



<b>FACULTY/COLLEGE</b>	College of Business and Economics
<b>SCHOOL</b>	School of Consumer Intelligence and Information Systems
<b>DEPARTMENT</b>	AIS
<b>CAMPUS(ES)</b>	APB
<b>MODULE NAME</b>	Information Systems 1B
<b>MODULE CODE</b>	ILS1B01
<b>SEMESTER</b>	Second
<b>ASSESSMENT OPPORTUNITY, MONTH AND YEAR</b>	Main Examination November, 2019

<b>ASSESSMENT DATE</b>	18 November 2019	<b>SESSION</b>	12:30 – 15:00
<b>ASSESSOR(S)</b>	Dr. G. Toko		
<b>MODERATOR(S)</b>	Mr. K. Nyandongo		
<b>DURATION</b>	2.30 hours	<b>TOTAL MARKS</b>	100

<b>NUMBER OF PAGES OF QUESTION PAPER (Including cover page)</b>	13
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#### INFORMATION/INSTRUCTIONS:

- This is a closed-book assessment.
- There are 4 sections
- Read the questions carefully and answer only what is required.
- Number your answers clearly and correctly as per the question paper.
- Write neatly and legibly on both sides of the paper in the answer book, starting on the first page.

## Section A: Multiple Choices

[50\*0.5]

*Indicate the answer choice that best completes the statement or answers the question.*

1. In object-oriented design, built-in processes called \_\_\_\_\_ can change an object's properties.
  - a. methods
  - b. functions
  - c. attributes
  - d. features
2. \_\_\_\_\_ technology uses radio frequency identification (RFID) tags to identify and monitor the movement of each individual product, from a factory floor to the retail checkout counter.
  - a. EPC (Electronic product code)
  - b. EPOD (Electronic proof of delivery)
  - c. MCC (Magnetic character code)
  - d. RTPD (Real-time product delivery)
3. When studying an information system, illustrations of actual documents should be collected using a process called \_\_\_\_\_.
  - a. stratification
  - b. randomization
  - c. indexing
  - d. sampling
4. Systems development typically starts with a \_\_\_\_\_.
  - a. feasibility study, followed by a systems request, which includes a preliminary investigation
  - b. systems request, followed by a preliminary investigation, which includes a feasibility study
  - c. preliminary investigation, followed by a feasibility study, which includes a systems request
  - d. feasibility study, followed by a preliminary investigation, which includes a systems request
5. In a(n) \_\_\_\_\_ design, one can create individual components that connect to a higher-level program or process.
  - a. integral
  - b. dissociated
  - c. modular
  - d. archetypical
6. \_\_\_\_\_ is a fact-finding technique that can help a systems analyst understand how the current system is supposed to work.
  - a. Document review
  - b. Brainstorming
  - c. A systematic sample

- d. Productivity software
7. \_\_\_\_\_ refers to the practical resources needed to develop, purchase, install, or operate a system.
- a. Operational feasibility
  - b. Technical feasibility
  - c. Schedule feasibility
  - d. Market feasibility
8. Using \_\_\_\_\_, an analyst can show business functions and break them down into lower-level functions and processes.
- a. Unified Modeling Language (UML)
  - b. total cost of ownership (TCO)
  - c. functional decomposition diagrams (FDD)
  - d. Rapid Economic Justification (REJ)
9. \_\_\_\_\_ help offers assistance for a task in progress.
- a. User-selected
  - b. User-sensitive
  - c. Standard-selected
  - d. Context-sensitive
10. In a(n) \_\_\_\_\_ structure, which usually is based on interpersonal relationships, some people have more influence or knowledge than appears on an organization chart.
- a. spontaneous
  - b. unstructured
  - c. informal
  - d. open-ended

### **Critical Thinking Questions**

Jerry has inherited an Excel sheet that lists all of the system requirements for his team's new project. But unfortunately, his predecessor did not label the requirements with categories—or in some cases failed to categorize them correctly. He needs to take care of this so the requirements can be sorted correctly.

11. Jerry has found one system requirement that he thinks could fit into a couple of different categories. The requirement is as follows: An employee record must be added, changed, or deleted only by a member of the human resources department. What is the best categorization of this requirement?
- a. Performance
  - b. Control
  - c. Process
  - d. Input
12. When preparing a representative sample from a list of 200 customers who complained about errors in their statements, a \_\_\_\_\_ could ensure the sample is balanced geographically by selecting five customers from each of four zip codes.
- a. systematic sample

- b. stratified sample
  - c. random sample
  - d. comprehensive sample
13. \_\_\_\_\_ are important to a systems analyst who must work with people at all organizational levels, balance conflicting needs of users, and communicate effectively.
- a. Problem solving skills
  - b. Artistic skills
  - c. Interpersonal skills
  - d. Confrontational skills
14. \_\_\_\_\_ limitations result when a system that was designed for a specific hardware configuration becomes obsolete when new hardware is introduced.
- a. Accessibility
  - b. Relationship
  - c. Feasibility
  - d. Performance
15. Which of the following is an example of a horizontal application?
- a. College applications
  - b. Construction companies
  - c. Accounting packages
  - d. Real estate firms
16. A(n) \_\_\_\_\_ produces one or more lines of output for each record processed.
- a. detail report
  - b. exception report
  - c. summary report
  - d. exigency report
17. In the rapid application development (RAD) model in the accompanying figure, during the \_\_\_\_\_ phase, users interact with systems analysts and develop models and prototypes that represent all system processes, outputs, and inputs.
- a. requirements planning
  - b. user design
  - c. construction
  - d. cutover
18. A(n) \_\_\_\_\_ uses various symbols and shapes to represent data flow, processing, and storage.
- a. process flow diagram
  - b. object model
  - c. data flow diagram
  - d. network model

19. In a preliminary investigation report, the \_\_\_\_\_ section contains a brief description of the system, the name of the person or group performing the investigation, and the name of the person or group who initiated the investigation.
- a. introduction
  - b. recommendations
  - c. expected benefits
  - d. time and costs estimates
20. Projects where management has no choice in implementing them are called \_\_\_\_\_ projects.
- a. discretionary
  - b. nondiscretionary
  - c. appended
  - d. concatenated
21. The kind of document shown in the accompanying figure starts with a heading, which should include all except \_\_\_\_\_.
- a. a brief statement of purpose
  - b. your suggestions
  - c. your signature
  - d. your observations
22. A(n) \_\_\_\_\_ is a data validation rule that is used for applying to mandatory data items.
- a. sequence check
  - b. range check
  - c. asynchronous check
  - d. existence check
23. For complex models, analysts can choose computer-based modeling tools that use \_\_\_\_\_, which includes standard shapes and symbols to represent events, processes, workflows, and more.
- a. electronic data interchange (EDI)
  - b. joint application development (JAD)
  - c. business process modeling notation (BPMN)
  - d. rapid application development (RAD)
24. A(n) \_\_\_\_\_ is an outsourcing fee model that charges a variable fee based on the volume of transactions or operations performed by the application.
- a. method model
  - b. administrative model
  - c. usage model
  - d. interpolated model
25. Which of the following is an example of a discretionary project?
- a. Creating a new report for a user
  - b. Adding a report required by a new federal law

- c. Including annual updates to payroll and tax percentages
  - d. Updating quarterly changes in reporting requirements for an insurance processing system
26. A \_\_\_\_\_ answers questions, troubleshoots problems, and serves as a clearinghouse for user problems and solutions.
- a. user support specialist
  - b. database administrator
  - c. web support specialist
  - d. network administrator
27. Regardless of the topics of interest, there are one or more \_\_\_\_\_, where people gather to meet, offer support, and exchange ideas.
- a. newsgroups
  - b. benchmarks
  - c. report generators
  - d. service desks
28. A large concentration of servers working together is called a \_\_\_\_\_.
- a. server window
  - b. server application
  - c. server ranch
  - d. server farm
29. In a source document, the \_\_\_\_\_ contains any required signatures.
- a. control zone
  - b. authorization zone
  - c. totals zone
  - d. heading zone
30. Strategic planning starts with a \_\_\_\_\_ that reflects a firm's vision, purpose, and values.
- a. relationship diagram
  - b. feasibility study
  - c. performance assessment
  - d. mission statement
31. Which of the following is a typical example of a system requirement for the process category?
- a. The website must report online volume statistics every four hours and hourly during peak periods.
  - b. The system must be operated seven days a week, 365 days a year.
  - c. The equipment rental system must not execute new rental transactions for customers who have overdue accounts.
  - d. All transactions must have audit trails.
32. A popular technique for investigating causes and effects is called a \_\_\_\_\_ diagram.

- a. causebone
  - b. fishbone
  - c. jawbone
  - d. crossbone
33. The \_\_\_\_\_ usually begins with a formal request to the IT department, called a systems request, which describes problems or desired changes in an information system or a business process.
- a. systems design phase
  - b. systems planning phase
  - c. systems support and security phase
  - d. systems analysis phase
34. In a typical organizational model, top managers \_\_\_\_\_.
- a. develop long-range plans, called strategic plans, which define a company's overall mission and goals
  - b. provide direction, necessary resources, and performance feedback to supervisors and team leaders
  - c. oversee operation employees and carry out day-to-day functions, coordinating operational tasks and people
  - d. include users who rely on transaction processing (TP) systems to enter and receive the data they need to perform their jobs
35. \_\_\_\_\_ planning is the process of identifying long-term organizational goals, strategies, and resources.
- a. Prospect
  - b. Pilot
  - c. Strategic
  - d. Vertical
36. \_\_\_\_\_ is a planned meeting during which a systems analyst obtains information from another person.
- a. A survey
  - b. An interview
  - c. Sampling
  - d. Research
37. A \_\_\_\_\_ is an analysis tool that represents the possible causes of a problem as a graphical outline.
- a. causebone diagram
  - b. fishbone diagram
  - c. jawbone diagram
  - d. crossbone diagram
38. The goal of \_\_\_\_\_ is to build a system that is effective, reliable, and maintainable.
- a. systems reporting
  - b. systems analysis
  - c. systems design

- d. systems auditing
39. When assessing \_\_\_\_\_, a systems analyst must consider the interaction between time and costs.
- a. resource feasibility
  - b. technical feasibility
  - c. schedule feasibility
  - d. market feasibility
40. A user interface (UI) is the key to \_\_\_\_\_, which includes user satisfaction, support for business functions, and system effectiveness.
- a. testability
  - b. usability
  - c. encapsulation
  - d. abstraction
41. Of the measures of feasibility, questions such as “Does management support the project?” and “Will the new system require training for users?” would help predict a system’s \_\_\_\_\_.
- a. schedule feasibility
  - b. technical feasibility
  - c. economic feasibility
  - d. operational feasibility
42. The \_\_\_\_\_ must include users, who will participate in the selection process and feel a sense of ownership in the new system.
- a. development and testing team
  - b. evaluation and selection team
  - c. maintenance team
  - d. quality audit team
43. \_\_\_\_\_ usually focus on long-term challenges and goals, the importance of a firm’s stakeholders, and a commitment to the firm’s role as a corporate citizen.
- a. Performance assessments
  - b. Relationship assessments
  - c. Vision statements
  - d. Mission statements
44. Projects that provide the \_\_\_\_\_ are assigned the highest priority when setting priorities for systems requests.
- a. greatest benefit, at the lowest cost, in the shortest period of time
  - b. greatest benefit, at the highest cost, in the shortest period of time
  - c. least benefit, at the lowest cost, in the longest period of time
  - d. least benefit, at the highest cost, in the longest period of time
45. A \_\_\_\_\_ utilizes standard business software, such as Microsoft Word or Microsoft Excel, which has been configured in a specific manner to enhance user productivity.



- a. user application
  - b. user configuration
  - c. user interface
  - d. user query
46. A \_\_\_\_\_ defines what must take place, not how it will be accomplished.
- a. logical design
  - b. physical design
  - c. quantitative design
  - d. qualitative design
47. To avoid the problem of \_\_\_\_\_, a project's scope should be defined as clearly as possible.
- a. project dilation
  - b. project expansion
  - c. project creep
  - d. project drift

**STUDENT REGISTRATION SYSTEM**

Semester: F Academic Year: 2013-2014

SSN: 111-11-1111 City: New Hope

Last Name: Hamilton ST: PA

First Name: Rose Zip: 12345

MI: M Home Phone: (555) 999-9999

Street: 607 West Spring Street Work Phone: (555) 555-9999

☒ Advisor Assigned

☒ Transcript On

☒ Full Time

☐ Part Time

Prefix	Number	Section	Grade
MAT	111	2	
CIS	110	3	
BUS	205	1	

**Find Student**

Print Record

HELP

Please remind students that tuition and fees are due by the first day of class.

**Find Student**

Please enter a Social Security Number.  
Use the format 111-11-1111.

48. In a data entry screen, such as that shown in the accompanying figure, a(n) \_\_\_\_\_ is a control feature used to initiate an action such as printing a form or requesting help.
- a. command button
  - b. option button
  - c. toggle button
  - d. help button

49. Which of the following is one of the main sectors of ecommerce?

- a. C2C (consumer-to-consumer)
- b. B2C (business-to-consumer)
- c. C2B (consumer-to-business)
- d. BPM (business process model)

50. Knowledge management systems use a large database called a(n) \_\_\_\_\_ that allows users to find information by entering keywords or questions in normal English phrases.

- a. inference engine
- b. knowledge base
- c. knowledge database management system
- d. inference manager

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## Section B: Matching the Columns

[1\*10]

Identify the letter of the choice that best matches the phrase or definition.

- a. Cloud computing
- b. Internet Business Services (IBS)
- c. Managed hosting
- d. .NET
- e. Screen generators
- f. Physical design
- g. Logical design
- h. Web 2.0
- i. Benchmark testing
- j. Systems requirement document

1. This can be viewed as an online Software as a Service (SaaS) and data environment supported by supercomputer technology.

2. This describes a second generation of the web that will enable people to collaborate, interact, and share information much more effectively.

3. This is an example of a web-based development environment.

4. This is attractive to customers because it offers online data center support, mainframe computing power for mission-critical functions, and universal access via the Internet.

5. This is another name for internet business services (IBS).

6. This is a good way to measure relative performance of two or more competing products in a standard environment.

7. This is like a contract that identifies what the system developers must deliver to users.
  8. Some user applications use this to allow users to design their own data entry forms.
  9. This is a plan for the actual implementation of the system.
  10. This is a design that does not address the actual methods of implementation.
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## **Section C: Long Questions**

[20]

1. List at least six guidelines for creating an interface that is easy to learn and use. [6]
  2. Briefly describe the four phases of the rapid application development (RAD) model. [4]
  3. Discuss the pros and cons of agile methods. [4]
  4. Briefly describe (including examples in your answer) at least six of the types of data validation rules in the input process. [6]
- 

## **Section D: Case Study**

[45]

### **Case 1**

You decided to start a mobile auto detailing service that will visit customers at their homes or businesses, and use traditional, high-quality hand washing and waxing methods. In addition to retail customers, several auto dealers have expressed interest in your services, and you are eager to get started. You plan to hire college students as technicians, train and supply them, and offer them a share of the profits as an incentive. Your friend, who is an IT major, offered to help you set up an information system by customizing several Microsoft Office applications to meet your needs. She suggested that you prepare an initial context diagram and a DFD diagram 0, and not to be too concerned about the details – just the main entities, data flows, and data stores. Thinking it over, you know that you will have employees, retail customers, auto dealer accounts, one or more suppliers, and your local bank, where you plan to set up a business checking account to handle the business. You also plan to keep track of customers, employee information, profit-sharing data, and an operations log, among other things.

### **Tasks**

1. Create a context diagram for the new business. It is OK to use your imagination with respect to data flows that you envision.

[10]

2. Create a diagram 0 that includes at least three processes and two data stores that would be typical in a small business of this kind. You can use your imagination with respect to the processes and data stores that might be needed.

[15]

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## **Case 2**

You are enjoying your job as a student intern at Personal Trainer. Last week, Susan asked you to help her plan the new information system project. Susan knows that you have completed several information systems courses at the local college, and that you have studied project management tools and techniques. Specifically, she wants you to get ready for the next set of systems development tasks, which will be requirements modeling for the new system. Yesterday, Susan called you into her office to discuss the specific tasks she wants you to perform. After meeting with Susan, you sit down and review your notes. She wants you to treat the set of tasks as a project, and to use project management skills to plan the tasks. Here is what she suggested to you as a work breakdown structure, including the duration she estimated for each task:

- First, you need to meet with fitness center managers at other Personal Trainer locations (5 days).
- After these meetings, you can conduct a series of interviews (5 days).
- When the interviews are complete, two tasks can begin at the same time: you can review company records (3 days) and observe business operations (8 days).
- When you have reviewed the records and observed business operations, you can analyze the BumbleBee accounting software (5 days) and study a sample of sales and billing transactions (2 days).
- After completing the analysis and studying the sales transactions, prepare a report for Susan (1 day)

You are excited about the opportunity to practice your skills, and you start to work on the following list.

### **Tasks**

1. Create a table listing all tasks separately, with their duration.

[5]

2. Identify all dependent tasks, and indicate what predecessor tasks are required.

[5]

3. Construct a PERT/CPM chart similar to the one in Figure 3-27 on page 117. If you have access to Microsoft Project, or other project management software, you can use it to help you create the chart.

[5]

4. Determine the overall duration of the project, and identify the critical path.

[5]

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**[Total: 100]**