



June 05, 2006

INFORMATION TECHNOLOGY MANAGEMENT, AUDIT AND CONTROL

(MARKS 100)
(3 hours)

Q. 1 Express Bank is a commercial bank operating throughout the country. The bank has a network of 150 retail branches, which offer various services to its clients. Operational performance of the bank has been reasonably satisfactory however potential for improvement exists. Recently, the President of the bank has been replaced and a seasoned banker with international experience has taken over. The new President is very much impressed by the technology infrastructure of the bank and believes that it can be leveraged to increase business as well as profitability. He also wants to develop alternative delivery channels of the bank to reduce reliance on branches. One way of achieving this objective has been identified as implementation of B2C strategy by offering Internet banking services to the clients. The President believes that this strategy would dramatically expand the customer base, increase bank's reach and ultimately improve the bottom line.

Your are required to:

- (a) Briefly explain B2C strategy in the context of Internet banking. **(02)**
- (b) Identify the main differences between conventional and Internet banking? **(03)**
- (c) Identify four major risks that are associated with Internet banking? Specify at least one control to mitigate each type of risk. **(08)**

Q. 2 Alsarif is a large consumer goods company and has recently implemented a centralized data processing system. Previously it had a decentralized system with data processing departments in various cities. These were managed by the company's own staff. However, following implementation of the new system, its technology profile has changed significantly and its present staff is unable to manage the critical, centralized data center operations. The finance director, who was actively involved in the implementation of the new system, has suggested outsourcing the daily operations of the data centers. However, the management has some reservations against outsourcing and therefore, asked him to make a presentation covering the following:

- (a) Brief explanation of 'outsourcing' in the context of IT and major benefits which Alsarif may gain by outsourcing its IT operations. **(05)**
- (b) The measures that should be taken by Alsarif prior to entering into an outsourcing relationship, to ensure its success. **(06)**

Q.3 BizCorp is a leasing company primarily engaged in leasing of automobiles. The company has various branches throughout the country. The company's operations have been automated from day one, however till a few months back, each branch was operating its own stand-alone server based application, written in COBOL language. The company has recently migrated to a new client server solution. While many of the benefits of the new system implementation are being realized, a general pattern of weak internal controls is emerging. The end-users are blaming everything on the new system, with frequent complaints that the processing is all wrong and that the daily output reports and audit trails are not being received by them regularly.

Keeping the above scenario in view, you are required to:

- (a) Describe at least five processing controls to ensure data integrity, completeness and accuracy. **(05)**
- (b) Describe at least five output controls to provide assurance that data delivered to users will be presented in a consistent and secure manner. **(05)**

Q.4 You are working as a senior manager in an IS consulting firm. You have recently been assigned the task of conducting a security audit of an insurance company. The company is using a centralized back-office system, based in its head office. The central server is connected to the front-end client applications implemented in all 40 branches of the company, which are spread across the country. For ease of use each branch has been assigned one user ID, based on the name of the branch. The ID is used by all staff of the respective branch to login and work on the system. The application has a password security feature, however in view of users' requests, they have been allowed to use their ID as their password. Mandatory change of passwords is not required. The back-office application was developed 15 years ago by the company's in-house software developer. In view of urgency of the task at that time, no user, technical or system documentation of the application was prepared. The application is amended frequently in view of changing needs. The senior developer amends the application on the live server, during holidays or after office hours. Due to operational requirements, the company needs to download daily foreign exchange rates from one of the Internet sites and upload the rates on the back-office application. For this purpose, the live server is connected to the Internet through a dial-up modem. The IT manager of the company has heard about Internet security threats and plans to learn more about firewalls for their possible deployment, as presently the company is using none of these. The end-users have also been provided Internet-access on their network connected PCs through dial-up modems. The company is planning to formulate a disaster recovery plan however, presently there is no such plan or arrangement. Data back-up of the main server is taken on DAT cartridges on daily basis, which are kept within the server room.

You are required to describe at least six risks and the consequences thereof, in the above noted set-up. Specify controls which need to be implemented to mitigate these risks. **(12)**

Q. 5 Implementation of an Enterprise Resource Planning (ERP) package is one of the most comprehensive, capital intensive IT expenditures that a company can make. The ERP solutions seek to streamline and integrate operational processes and information flows in the company to synergize the resources of an organization. From the cost/benefit point of view, the decision to acquire an ERP is not a simple one. The acquisition cost of an ERP package does not reflect total cost of its ownership. Several not-so-obvious costs need to be considered prior to making a decision.

You are required to:

- (a) List at least six sub-systems of a typical ERP package. **(03)**
- (b) Explain the benefits an organization can achieve through implementation of an ERP package. **(05)**
- (c) List at least six types of costs that are associated with ERP implementation but are commonly ignored at the time of evaluation. **(03)**

Q. 6 In this era of Information technology, there exists an apparent need for a reference framework for security and control in IT. Organizations with growing business needs are becoming increasingly dependent on IT and as a consequence they require an appreciation for and a basic understanding of the risks and constraints of IT at all levels within the enterprise in order to achieve effective direction and adequate controls. A modern day's management has to take frequent decisions such as, what and how much to invest for security and control in IT and how to balance risk and control investment in an often unpredictable IT environment. It is pertinent to note that while information systems security and control help manage risks, they do not eliminate them. Moreover, the exact level of risk can never be ascertained with reasonable certainty as there always remains certain degree of uncertainty which can not be mitigated by any sort of controls and as a consequence, the management must decide on the level of risk it is willing to accept keeping in view the cost required to implement such controls.

COBIT, being a framework of overall IT governance and control, is a solution to such problems.

You are required to:

- (a) List down three different audience of COBIT and briefly describe as to how it helps them. **(03)**
- (b) Briefly describe four domains of high level classification of control objectives, as identified by COBIT. **(06)**

Q. 7 You are the finance manager of a medium sized manufacturing company, whose internal audit department in its last report, has identified a number of problems which are mainly due to the delay in information processing on part of IT users. The internal audit has particularly emphasized that adequate guidance and

assistance is not available to the IT users in general. Consequently, at times, IT related functions are suspended on the users' part, due to minor issues related to applications and software resulting in delays in data processing.

You have discussed this issue with the IT manager of the Company who feels that he and his department are very much over burdened and it is not possible for them to arrange detailed training programs and schemes for the whole organization on an ongoing basis. Similarly, he feels that most of the issues are not communicated to the IT department on a timely basis because of absence of a formal channel of communication. Moreover, it is generally not possible for them to deal with each and every minor problem on a timely basis because of their prescheduled assignments. He is further of the view that a number of such issues can be dealt by the users themselves. Nevertheless, he has proposed that if the management agrees, his department will be willing to establish a "Help Desk" which he feels, can considerably minimize such issues. You now wish to submit a plan to the management regarding establishment of a Help Desk within the organization.

In this respect, you are required to:

- (a) Define a 'Help Desk' and list some typical help desk functions in the context of IT service and delivery. **(04)**
- (b) Describe common strategies for a help desk that should be adopted for its effective and efficient functioning. **(05)**

Q. 8 You are audit manager of a medium-sized audit firm associated with an international firm of accountants. Last year, your firm was subject to a review for quality control of audit work by certain representatives of this international firm. Although the overall rating of the audit quality was satisfactory, the review was concluded with a remark of excessive time consumed. The prime cause behind such time wastage was diagnosed to be over reliance on manual work. Accordingly, it was suggested that computer assisted audit techniques (CAATs) should be used in order to increase the effectiveness and efficiency of audit work. Besides other forms of CAATs, it was proposed that generalized audit software may be put into use to achieve the said objectives.

Partner in-charge of audit and related services has asked you to submit a report on the common functions that generalized audit software performs and the pros and cons of using such software.

Accordingly, you are required to list:

- (a) The common functions performed by generalized audit software. **(04)**
- (b) The advantages of using generalized audit software. **(03)**
- (c) The limitations of using such software. **(03)**

Q. 9 You are working as chief financial officer of a medium sized pharmaceutical company. Presently, you are in the process of finalizing the budget for the coming year. You have noted a significant increase in the capital expenditure request from the IT department. The IT head of the organization has recently left the organization and now a young computer science graduate is working as the IT head. You have noted that the young guy is a bit excited as he has reached this position in the initial years of his professional career and has lodged huge capital expenditure requests for replacement of almost all of the old hardware facilities along with requests for enhancements in networking capabilities.

You have discussed this matter with the chief executive of the company, who personally is very much impressed with the capabilities and enthusiasm of the young guy and does not want to hurt him by disallowing any such capital expenditure request. He has asked you to deal it at your own, after due consideration of the associated costs and benefits. Moreover, he has advised you to ask the IT department to perform a formal capacity planning in order to support the capital expenditure requests they have raised.

In this respect, you are required to:

- (a) Identify the goals of capacity planning. **(02)**
- (b) List down at least four different units of measurement that are generally used for the purpose of calculation of different aspects of information systems capacity. **(02)**
- (c) Briefly describe any two methods of capacity planning. **(04)**

Q.10 You are presently working as manager finance of a stock brokerage house. The IT manager of the company has recently left the organization and now you are entrusted with the additional responsibilities of looking after the IT department. Before leaving, the IT manager had initiated a proposal for increase in security, particularly, in view of the fact that the management had recently decided to allow the premier customers of the organization to carry out transactions directly through online terminals to be provided within the company's office premises. In this respect, he had proposed a complete plan for enhanced security parameters to be enabled in the system.

You are now requested by the top management to evaluate and finalize the proposals earlier submitted by him. In this respect, you are required to:

- (a) Briefly describe the three basic approaches that are used to verify a person's identity. Which of these approaches provides the greatest level of security and how? **(05)**
- (b) List any four types of biometric solutions used for information security. **(02)**

(THE END)