

You create Microsoft Windows-based applications. Two of your Windows-based applications require the use of graphical progress indicators. These indicators are based on bitmap files. Such a component is not available in the .NET Framework. To facilitate the search for a component, you identify the following requirements:

- Component exposes a property to set a bitmap file that is used for the progress bar.

- Component permits the use of at least two types of progress bars. These progress bars are named percent progress and numeric progress.

- Component exposes a method to increment the progress bar.

You find a component that fulfills all the requirements. You create a new component that extends the original component and overrides the `Increment` method. The Windows-based applications might use either the original component or the extended component. You write a test project to test the component. You need to ensure that all the requirements are met. You want to achieve this goal by using the minimum amount of programming effort. Which component members should you test?

- A. Bitmap and Progress Bar Type properties, the `Increment` method for the original component
- B. Bitmap and Progress Bar Type properties, the `Increment` method for the original component, and the `Increment` method for the extended component
- C. All properties and methods for the original component
- D. All properties and methods for the original component and the extended component

Answer: B

Question: 54

You create Microsoft Windows-based applications. You are creating a method. Your applications will call the method multiple times. You write the following lines of code for the method.

```
public string BuildSQL(string strFields, string strTable, string strFilterId) { string sqlInstruction = "SELECT "; sqlInstruction += strFields; sqlInstruction += " FROM "; sqlInstruction += strTable; sqlInstruction += " WHERE id ="; sqlInstruction += strFilterid; return sqlInstruction; }
```

The method generates performance issues. You need to minimize the performance issues that the multiple string concatenations generate. What should you do?

- A. Use a single complex string concatenation.
- B. Use an array of strings.
- C. Use an `ArrayList` object.
- D. Use a `StringBuilder` object.

Answer: D

Question: 55

You create Microsoft Windows-based applications. You are changing an application to manage the daily activities of doctors and nurses in a hospital. The application will run on a single machine at the hospital front desk. The application will run 24 hours a day, seven days a week. Initial testing shows that the application consumes a lot of resources and that it runs out of memory intermittently. You want to change the application so that an alert is sent when memory usage is nearing the point of failure. An external application will be used for sending the alert. You need to decide what monitoring mechanism to use. You also need to ensure that the least amount of changes is introduced in the application. What should you do?

- A. Create a performance counter to monitor memory. Raise an event when memory reaches the critical value. Change the external application to subscribe to the event.
- B. Create a performance counter to monitor memory. Call the external application when the counter reaches the critical level.
- C. Use the existing memory performance counters in the operating system. Call the external application when the counter reaches the critical level.
- D. Use the existing memory performance counters in the operating system. Use system monitor to create an alert to launch the external application when the counter reaches the critical level.

Answer: D

Question: 56

You create Microsoft Windows-based applications. You are creating an application that will connect to a Microsoft SQL Server 2005 database. You write the following code segment for a method contained in the application. (Line numbers are included for reference only.)

```
01 private SqlConnection cn; 02 public frmMain() { 03 InitializeComponent(); 04 cn = new SqlConnection("data source =  
localhost;initial Catalog = Accounting;integrated security = true"); 05 }
```

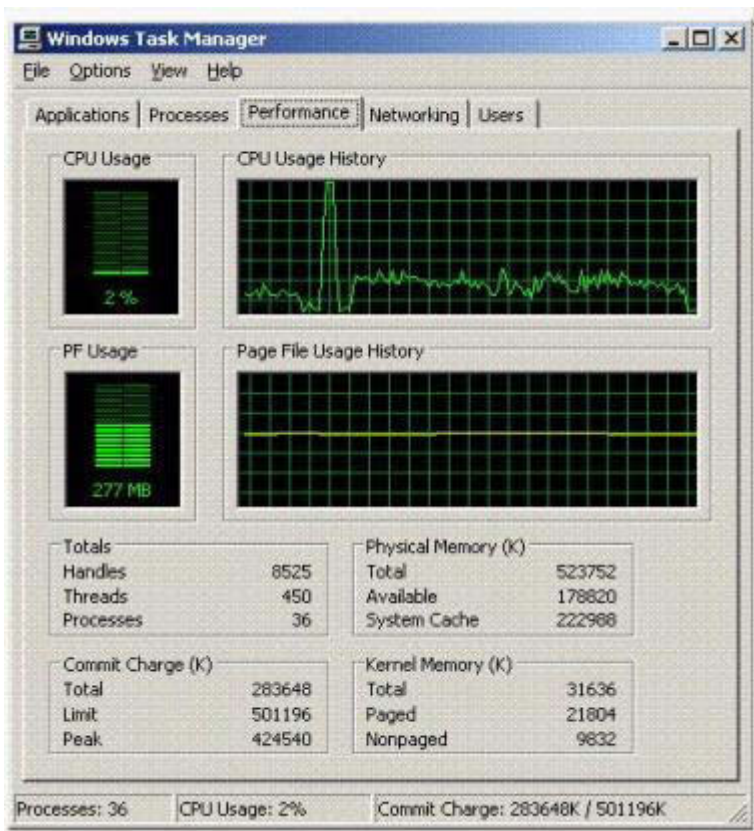
In the production environment, the database will be stored by a server on the network. You need to eliminate the requirement to recompile the application when you deploy it to the production environment. You want to achieve this by using minimum amount of programming effort. What should you do?

- A. Create an application configuration file to store the connection string. Change the code to read the connection string from the configuration file.
- B. Create an XML file in the application folder to store the connection string. Change the code to use an XMLReader object to connect to a file stream and read the connection string.
- C. Create a component that returns the connection string. Change the code to use the component to get the connection string.
- D. Create a text file to store the connection string. Change the code to use a TextReader object to connect to a file stream and read the connection string.

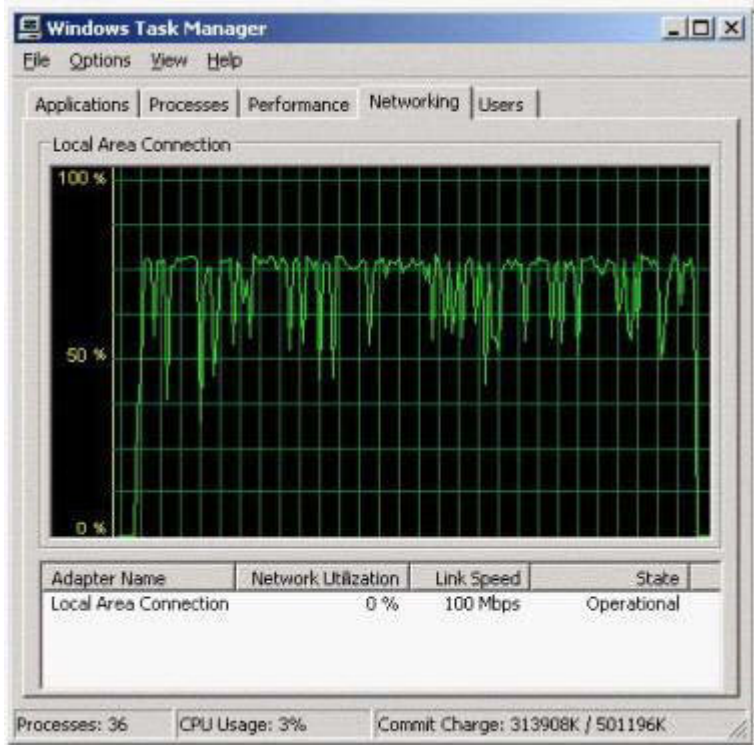
Answer: A

Question: 57

You create Microsoft Windows-based applications. You create a sales management application. The application stores sales data on a Microsoft SQL Server 2005 database that is maintained on a local server. The application retrieves data for analysis and permits users to make changes to the sales data. After the application is deployed, users report that the application takes too long to start. You run the application on your local computer to verify the performance and network usage. The performance chart is shown in the Performance exhibit.



And the network usage chart is shown in the Networking exhibit.



You need to analyze the application code and evaluate the problem. What should you conclude?

- A. The application is consuming too much network resources. It is necessary to debug the application to find out if the issue is related to the application, the network, or the database server.
- B. The application is consuming too much network resources. A faster network interface card is required to make the application perform better.
- C. The application is consuming too much processor time. It is necessary to debug the application to find the root cause.
- D. The application is consuming too much processor time. A faster processor is required to make the application perform better.

Answer: A

Question: 58

You create Microsoft Windows-based applications. You are responsible for evaluating the deployment of a product-pricing application. This application will be deployed on portable computers that are used by a team of sales personnel. The application must meet the following requirements:

- The application must run successfully on a dial-up connection.
- Users need to run the application locally.
- New features are added to the application on a monthly basis.

You need to provide a deployment solution that will ensure your users always have the latest version of the application when they connect to the corporate network. What should you recommend?

- A. Create a Microsoft Windows Installer MSI installation.
- B. Create a ClickOnce deployment.
- C. Create a setup executable that installs your application.
- D. Create a Web Deployment installation.

Answer: B

Question: 59

You create Microsoft Windows-based applications. You are creating a mathematics educational application. The application will be used to teach students about numeric series. One of the methods in the application is used to calculate a given member of the Fibonacci series. The method uses recursive calls to perform its calculation. The application calls the method synchronously, and only one instance of the application can be running at a given time. The application requirements state that the method must take less than 5 seconds to process when calculating any of the first 30 members of the Fibonacci series. You profile the application by using instrumentation. During profiling, you perform a call on the method that is used for calculating the 30th member of the Fibonacci series. The profiling report, which shows elapsed time in milliseconds, is shown in the exhibit.

Function Name	Number of Calls	Elapsed Exclusive Time
Performance.exe	1664084	603.513153
Performance.Program.Main()	1	1.280210
Performance.Form1.button1_Click(object, class EventArgs)	1	0.497263
Performance.Form1.Fibonacci(int32)	1664079	593.805579
Performance.Form1..ctor()	1	7.690739
Performance.Form1.InitializeComponent()	1	0.237469
Performance.Form1.Dispose()	1	0.001895
System.Windows.Forms.dll	32	72170.090864
mscorlib.dll	3	0.092323
System.Drawing.dll	6	0.003640

You need to evaluate the performance of the application based on the established requirements. What should you conclude?

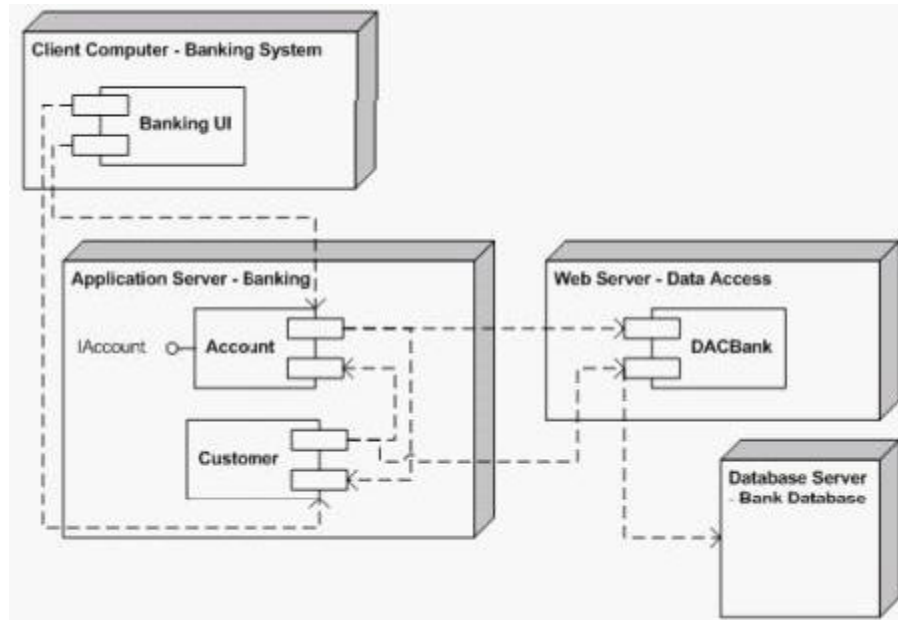
- A. The report is inconclusive. A sample profiling is required to verify the requirements.

- B. The report is inconclusive. A load test is required to verify the requirements.
- C. The report is conclusive. The requirements are not met.
- D. The report is conclusive. The requirements are met.

Answer: D

Question: 60

You create Microsoft Windows-based applications. You are creating a banking application. The application is composed of a Windows client, business logic components, a data access component, and a central database. You are responsible for the deployment of the business logic components that are used by the application. The deployment diagram is as shown in the following exhibit.



You need to analyze the dependencies of the Account component on other components in the application to ensure that the application functions properly. Which two components should you choose? (Each correct answer presents part of the solution. Choose two.)

- A. Banking user interface
- B. IAccount
- C. Customer
- D. DACBank
- E. Bank database

Answer: C, D

Question: 61

You create Microsoft Windows-based applications. You are testing a component named BankAccount. You write the following code segment for the BankAccount component. (Linenumbers are included for reference only.)

```
01 public class BankAccount {
02     private decimal balance;
03     public decimal Balance {
04         get { return this.balance; }
05         set { this.balance = value; }
06     }
07     public void Withdraw(decimal amount) {
08         if (! (amount > 0)) {
09             throw new Exception("Invalid withdraw amount!");
10         }
11         else if (amount > this.balance) {
12             throw new Exception("Insufficient balance");
13         }
14         else {
15             this.balance -= amount;
16         }
17     }
18 }
```

```
public void Deposit(decimal amount) {  
17 if(!(amount > 0)) { 18 throw new Exception("Invalid deposit amount!"); 19 } else { 20 this.balance += amount; 21 } 22 } 23 }
```

The test project executes a valid withdraw operation and a valid deposit operation. It also verifies the account balance. Your companys check-in policy requires that the primary code path is tested before check in. Full testing will be completed later. You need to establish the lowest acceptable code coverage metric. What should you test?

- A. Test all methods.
- B. Do not test exceptions. Test all other methods.
- C. Test all code, including variable declarations.
- D. Do not test accessor methods. Test all other methods and exceptions.

Answer: B

Question: 62

You create Microsoft Windows-based applications. You create an application that requires users to be authenticated by a domain controller. The application contains a series of processor-intensive method calls that require different database connections. A bug is reported during testing. The bug description states that the application hangs during one of the processor-intensive calls more than 50 percent of the times when the method is executed. Your unit test for the same method was successful. You need to reproduce the bug. Which two factors should you ascertain from the tester? (Each correct answer presents part of the solution. Choose two.)

- A. security credentials of the logged on user
- B. code access security settings
- C. hardware settings
- D. network settings
- E. database settings

Answer: C, D

Question: 63

You create Microsoft Windows-based applications. The sales department uses an application that accesses data from a local Microsoft Office Access database. To enable sales representatives to access the application when they are not in the office, you plan to install the application on a terminal server. The application will be accessed by 200 users simultaneously through a terminal services connection. You need to design an appropriate test strategy for the change. Which two tests should you choose? (Each correct answer presents part of the solution. Choose two.)

- A. unit test
- B. load test
- C. integration test
- D. coverage test
- E. Web test

Answer: B, C

Question: 64

You create Microsoft Windows-based applications. You are creating an application that consumes both an internally developed Web service and an externally developed Web service. The application uses only some of the methods that both the Web services expose. You need to design an integration testing strategy for the application. You want to achieve this goal by using the minimum amount of programming effort. What should you test?

- A. All methods that are used by the application from the externally developed Web service

- B. All methods that are used by the application from the internally developed and externally developed Web services
- C. All methods that are exposed by the externally developed Web service
- D. All methods that are exposed by the internally developed and externally developed Web services

Answer: B

Question: 65

You create Microsoft Windows-based applications. You receive the following code segment to review. (Line numbers are included for reference only.)

```
01 public partial class frmReceivables : Form
02 {
03     private DataSet ds;
04     public frmReceivables()
05     {
06         InitializeComponent();
07     }
08     private void frmReceivables(object sender, EventArgs e)
09     {
10         SqlConnection cn = new SqlConnection(strConnectionString);
11         SqlDataAdapter daInvoices = new SqlDataAdapter("SELECT * FROM Invoices", cn);
12         SqlDataAdapter daCustomers = new SqlDataAdapter("SELECT * FROM Customers", cn);
13         ds = new DataSet("Receivables");
14         daInvoices.Fill(ds);
15         daCustomers.Fill(ds);
16     }
17 }
```

The strConnectionString variable is pre-populated from the application configuration file. Query statements will remain unchanged throughout the life cycle of the application. Connection pooling is not being used. This code segment accesses a Microsoft SQL Server 2000 database. The ds dataset is bound to a data grid view so that users can view and update data in the database. The code currently compiles correctly and works as intended. You need to enhance performance and reliability for this code. Which two actions should you recommend? (Each correct answer presents part of the solution. Choose two.)

- A. Use an ODBC DSN instead of a connection string.
- B. Use OleDbDataAdapter objects instead of SqlDataAdapter objects to populate the dataset.
- C. Add a line of code before line 14 to open the database connection.
- D. Add a Try...Catch block and close the connection in the catch block.
- E. Add a Try...Catch...Finally block and close the connection in the Finally block.

Answer: C, E

Question: 66

You create Microsoft Windows-based applications. You review code for an application that is developed for a bank. You need to test a method named Deposit in one of the application components. The following code segment represents the Deposit method. (Line numbers are included for reference only.)

```
01 public void Deposit(decimal amount)
02 {
03     if (!(amount > 0))
04     {
05         throw new Exception("Invalid deposit amount!");
06     }
07     else
08     {
09         this.balance += amount;
10     }
11 }
```

You use the Microsoft Visual Studio 2005 test feature to automatically generate the following unit test. (Line numbers are included for reference only.)

```
01 [TestMethod()]
02 public void DepositTest()
03 {
04     BankAccount target = new BankAccount();
05     //balance will be ZERO
06     decimal amount = 100;
07     target.Deposit(amount);
08     Assert.Inconclusive("A method that does not return a value cannot be verified.");
09 }
```

You need to change the test method to return a conclusive result. Which line of code should you use to replace the code on line 06?

- A. Assert.AreEqual(100M, target.Balance);
- B. Assert.IsTrue(target.Balance != 100M);
- C. Debug.Assert(target.Balance == 100M, passed);
- D. Debug.Assert(target.Balance == 100M, failed);

Answer: A

Question: 67

You create Microsoft Windows-based applications. Your company network runs a Web-based application that permits managers to edit data in the employee database by using a Web form. You need to redesign the Web-based application as a rich-client application. The redesigned user interface must meet the following criteria:

- The data entry form dynamically creates the input controls with the corresponding labels.
- The data entry fields accept inputs of different lengths and the input controls acquire size accordingly.
- The user experience is similar to that of the previous Web-based application.
- Dynamically created input controls and labels must always align properly, even if the form is resized.

You need to identify the control that can be used to minimize the user interface code complexity. Which control should you choose?

- A. Flow Layout Panel
- B. Group Box
- C. Panel
- D. Table Layout

Answer: D

Question: 68

You create Microsoft Windows-based applications. You are designing an application that will be deployed to employees in your company. The company requires that all internal applications are branded with the corporate logo and a copyright notice. You need to ensure that all forms in the application contain the appropriate branding and copyright notice. Your solution must be extensible, maintainable, and require minimum effort to lay out. Which solution should you use?

- A. Create a reference form with the correct branding and copyright information and copy and paste the controls on this form to all other forms.
- B. Create a user control with the correct branding and copyright information and add the user control to each form.
- C. Create a base form with the correct branding and copyright information and require all forms in the application to inherit from the base form.
- D. Create an image with the correct branding and copyright information and add a picture box control to each form to display the image.

Answer: C

Question: 69

You create Microsoft Windows-based applications. You are designing a reusable composite control for a customer service application. The composite control contains three TextBox controls. The first TextBox control is used for the customers account number. The second TextBox control is used for the customers phone number. The third TextBox control is used to hold the last four digits of the customers social security number. The composite control is used to retrieve a customers insurance data. You need to ensure that data is entered in the valid format for all the three TextBox controls. Which action should you perform to achieve this goal?

- A. Override the TextChanged event of the composite control to validate all the TextBox controls.
- B. Write custom code in the TextChanged event of the third TextBox control.
- C. Override the Validating event of the composite control to validate all the TextBox controls.
- D. Write custom code in the Validating event of the third TextBox control.

Answer: C

Question: 70

You create Microsoft Windows-based applications. You design a Windows Forms application that routes incidents to the most appropriate technical support representative. The application displays information in a Multiple Document Interface (MDI). A standard menu exists at the top of the MDI parent form. Toolbar containers provide functionality to the child forms. Users of the application are connected to the network locally and remotely. Five of the remote users have either visual or auditory impairments. Currently, a default beep alerts the users when a new support incident is assigned to them. You review the design and discover that the application fails to provide adequate accessibility functionality. You need to provide an application status feedback technique that is appropriate for all users. What should you do?

- A. Update the status bar text in the main Window to indicate that a new incident is assigned to the user.
- B. Toggle the CAPS lock so that an LED on the users keyboard flashes to indicate that a new incident is assigned to the user.
- C. Display a Microsoft Outlook style pop-up message from the system tray to indicate that a new incident is assigned to the user.
- D. Play a configurable sound to indicate that a new incident is assigned to the user.

Answer: C

Question: 71

You create Microsoft Windows-based applications. You are developing an application for the sales department. The application displays information under the following sections:

- Customer Name
- Shipping Address
- Billing Address
- Contact Numbers
- E-mail Addresses

You need to design a user interface that permits the user to display one section at a time. You want to achieve this goal by using the minimal amount of code. Which user interface layout control should you select?

- A. MenuStrip
- B. ContextMenuStrip
- C. GroupBox
- D. TabControl

Answer: D

Question: 72

You create Microsoft Windows-based applications. You create a customer-support application for a technical support organization. The customer-support application accepts phone numbers. While running a report, you find that the phone numbers displayed do not follow a single format. In addition, there are instances of missing digits and missing area codes. You need to ensure that the phone numbers are entered in the format (###) ###-####. You want to achieve this goal by using the minimal amount of code. What should you do?

- A. Write code that uses a regular expression in the Validating event of the control.
- B. Write code that uses a regular expression in the TextChanged event of the control.
- C. Write a custom text box control to validate the input of the user.
- D. Replace all current TextBox controls that are used for phone number input with MaskedTextBox controls.

Answer: D