

INTERNET AND OTHER TECHNOLOGIES

Question 1

- (a) Describe briefly, the following terms: (1 Mark Each)
- (i) URL (PCC-May 2007)
- (b) Explain each of the following: (1 Mark Each)
- (i) Web Casting (PCC-Nov 2007)
 - (ii) Firewall (PCC-May 2008)

Answer

- (a) (i) Uniform Resource Locators (URL): are used to address and access individual web pages and internet resources. The format of URL is protocol / internet address / web page address.
- (b) (i) Web Casting: It is a web based technology, which allows users to passively receive broadcast information rather than actively search the web for information. It allows users to choose from a menu of sources, specifying what kind of information is needed. Once selected, the information is automatically forwarded to the user e.g. Internet news services.
- (ii) Firewalls: Firewall is a device that forms a barrier between a secure and an open environment when the latter environment is usually considered hostile. Generally, it is used to control the flow of traffic between the Internet and an organisation's LAN. It enforces security policies to protect the organisation's internal resources from unwanted intrusion.

Question 2

Write short notes on the following:

- (i) Intranet (5 Marks)(PCC-Nov 2007)

Answer

Intranet: The Intranet is a type of information system that facilitates communication within the organization, among widely dispersed departments, divisions and regional locations. Intranets connect people together with Internet technology using the Web Browsers, Web Servers and Data warehouses in a single view. With an Intranet, access to all information, applications and data can be made available through the same

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browser. The objective is to organize each individual's desktop with minimal cost, time and effort to be more productive, cost-efficient, timely and competitive.

Some of the key benefits of using Intranet are:

- ◆ Reduced administrative costs – printing, paper, software distribution, mailing, order processing, telephone.
- ◆ Easier, faster access to information.
- ◆ Easier, faster access to remote locations.
- ◆ Latest, up-to-date research base.
- ◆ Easier access to customers and partners.
- ◆ Collaborative, group working.

Question 3

What is Supply Chain Management? Discuss the potential problems which can be addressed through supply chain management. (5 Marks)(PCC-Nov 2007)

Answer

Supply Chain Management (SCM): Supply Chain Management (SCM) is the process of planning, implementing and controlling the operations of the supply chain with the purpose to satisfy customer requirements as efficiently as possible. It spans all movement and storage of raw materials, work-in-process inventory, and finished goods from point-of-origin to point-of-consumption.

A SCM must address the following problems:

- (i) Distribution Network Configuration: Number and location of suppliers, production facilities, distribution centres, warehouse and customers.
- (ii) Distribution Strategy: Centralised versus decentralized, direct shipment, cross docking, pull or push strategies, third party logistics.
- (iii) Information: Integrate systems and processes through the supply chain to share valuable information including demand signals, forecasts, inventory and transportation.
- (iv) Inventory Management: Quantity and location of inventory including raw materials, work-in-process and finished goods.

Question 4

Write short notes on the following:

- (i) Bullwhip effect in Supply Chain Management. (5 Marks) (PCC-May 2008)

Answer

- (i) Bullwhip Effect in Supply Chain Management: The Bullwhip Effect or Whiplash Effect is an observed phenomenon in forecast driven distribution channels. Because customer demand is rarely perfectly stable, business must forecast demand in order to properly position inventory and other resources. Because of forecast errors, companies often

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carry an inventory buffer called safety stock. Moving up the supply chain from end consumer to raw materials supplier, each supply chain participant has greater observed variations in demand and thus greater need for safety stock. In periods of rising demand, down stream participants will increase their orders. In periods of falling demand, orders will fall in order to reduce inventory. The effect is that variations are amplified the farther you get from the end-consumer. Supply chain experts call it as Bullwhip effect. The following factors contribute to the Bullwhip Effect:

- (i) Forecast Errors
- (ii) Lead Time Variability
- (iii) Batch Ordering
- (iv) Price Fluctuations
- (v) Product Promotions
- (vi) Inflated Orders
- (vii) Methods intended to reduce uncertainty, variability and lead time
- (viii) Vendor Managed Inventory (VMI)
- (ix) Just In Time replenishment (JIT)
- (x) Strategic Partnership (SP)

Question 5

Explain Electronic Data Interchange and its advantages.

(5 Marks) (PCC-May 2007, Nov 2008 & Nov 2009)

Answer

Electronic Data Interchange (EDI) : EDI is the transmission, in a standard syntax, of unambiguous information of business or strategic significance between computers of independent organizations. Or simply, EDI is computer-to-computer communication using a standard data format to exchange business information electronically between independent organizations.

Advantages of Electronic Data Interchange (EDI) are as stated below :

- (i) Issue and receive orders faster - Since most purchasing transactions are routine, they can be handled automatically, utilizing the staff for more demanding and less routine tasks.
- (ii) Make sales more easily - Quotes, estimates, order entry and invoicing will proceed more smoothly and efficiently. Orders received electronically ensure that information is available immediately, so that an organization can respond faster and be more competitive.
- (iii) Get paid sooner - Invoices received electronically can be reconciled automatically, which means they are earmarked for fast payment. In turn, the purchase department is in a position to negotiate for better terms including faster payments.

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- (iv) Minimize capital tied up in inventory - For manufacturing organization with a just-in-time strategy, the right balance is crucial, but every organization stands to benefit from reducing order lead times.
- (v) Reduce letters and memos - Letters and memos do not follow rigid rules for formatting. They can be handled by an electronic mail system.
- (vi) Decrease enquiries - Customers or suppliers can make direct on-line enquiries on product availability, or other non-sensitive information instead of consuming the staff's precious time.
- (vii) Make bulk updates of catalogues and parts listings - One can provide updates of data files, such as catalogues to customers or part listings to franchisees.

Question 6

What do you understand by the term EFT? Describe, in brief, the different EFT systems in operations. (5 Marks)(PCC-June 2009)

Answer

EFT stands for "Electronic Funds Transfer" and represents the way the business can receive direct deposit of all payments from the financial institution to the company bank account. This payment mechanism moves money between accounts in a fast, paperless way. The different EFT systems in operation are as follows:

- (i) Automated Teller Machines (ATMs): This allow the consumer to do their banking without assistance of a human teller. These machines are used with a debit or EFT card and a code, which is often called a Personal Identification Number or "PIN."
- (ii) Point-of-Sale (POS) Transactions: Some debit or EFT cards allow transfer of funds electronically from the consumer's account to the merchant's account while shopping.
- (iii) Telephone Transfers: Consumer can transfer funds from one account to another account by telephonic instructions.
- (iv) Preauthorized Transfers: The account holder authorizes the bank or a third party to withdraw or deposit the funds from or into his account.

Question 7

Write short notes on the following:

- (i) Bluetooth (5 Marks) (PCC-May 2007)

Answer

- (i) Bluetooth: Bluetooth is a specification that describes how mobile phones, computers and personal digital assistants (PDA) can be easily interconnected using a short range wireless connections. Using this technology, user of cell phone and PDA can get quickly synchronized with information in desktop or notebook, initiate the sending or receiving of a fax, initiate a print out or in general, have a total coordination between these devices.

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Bluetooth requires that a low cost transceiver chip be included in each device. The transceiver transmits and receives in a frequency band of 2.45 GHz that is available globally. In addition to data, upto three voice channels are available. Each device has a unique 48 bit address from the IEE 802 standard. Connection can be point-to-point or multipoint. The maximum range is 10 meters. Data can be exchanged at a rate of 1Mbps. Built-in encryption and verification module is provided. A frequency hop scheme allows devices to communicate even in areas with great deal of electromagnetic interference.