

**PART I –Multiple Choice (50 Marks)**

1) The basic premise of Moore's law is

- a. IT makes people more efficient.
- b. the density of transistors on a computer chip doubles roughly every 20 months.
- c. people tend to want more information than they need.
- d. IT makes people more productive.
- e. computer memory is getting bigger.

Answer: b

2) Social Networking sites generate revenue through

- a. government subsidy.
- b. subscription fees.
- c. social networking sites do not generate revenue.
- d. advertising.
- e. corporate sponsorship.

Answer: d

3) Which of the following is an example of a social networking site?

- a. Youtube
- b. Yahoo.ca
- c. Facebook.com
- d. Wikipedia
- e. Google.ca

Answer: c

4) What is an Information System?

- a. An information system is a group of components that interact to produce information.
- b. Computer hardware and software.
- c. Software development process.
- d. A framework describing human computer interaction.
- e. An information gathering application.

Answer: a

5) Which of the following is an example of an output device?

- a. A mouse
- b. A set of headphones
- c. A scanner
- d. A computer keyboard
- e. A microphone

Answer: b

6) What of the following is not a function of the central processing unit?

- a. Stores results in memory
- b. Performs arithmetic and logical comparisons
- c. Stores data
- d. Performs calculations
- e. Selects instructions

Answer: c

7) As predicted by Moore's Law, the capacity of storage devices is \_\_\_\_\_ as the costs \_\_\_\_\_.

- a. decreasing; decrease
- b. increasing; increase
- c. decreasing; stay the same
- d. increasing; stay the same
- e. increasing; decrease

Answer: e

8) Bytes consist of \_\_\_\_\_ bits of memory.

- a. 2
- b. 12
- c. 8
- d. 4
- e. 6

Answer: c

9) Instructions move from main memory into the CPU via the (a)

- a. network card.
- b. memory chip.
- c. operating system.
- d. data channel.
- e. cache.

Answer: d

10) Which of the following is an example of an operating system?

- a. Glass Fish
- b. Java
- c. Unix
- d. Boot Camp
- e. VMware Fusion

Answer: c

11) Volatile memory means that

- a. such devices are fragile.
- b. such devices are susceptible to electromagnetic interference.
- c. these devices maintain their contents as soon as the content is added to them.
- d. the contents are lost once power is off.
- e. these devices are cheaper than non-volatile memory.

Answer: d

12) Software applications that provides capabilities common across all organizations and industries are called

- a. horizontal market applications.
- b. supply chain management applications.
- c. value chain management applications.
- d. enterprise resource planning applications.
- e. operating systems software.

Answer: a

13) Porter originally developed the five forces model to determine \_\_\_\_\_.

- A) the reason why certain industries collapse
- B) the means by which to improve industrial viability
- C) the nature of competitive industrial environments
- D) the potential profitability of an industry

Answer: D

14) Which of the following is an example of a competitive strategy employed by a firm?

- A) increasing the price of its product when raw material prices increase
- B) launching a unique product targeted at a section of consumers
- C) advertising its products nationwide like its competitor organizations
- D) laying off staff in order to cut down costs during a recession period

Answer: B

15) Which of the following is a process implementation principle of competitive advantage?

- A) establishing alliances
- B) enhancing a product
- C) differentiating a product
- D) creating a new product

Answer: A

16) Manufacturing systems that use linkages also use \_\_\_\_\_ to plan production.

- A) past reports
- B) sales forecasts
- C) software packages
- D) competitors' information

Answer: B

17) \_\_\_\_\_ includes general management, finance, accounting, legal, and government affairs.

- A) Operations management
- B) Human resources
- C) Firm infrastructure
- D) Research and development

Answer: C

18) Each stage of the value chain not only adds value to the product but also \_\_\_\_\_.

- A) devalues the final product
- B) accumulates costs
- C) attracts buyers
- D) attracts competitors

Answer: B

19) \_\_\_\_\_ are commonplace, routine, everyday business processes.

- A) Managerial processes
- B) Strategic processes
- C) Operational processes
- D) Transformational processes

Answer: C

20)

Which of the following is true about strategic processes?

- A) They are broad in scope and impact most of the firm.
- B) They rely more on computerized actors compared to other types of processes.
- C) They are concerned primarily with the use of resources.
- D) They are facilitated mainly by management information systems.

Answer: A

21) What are the three terms represented in the philosophy of SOA?

- A) encapsulation; standards; design
- B) standards; design; orientation
- C) service; encapsulation; standards
- D) orientation; standards; encapsulation

Answer: C

22) \_\_\_\_\_ refers to a condition that exists when data are isolated in separated information systems or when data are duplicated in various places.

- A) Information silos
- B) Data warehousing
- C) Encapsulation
- D) Metadata publishing

Answer: A

23) An ERP module is a(n) \_\_\_\_\_.

- A) inherent process in an ERP system
- B) distinct and logical grouping of processes
- C) collection of interconnected and interdependent programs
- D) preconfiguration platform devised for a particular industry

Answer: B

24) Which of the following challenges of implementing an ERP system is people-related?

- A) the approval of customer credit
- B) the failure to specify objectives for new processes
- C) the structure of the bill of material
- D) the order size

Answer: B

25) The customization of ERP software to meet different customer requirements without changing the program code is called \_\_\_\_\_.

- A) process blueprinting
- B) automation
- C) configuration
- D) modularity

Answer: C

26) A software consulting firm sends a formal document to its supplier, requesting for the delivery of 50 desktop computers. This is an example of a(n) \_\_\_\_\_.

- A) purchase order
- B) bill of materials
- C) receipt bill
- D) itemized bill

Answer: A

27. Students and classes have a \_\_\_\_ relationship.

- A) one-to-one
- B) one-to-many
- C) many-to-one
- D) many-to-many
- E) zero to many

Answer: D

28. Which of the following represents a data hierarchy from largest to smallest?

- A) field, record, file, database
- B) record, field, file, database
- C) record, field, database, file
- D) database, file, record, field
- E) byte, attribute, table, database

Answer: D

29. Which of the following types of software controls the primary functions of a computer system?

- A) Utility
- B) Drivers
- C) Application
- D) Network
- E) Operating system

Answer: E

30. The \_\_\_\_\_ you type into your browser can also be called a web address:

- A) HTTP
- B) HTML
- C) URL
- D) XML
- E) HTTPS

Answer: C

31. The internet uses:

- A) TCP/IP suite of packet switching protocols
- B) Number of routers connecting points throughout a worldwide backbone
- C) Proprietary set of rules
- D) A and B
- E) B and C

Answer: D

32. In the internet networks messages are divided into smaller units called \_\_\_\_\_ each of which contains a specific number of bits.

- A) parcels
- B) packs
- C) packets
- D) pings
- E) cookies

Answer: C

33. A(n) \_\_\_\_\_ is a device with the sole purpose of accepting packets and determining the best way to send them to the destination computer.

- A) hub
- B) bridge
- C) switch
- D) router
- E) mainframe

Answer: D

34. A \_\_\_\_\_ is placed in a computer to provide the physical connection between the computer and a local network.

- A) switch
- B) hub
- C) network interface card
- D) cable
- E) router

Answer: C

35) Social media \_\_\_\_\_ are the companies that operate the SM sites.

- A) application providers
- B) sponsors
- C) sectors
- D) outlets

Answer: A

36) Which of the following is true about Web 2.0 applications?

- A) They are designed for one-way communication.
- B) Their content is produced and controlled by site owners.
- C) They require product licenses.
- D) They are subject to frequent interface changes.

Answer: D

37) Which of the following is true of social networking problems?

- A) If the problematic content represents reasonable criticism of the organization's products, the best response is to delete it.
- B) Inappropriate contributions that contain obscene or otherwise inappropriate content should be ignored indefinitely.
- C) It is unnecessary to communicate the criticism to the product development team.
- D) Responses are best reserved for when the problematic content has caused the organization to do something positive as a result.

Answer: D

38) Which of the following is true of systems analysts?

- A) They are active mainly during the system conversion phase of the systems development process.
- B) They integrate the work of programmers, testers, and users.
- C) They focus on information systems development and lack knowledge on process design.
- D) They work primarily with business processes.

Answer: B

39) Which of the following is true of systems development?

- A) It has little need for human relations skills as tasks are performed by individuals, not groups.
- B) It is limited to the four domains of hardware, software, data, and procedures.
- C) It requires coordinated teamwork of both specialists and nonspecialists with business knowledge.
- D) It is exclusively a technical task undertaken by programmers and hardware specialists.

Answer: C

40) Which of the following is a disadvantage of building information systems before business processes?

- A) System requirements cannot be collected if systems are developed before business processes.
- B) Some aspects of business processes are unlikely to be considered when the system is constructed first.
- C) Organizations will lose focus on building hardware and software if information systems are built first.
- D) Organizations will lose focus on data procedures and training if information systems are developed first.

Answer: B

41) Information systems ethics is about

- a. people involved in the system.
- b. money involved in the system.
- c. software involved in the system.
- d. hardware involved in the system.
- e. PIPEDA.

Answer: a

42) The ongoing process which involves fitting IT architecture to business objective is called

- a. Sarbanes-Oxley Act.
- b. IT Strategy.
- c. alignment.
- d. Zachman Framework.
- e. governance.

Answer: c

43) In an ideal world, the information systems that a company uses would support the \_\_\_\_\_ of the company

- a. strategy
- b. information technology
- c. business ethics
- d. data collection
- e. online transaction processing

Answer: a

44) The Canadian legislation that is similar to the Sarbanes-Oxley Act in the US is the

- a. Budget Measures Act.
- b. Financial Regulations Act.
- c. Business Measures Act.
- d. Business Code Act.
- e. CSox Act.

Answer: a

45) Under Bill 198 both management and the \_\_\_\_\_ face criminal liability if internal controls are defective.

- a. planner
- b. designer
- c. employees
- d. external auditor
- e. president

Answer: d

46) Which of the following is the most important indicator of alignment?

- a. Return on investment in IT
- b. Investment level in IT
- c. Communication among IT executives
- d. Communication between IT and business executives
- e. Funding of IT

Answer: d

47) Most jobs in the ICT industry require a mix of \_\_\_\_\_ and technical skills.

- a. selling
- b. programming
- c. financial
- d. legal
- e. interpersonal

Answer: e

48) The \_\_\_\_\_ certification is recognized globally and has been earned by more than 90 000 professionals. Members have job titles like is auditor, consultant, IS security professional, regulator, chief information officer, and internal auditor.

- a. Certified Systems Auditor (CSA)
- b. COBIT Auditor
- c. Certified Auditor (CA)
- d. Systems Auditor (SA)
- e. Certified Information Systems Auditor (CISA)

Answer: e

49) COBIT stands for

- a. Common Observations for Information Technology.
- b. Control Objectives for Information and Related Technology.
- c. Common Objectives for Business Information Technology.
- d. Control Objectives for Information Technology.
- e. Control Objects for Information Technology.

Answer: b

50) The IT structure is like a

- a. city building.
- b. city plan.
- c. enterprise project.
- d. enterprise design.
- e. governmental design.

Answer: b

51) Alignment is not only about planning and building frameworks, but also about

- a. effectiveness in productivity.
- b. effectiveness in communication.
- c. efficiency in productivity.
- d. effectiveness in governance.
- e. efficiency in computing.

Answer: b

52) What is the role of the ISACA?

- a. Providing a set of tools and guidelines for whistleblowers
- b. Enforcing the law on corporate IT governance
- c. Providing a framework for best IT practices
- d. Enforcing the control of IT standards
- e. Developing knowledge and standards relating to IT audits and IS governance.

Answer: e

53) Moving downward in the Zachman framework provides a higher levels of

- a. outsourcing.
- b. feasibility.
- c. perspectives.
- d. detail.
- e. alignment.

Answer: d

54) Though it may seem obvious, one of the hardest things to do when planning how your organization will use information systems is to

- a. export applications to a Web platform.
- b. align IS with organizational strategy.
- c. outsource some of the functions.
- d. get quotes from vendors.
- e. develop the business strategy.

Answer: b

55) Which of the following is true regarding an incident-response plan?

- A) The plan should require minimal training on the part of employees.
- B) The plan should provide decentralized reporting of all security incidents.
- C) The plan should be simple enough to ensure a fast response with limited practice.
- D) The plan should identify critical personnel and their off-hours contact information.

Answer: D

56) Which of the following is a valid difference between a password and user name?

- A) A user name identifies the user whereas a password authenticates the user.
- B) A user name is more complex compared to a password.
- C) A user name is a primary authentication measure whereas a password is a secondary authentication measure.
- D) A password is used to encode information whereas a user name is used to decode information.

Answer: A

57) Which of the following is true about biometric authentication?

- A) It is less invasive than other methods of authentication.
- B) It uses personal physical characteristics for authentication.
- C) It uses a microchip loaded with identifying data to authenticate users.
- D) It provides weak authentication compared to other methods.

Answer: B

58) Which of the following is NOT an element of computer security?

- A) System owners should not have computer security responsibilities outside their own organizations.
- B) Computer security responsibilities and accountability should be made explicit.
- C) Computer security should be periodically reassessed.
- D) Computer security is constrained by societal factors.

Answer: A

59) A group of intruders accessed RK Bank's IP address and accepted payments on the bank's behalf. This attack is an example of \_\_\_\_\_.

- A) denial-of-service    B) sniffing
- C) spyware    D) spoofing

Answer: D

60) A malicious hacker flooded an online retailer's server with millions of bogus service requests. Due to this, the Web site's server was overloaded and the site was unable to service legitimate customer requests. This attack is an example of which of the following security threats?

- A) denial-of-service
- B) sniffing
- C) spoofing
- D) phishing

Answer: A

**PART II) Database problem (15 marks)**

The data model of a health centre is shown below. In this centre, a therapist admits a patient who requires a treatment. A patient might be treated by multiple therapists. Depending on their health problems, patients are always assigned to a room in a unit (e.g., chiropractic, physiotherapy, acupuncture, etc.). Each unit is located on a different floor and has many rooms. All rooms are private; that is, there is only one patient per room. Assume that a patient can be admitted only once to the centre.

Complete the following requirements in the data model below:

- a) Underline the Primary Keys; select them from the existing attributes or create them if necessary
- b) Create the Foreign Keys and draw a circle around them so that they are clear
- c) Create (draw) the correct relationships between the tables and show their cardinalities

Therapist
Therapist_ID
Name
Specialty
Date_of_Birth
Email

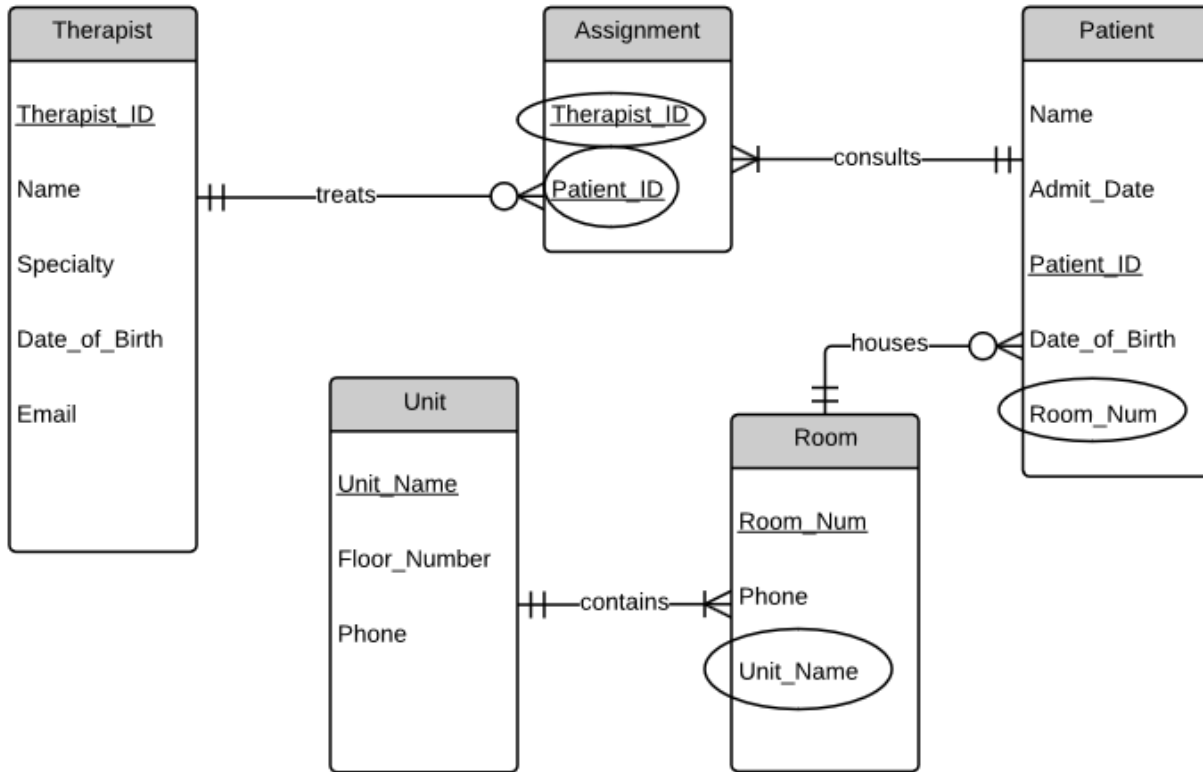
Assignment
------------

Patient
Name
Admit_Date
Patient_ID
Date_of_Birth

Unit
Unit_Name
Floor_Number
Phone

Room
Room_Num
Phone

Solution:



**PART III- Problem solving (35 marks)**

- Men R Us Limited (MRU) is a large men’s wear store with locations in Canada and the U.S. MRU has been in business for over 50 years, and has resisted the development of an online store, as it felt that its customers prefer to try on and buy their clothing, rather than purchase over the internet. Therefore, MRU has only a basic web site that provides information about store locations and the different lines of clothing that it offers. Recently, the number of telephone calls to MRU’s stores about prices has increased, as customers seem to be comparison shopping much more often than in the past. MRU now believes that an enhanced store presence online could increase its sales, because it could advertise its products and sell them online.. Accordingly, it has decided that it will have its web site upgraded to provide for secure shopping.MRU is considering several different development approaches in the development of its online store, and would like a further explanation of the advantages and disadvantages of these approaches before proceeding. In particular, it is considering outsourcing and the use of an application service provider.

**Required:**

- Describe the advantages and disadvantages to MRU of outsourcing the development of its online store. (5 marks)

Solution:

Advantages:

1. Easy way to gain expertise to develop online store
2. Cost reduction as programmers in other countries make less
3. Reduce development risk

Disadvantages:

1. Loss of Control of the project
2. Ending the contract might not be easy due to dependency with contracted company
3. Risk of change of price of the contractor

B) Describe the advantages and disadvantages to MRU of the use of an application service provider. (5 marks)

Solution:

Advantage:

- Cost reduction for supporting the application
- Reduces the cost of outsourcing
- There is no need to invest large amounts of capital to buy software and hardware to implement the website

Disadvantage:

The Client loses physical control over corporate data that is stored in the vendor's machine  
Potential risk for "lock in" of the ASP, not easy way to port data to a different ASP  
Potential problems with ownership of the data

2. The athletics director buys sports equipment from a supplier with a well-implemented ERP
  - a. What advantages are there for your school to buy from a supplier with an ERP system? (5 marks).

Answer:

The supplier's ERP may be able to integrate with your ERP to increase order efficiency and efficacy.

The supplier would potentially be able to automatically combine shipping for products ordered by different departments.

University status as a customer for negotiated discounts, prices, product customization, etc. would be known across the supplier's organization via the ERP.

- b. You might expect to see an advertising claim from that company like, "We can meet customer orders in 20 percent less time than the industry average." Create a list of two or three measures you would expect to hear from a supplier with an effective ERP system and two or three measures that an ERP system might not provide (5 marks).

Answer:

Some measures you might be able to see include:

1. Measures of order delivery time
2. Measures of inventory availability
3. Measures of order cost process savings
4. Measures of order fulfillment accuracy

Measures you might not expect to hear:

1. Measures of customer satisfaction
2. Measures of product quality
3. Measures of supplier “greenness”

3. Suppose you are a marketing assistant for a consumer electronics company and are in charge of setting up your company’s booth at tradeshow. Weeks before the shows, you meet with the marketing managers and determine what equipment they want to display. Then, you identify each of the components that need to be shipped and schedule a shipper to deliver them to the trade-show site. You then supervise convention personnel as they set up the booths and equipment. Once the show is over, you supervise the packing of the booth and all equipment, and schedule its shipment back to your home office. Once the equipment arrives, you check it into your warehouse to ensure that all pieces of the booth and all equipment are returned. If there are problems because of shipping damage or loss, you handle those problems. Your job is important; at a typical show you are responsible for more than a \$250,000 worth of equipment. (15 marks)

- a. You will need to track data about booth components, equipment, shippers, and shipments. List typical fields for each type of data (5 marks).

Answer:

BoothComponent

Component Number
Component Type
Description
Value

Equipment

Equipment Number
Equipment Type
Description
Value

Shipment

Shipment Number
Origin Location
Destination Location
Planned Ship Date
Required Arrival Date
Tracking Number
Shipper ID
Component Number
Equipment Number

Shipper

Shipper ID
Contact
Phone
Email
URL
Notes

- b. Could you use a spreadsheet to keep track of this data? What would be the advantages and disadvantages of doing so (3 marks)?

Answer:

A spreadsheet might be usable for this application. Spreadsheets are simple to set up and understand. However, a database is preferable here because it is easier to enter, edit, and view the data and to make corrections and updates. In this example, we are keeping track of four things—equipment, booth components, shipments, and shippers; and databases are better when the data involves more than one topic or theme. Spreadsheets work best when the data involves just one topic or theme.

- c. Which of the following components of a database application are you likely to need: data entry forms, reports, queries, or application program? Explain one use for each that you will need (3 marks).

Answer:

All components of a database application could be used here. For example, a form could be used for the entry of a new shipment. A report could be created that lists all equipment and components shipped for all shipments to a specific event. Queries could be used to find out the shipper used for particular shipments. An application program might be needed to handle shipments that are damaged in some way during the shipping process.

- d. Will your application be single-user or multi-user? Will you need a personal DBMS or an enterprise DBMS? If a personal DBMS, which product will you use? (4 marks)

Answer:

In this case, the application is probably single-user, serving the needs of the marketing assistant. A personal DBMS such as Access would be suitable for this situation.