

UNIVERSITY OF SWAZILAND

DEPARTMENT OF BUSINESS ADMINISTRATION

MAIN EXAMINATION PAPER

DECEMBER, 2014

TITLE OF PAPER : INTRODUCTION TO BUSINESS COMPUTING

COURSE CODE : BA 112 IDE / IDE

TIME ALLOWED : THREE (3) HOURS

- INSTRUCTIONS:**
- 1. THE NUMBER OF QUESTIONS IN THIS PAPER = FIVE (5)**
 - 2. SECTION A IS COMPULSORY.**
 - 3. ANSWER ANY THREE (3) QUESTIONS IN SECTION B**
 - 4. THE MARKS TO BE AWARDED FOR EACH QUESTION ARE INDICATED ALONGSIDE THE QUESTION.**

NOTE: MARKS WILL BE AWARDED FOR GOOD COMMUNICATION IN ENGLISH, AS WELL AS FOR ORDERLY AND NEAT PRESENTATION OF WORK. FURTHER MARKS WILL BE AWARDED FOR USE OF RELEVANT EXAMPLES.

SPECIAL REQUIREMENTS: NONE

THIS PAPER IS NOT TO BE OPENED UNTIL PERMISSION HAS BEEN GRANTED BY THE INVIGILATOR.

SECTION A

Las Vegas Casinos Cover Their Bets with Highly Reliable Computers

Las Vegas casinos have mastered the art of gathering and using detailed customer information. They are especially interested in the data captured when guests use their loyalty cards—cards the casinos issue to frequent customers. A wealth of data is captured when players swipe their loyalty card at a table game or slot machine—how long they play, how much they win or lose, even what their betting strategy might be. The casino can compare recent statistics with previous visits and provide real-time hints to employees about how to treat a given customer based on how much earnings the guest may generate for the hotel and casino.

As they use their loyalty card to gamble, see shows, eat, or shop, guests are also racking up points that they can redeem for prizes, such as golf clubs, free hotel rooms, or tickets to popular shows. The Las Vegas casinos have perfected the art of providing complimentary items to encourage guests to return or spend more money. In 2000, the MGM Mirage gave out \$286 million in such gifts while visitors spent \$3.5 billion at its 10 properties. Harrah's has found such data to be so useful that it hasn't deleted any of the information it has gathered since 1995 on 23 million guests.

The casinos and hotels are always open. On the day that President Bush asked Americans to observe a national day of mourning, all the Las Vegas casinos owned by the giant MGM Mirage shut down their tables for one minute of silence. That brief moment on September 14 was the only time that action in Las Vegas casinos stopped entirely. Continuous computer availability is an absolute requirement in this 24 x 7 x 365 industry. Even brief downtime for hardware maintenance or data backup can disrupt operations and cause disgruntled guests to leave for another casino—resulting in the loss of millions of dollars.

Casinos employ highly reliable computers that guarantee constant uptime. Disk mirroring or replicating data is commonly used to prevent downtime or data loss. Backup tapes are created each day and go out in armored trucks to a facility unknown to the casino and managed by a company that doesn't give its name out.

Some casinos completely mirror their main computers so that if one fails for any reason, its twin will be able to take over without skipping a beat. For example, the Venetian uses two IBM iSeries 830-2320 computers in a mirrored configuration. Identical software is installed on each computer to run the hotel, casino, and slots plus support administrative functions such as reservations, finance, payroll, and time and attendance applications. As soon as a transaction has been processed on the primary system, it is passed to the backup system to be processed again, keeping the backup system in sync with the primary system. The goal is for the primary and backup systems to contain the same information. All of this duplication is expensive—each of the computers and its associated software costs several hundred thousand dollars.

Some casinos plan to add advanced storage area networks (SANs) to their hardware mix. The MGM Mirage is working with Dell Computer to install more flexible SANs so that all information systems can be switched to an alternate computer when the primary computer must be upgraded or brought down for maintenance. The goal is to allow the secondary computer to take over instantly and continue to update the SAN. Now, the SAN must come down during computer upgrades, and some data is lost.

Questions:

1. Which of the three approaches to data protection do you think is most cost effective for a large casino such as the MGM Grand—disk mirroring, computer mirroring, or the use of a SAN? Why?
20 marks
2. Why would a casino wish to keep secret the name of its data backup service provider as well as the location of the data backup facility?
20 marks

Sources: adapted from Martin J. Garvey, "Casino CIOs Put Their Chips on IBM's Eserver Iseries,"

SECTION B

Question 2

Discuss the following

- i Operating system software
- ii Communication software
- iii Systems utility software

20 marks

Question 3

Discuss the benefits and limitations of databases

20 marks

Question 4

Discuss any five reasons for implementing networks

20 marks

Question 5

Discuss the four network typologies

20 marks