THE INSTITUTE OF CHARTERED ACCOUNTANTS OF PAKISTAN

Final Examinations   Winter 2003

December 04, 2003

| Information Technology Management, Audit and Control | (MARKS 100) |
| Module F | (3 hours) |

Q.1   Consider the personal identification numbers (PINs) that many financial institutions use to control customer access to accounts - for example, withdrawal of funds by customers from their accounts using automatic teller machines (ATMs).

Required:

(a)   List major functions you can identify that must be performed if PINs are to be an effective control to prevent unauthorized access to an account. **(03)**

(b)   Explain briefly, why all these functions must be considered as a system if PINs are to operate as an effective control. **(03)**

(c)   If it is required to conduct an audit in this scenario, explain how the system should work and what would be the major checks in auditing through computers. **(04)**

Q.2   Vision Manufacturing is a large diversified manufacturing company. Products range from the production of cloth to preparation of garments. They act as manufacturers, wholesale dealers as well as distributors. They rely highly on their computer systems for such functions as production control, materials requirement planning, bill of materials, sales forecasting, order entry, inventory control, distribution details, revenue management etc. For this purpose they have several data management units connected to a central unit. Central unit is responsible to maintain backups from all the data management units and keep the overall record of the resource utilization activities of the company. All the company departments, for example, top management or auditing department can access the data maintained by the central unit as required. Central unit comprises of different human resources including a data administrator, a database administrator and a supervisor above both of them.

Required:

(a)   Define the role and responsibilities of Data Administrator and Database Administrator according to the different functionalities performed on the data. **(04)**

(b)   The auditing department needs to audit the financial flows of the company for the last six months. How can the Data Administrator and Database Administrator help the auditors in conducting the audit successfully? **(03)**

(c)   In order to make the central unit highly efficient, characterize the data repository system they should use. Mention any risks or problems associated with them and state the solution if possible. **(03)**

Q.3   Motivators is a network devised by a group of individuals to provide quality education nation wide. They have their main campus in the capital and branches all over Pakistan.

They educate people from different domain. They customize courses and de... course plans for the targeted audience and arrange the training sessions accord... order to run such an organization working on a large scale they have their infor... and computer systems for marketing, communication, record maintenance a... financials. A very large central information system management department at head... office connected to several other nationwide branches. Computers are connected through LANs and WANs. Subsidiary departments can request for any required information to the main branch and upon getting the authorization, they can access the desired information.

Required:

(a) In your opinion, what should be the security management hierarchy of these organizations information systems department? **(02)**

(b) List different security threats to these organizations data management centers **(03)**

(c) Suppose a subsidiary information system department of Motivators meets a disaster due to energy variations resulting in fire, destroying half of the department completely. Devise a disaster recovery plan and also include insurance options. **(05)**

(d) Prepare a backup plan to avoid data losses occurring due to similar disaster in future. **(05)**

Q.4 Compare the two techniques of auditing in the computerized environment viz. 'Auditing around the computer' and 'Auditing through the computer' and discuss risks involved, benefit, reliability and ease of implementation. **(05)**

Q.5 Discuss the probable reasons for the quality assurance functions required in information systems functions? How should these resources be trained and how can this training be beneficial for the effectiveness and high productivity of a company? **(05)**

Q.6 (a) Why selection of a system development approach is an important business decision? Name three system development approaches/methodologies. **(05)**

(b) What factors support the decision to outsource Information system? What are the risks involved in outsourcing new technology projects? **(05)**

(c) Global Railways needs to computerize its following organizational systems:
   (i)   Payroll
   (ii)   Technical analysis
   (iii)   Cafeteria/eating stalls
   (iv)   Ticket reservation

   Which of the above system is the best candidate for outsourcing? List the above in order of preference of their outsourcing candidacy; give reasons to support your selection. **(05)**

Q.7 "A Computer system adds significantly to the probability of errors, fraud and destruction of data and information". Comment. **(05)**

Q.8 An Auditor may decide to use source code review if he/she concludes that inferences about quality of program code based on program's input and output are not enough. Source-code review can be time consuming, hence used only if necessary. What risk

Q.9 It has been eighteen (18) months since a manufacturing enterprise has in___
an ERP. An ERP provides many opportunities to increase efficiency, inclu___
opportunity to automate control procedures that may previously have been perfo___
manually. You are conducting a review of the operations and you find that the syst___
has not been very stable, and a post implementation review has not been carried out
as yet.

(a) While reviewing access related controls, you noted the following:
  i) The default login parameters/settings of the application had not been changed
  ii) Minimum password length required is three characters
  iii) Users will not be logged out from the system even after a long period of inactivity.
  iv) The system automatically removes user lock at midnight of the same day.

Required:
List down at least one risk/implication for each of the above findings.
What would be your recommendations? **(08)**

(b) You have also identified certain instances where business process controls were not being performed efficiently. For example:

  i) Even though invoices had been matched to an authorised purchase order, users were still performing a manual authorisation of the invoice.
  ii) While the system generates Material Requirements Reports, the same report is still authenticated manually.
  iii) The system provides the management with the opportunity to control the movement of parts through the assembly line. However, the management still uses manually prepared reports to control movement of products over the assembly line.

Required:
What are the disadvantages in the above approach and give your recommendations for improvement. **(10)**

Q.10 You are conducting an IT audit of a medium-sized organization that has a production facility as well as warehousing, sales and distribution functions. Recently a major system change has taken place, and an integrated software solution has been implemented. Initially the IT Manager confirmed to you that a post-implementation review had been conducted but since you did not find any documentation pertaining to the review, you enquired about it from him. To your great surprise, the manager tells you that "The implementation review comprised of discussions with users about problems faced by them in using the system. Since the problems identified so far have been resolved, the implementation has been declared a success. No documentation of the discussion has been maintained."

Required:
(a) What is your professional opinion about the response of the IT Manager? **(02)**
(b) Do you agree with the methodology adopted to conduct the post implementation review? Give reasons for your response. **(05)**
(c) Suggest a model post implementation plan to the IT Manager. **(05)**