

**PGDM, 2019-21**  
**Information System Mgmt. for Business**  
**DM-105**

**Trimester – I, End-Term Examination: September 2019**

Time allowed: 2 Hrs 30 Min

Max Marks: 50

Roll No: \_\_\_\_\_

**Instruction:** Students are required to write Roll No on every page of the question paper, writing anything except the Roll No will be treated as **Unfair Means**. All other instructions on the reverse of Admit Card should be followed meticulously.

Sections	No. of Questions to attempt	Marks	Total Marks
A	Attempt 1 long question (from internal choices given in question 1)	1*10	10
	AND	AND	
	Attempt 4 short questions (from internal choices given in question 2 to 5)	4*5	20
B	Compulsory Case Study	20	20
			<b>50</b>

**SECTION-A**

**Long Answers – 1X10 marks**

**1A.** Emerson process management, a global supplier of measurement, analytical and monitoring instruments and services based in Austin, Texas, had a new data warehouse designed for analysing customer activity to improve service and marketing. However, the data warehouse was full of inaccurate and redundant data. The data in the warehouse came from numerous transaction processing systems in Europe, Asia and other locations around the world. The team that designed the warehouse had assumed that sales groups in all these areas enter customer names and addresses the same way. In fact, companies in different countries were using multiple ways of quote, billing, shipping and other data. Assess the potential business impact of these data quality problems. What decisions have to be made and steps taken to reach a resolution? (CILO-2)

**OR**

**1B.** How has Internet transformed following business domains:

- a. Travel & Tourism
- b. Education
- c. Retail

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- d. Entertainment
- e. Banking & Insurance

Express your views with suitable examples. (CILO-2)

### Short Answers - 4X5 marks

**2A.** What are the management, organization and technology components of an information system? (CILO-1)

OR

**2B.** What are business processes? How are they related to information systems? (CILO-1)

**3A.** Supply chain management is less about managing the physical movement of goods and more about managing information. Discuss the implications of this statement. (CILO-2)

OR

**3B.** It has been said that there is no bad data, just bad management. Discuss the implications of this statement. (CILO-2)

**4A.** How do supply chain management systems coordinate planning, production, and logistics with suppliers? (CILO-2)

OR

**4B.** If personalizing a customer's website experience is a key success factor, then electronic profiling processes to track visitor website behaviour are necessary. Do you agree or disagree with this statement? Explain your position. (CILO-2)

**5A.** Explain how social networking and the "wisdom of crowds" help companies improve their marketing. (CILO-2)

OR

**5B.** Should the producers of software based services, such as ATMs, be held liable for economic injuries suffered when their system fail? (CILO-2)



## SECTION-B

### Compulsory Case Study – 20 Marks

#### Providence Health Systems and Others: Challenges of IT Security Management

Heightened concerns about cyber terrorism and the increasing need to open internal networks to outside access are pushing corporations to bolster network and data center security, on both the IT front and physically. The goal is to add multiple layers of protection and redundancy around the data center and its hardware, software, databases, and network links, while still maintaining the levels of service demanded by the business. On the physical side, companies are boosting their business continuity and disaster recovery capabilities by buying and building redundant hardware and facilities or paying for such services, and geographically separating their IT assets. The technology effort, meanwhile, is focused on supplementing traditional network firewall protection with newer intrusion monitors, access control tools, and tougher IT usage policies.

The need for such protection is being driven by both the increasing threat of cybercrimes and the growing use of the Internet to link companies with partners and customers, says David Rymal, director of technology at Providence Health Systems ([www.providence.org](http://www.providence.org)) in Everett, Washington. "There is an increasing pressure to enable wide and unfettered access from our business units. We are getting so many requests to open up ports in our firewall that pretty soon it is going to look like Swiss cheese," Rymal says. "The more of them you have open, the more vulnerabilities you create." The whole notion of "Web services," under which companies will use common Web protocols to link their business systems with those of external partners and suppliers, is only going to increase the need for better security, users say. Adding to the pressures is the growing number of remote workers and the trend toward wireless applications. This has meant finding better ways of identifying and authenticating users and controlling the access they have on the network.

"You have to keep in mind that the minute you open your servers or services to the Internet, you are going to have bad people trying to get in," says Edward Rabbinovitch, vice president of global networks and infrastructure operations at Cervalis Inc. ([www.cervalis.com](http://www.cervalis.com)), a Stamford, Connecticut-based Internet hosting service. Companies are also building "air gaps" between their outside-facing applications and back-end data. Providence Health, for instance, doesn't permit external Internet connections or wireless access to terminate on any internal machine. It's far safer to end such connections outside the firewall and then screen all external requests through secure network services, Rymal says.

Antivirus and e-mail filtering tools are being supplemented in many companies with new measures aimed at reducing the risk of attack via e-mail. "E-mail, to me, is always the weakest link, because you are open to just about anything and everything that comes over the Web," says George Gualda, CIO at Link Staffing Services Inc. ([www.linkstaffing.com](http://www.linkstaffing.com)) in Houston. Link prohibits attachments of certain types and sizes on its network. All Internet-based chatting is banned, and users aren't allowed to download and install software. Scripting functions are disabled to prevent unauthorized

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scripts from wreaking havoc, says Gualda. Link Staffing uses a secure virtual private network (VPN) service from Open Reach Inc. to connect its 45 remote sites. The OpenReach VPN provides firewall and encryption services, but Link placed an extra firewall in front of the VP anyway.

While it's impossible to guarantee 100 percent security, companies should make things as difficult as possible for out- siders or insiders to steal or damage IT assets, IT managers say. Cervalis' security, for instance, begins at its ingress points-where the Internet meets its networks. The company uses strict port control and management on all of its Internet-facing routers to ensure that open ports don't pro- vide easy access for malicious attackers. Redundant, load balanced firewalls that are sandwiched between two layers of content switches filter all traffic coming in from the Internet. Network-based intrusion-detection systems are sprinkled throughout the Cervalis network.

Augmenting physical and electronic security measures with IT security policies that are clearly articulated and en- forced is also crucial, Gualda says. Link Staffing has a tough IT usage policy that employees must abide by. Failure to comply can result in termination, says Gualda, who has fired two employees for this reason in the past. To enforce the policy, the company uses monitoring and auditing tools to inventory employee computer usage.

Securing operations also means auditing IT security by regularly going through a checklist of maintenance items, IT managers say. Periodic reviews and external audits are also needed to ensure that there is adequate security. "There is never going to be a 100% security solution; there is always a theoretical way for someone to wind their way through," Rabbinovitch of Cervalis says. "The task, therefore, is to make it as challenging as possible for the hacker."

### **Case Study Questions (4x5 marks)**

(CILO-3)

**B1.** Why is there a growing need for IT security defenses and management in business?

**B2.** What challenges does this pose to effective IT security.management?

**B3.** What IT security defenses companies are using to meet these challenges? Use each of the companies in this case as an example.

**B4.** Do you agree with the IT usage policies of Link Staffing and the security audit policies of Cervalis? Why or why not?