**Lab1 05: Review for Exam 1**

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**Section 06L**

Exam 1 Review Questions

Unit 1: Digital Content and Intro: The Digital Revolution

1. What is digital?

Converting content into digital data

2. What is data processing?

Input-processing-output cycle

3. What is personal computing?

Small standalone computers powered by local software

4. How long was the second phase of the digital revolution?

Long

5. What was computing like during the third phase?

Internet became open, group of computers linked to share data

6. What did cloud computing change?

Social media interaction

7. What is convergence?

Several technologies evolve to form single product

8. What role do social media play?

Moral and ethical issues

9. What is the future of the digital revolution?

Economic barriers, globalization

10. Is there a difference between data and information?

Symbols that represent things and can be stored, information facts and the actual data

11. What is data representation?

Form where data is stored, processed, and transmitted

12. What is the difference between analog and digital?

Analog- continuous signal for variant, digital- signals expressed as values (voltage)

13. How does digital data work?

0s and 1s (binary digits)

14. How is digital data stored?

Digital file- storage medium

15. How do digital devices represent numbers?

Binary number system

16. How do digital devices represent text?

Letters, symbols, numbers not used in calculations

17. Why are there ASCII codes for numbers?

Provides codes for letters (characters), social security

18. What is plain text?

Text files containing no formating

19. What is the difference between bits and bytes?

Bits- data stored and transmitted by digital device, bytes- 8 bits

20. What is the difference between lossless and lossy compression?

Lossless- compress data and make it into its original state, lossy- throws away some of data during compression

21. How is sound digitized?

Music, speech, digitally record sound wave

22. Does sampling affect sound quality?

Higher sampling increase quality of sound

23. What is MIDI music?

Place notes on screen based music through MIDI keyboard

24. What is the difference between speech synthesis and speech recognition?

Speech synthesis- machine produces sound that resembles spoken word, speech recognition- machine understand spoken word

25. How does speech synthesis work?

Machine produces sound resembles spoken word

26. How does speech recognition work?

Analyzes sound of voice converts each word into groups of phonemes

27. What is a bitmap graphic?

Grid of tiny rectangular cells

28. How does each pixel get a color number?

Each pixel assigned color stored as binary number

29. How are colors specified?

8 bits to represent each color (decimal)

30. How does resolution relate to image quality?

High resolution contain more data than low resolution(high quality)

31. Can you shrink and enlarge bitmaps?

Yes

32. What is image compression?

Records the data into image file so it contains fewer bits

33. How does lossless compression shrink a file without throwing away data?

RLE- Run Length Encoding

34. What is a vector graphic?

Set of instructions for creating a picture

35. How do vector graphics compare to bitmap images?

Resize better, require less storage space, not as realistic, editing object easier

36. Where are vector graphics used?

Adobe illustrator, LibreOffice draw, open source inkscape

37. Is it possible to convert a vector graphic into a bitmap?

Yes

38. How do vector graphics relate to 3D graphics?

Stored as set of instructions describing the coordinates for lines and shapes in 3-D shape

39. What is digital video?

Bits to store color and brightness data for each video frame

40. What are the key properties of digital video?

Core technology for digital television, video conferencing system, video messaging

41. What should you know about frame rates?

Number of frames that are displayed per second

42. How does color depth affect video quality?

Resolution of bitmap on video quality

43. How does video compression work?

Image compression, interframe compression

Unit 9: Information Systems

44. What is an information system?

Collects, stores, processes data

45. What is the official definition of organization?

People working together to accomplish a goal

46. What kinds d enterprises can an information system serve?

Businesses, nonprofits

47. Who uses information systems?

Businesses, workers, managers

48. How do information systems help the people in an organization?

Strategic planning, tactical planning, operational planning

49. What is a transaction processing system?

Exchange between two parties transaction, collect process

50. How are transactions processed?

Online processing, Batch

51. How does OLTP work?

Requires commit or rollback strategy

52. What is a management information system?

Computer system that processes data and provides info within a business setting

53. What kinds of reports can an MIS produce?

Summary and exception, ad hoc reports

54. What is a decision support system?

Gather data from multiple sources, generate statistical projections

55. What are the components of a DSS?

Executive information system, user needs to make a decision, decision model, decision query

56. What is an expert system?

Computer system designed to analyze data produce diagnosis

57. Where do the rules come from?

Knowledge base

58. How are expert systems built?

Inference engine and a user interface use to enter facts and rules for knowledge base

59. Can an expert system deal with uncertainty?

Fuzzy logic

60. How does an expert system work?

Produce recommendation, diagnosis to analyze data

61. What is the scope of ecommerce?

Business transactions conducted electronically over a computer network

62. How does an online shopping cart work?

Shopping cart items can be stored into server side database

63. What is a supply chain?

Sequence of organization moving product or service from supplier to customer

64. What is the role of an information system in the supply chain?

Use supply chain management to maximize efficiency and profitability

65. What is CRM?

Customer relationship management

66. How does CRM fit into an enterprise information system?

Loyalty programs

67. What is ERP?

Enterprise resource planning (integrate major business activities)

68. What is an SDLC?

Developing information systems according to phases of SDLC

69. What does the planning phase entail?

Assembling the project team, justifying the project, choosing a development methodology

70. Who participates in the project?

Team members

71. How can an information system help an enterprise respond to threats and opportunities?

Helps classify problems in the information system

72. How is the project schedule developed?

Use a project management software for planning

73. What is the purpose of the analysis phase?

To produce a list of requirements for a new or revised information system

74. How does the project team determine what the new system should do?

System requirements criteria for solving problems

75. What are structured documentation tools?

Data flow diagram

76. What happens in the design phase?

Project team must figure out how the new system will fulfill the requirements in system requirement report

77. What kinds of hardware solutions are available?

Programming tools

78. What kinds of software solutions are available?

Turnkey systems

79. How does the team choose the best solution?

Decision support worksheet

80. What happens after the project team selects a solution?

Obtain approval

81. What is the importance of application specifications?

Describes the way information system’s software should interact with users

82. What happens during the implementation phase?

Project team supervises the tasks necessary to construct the new information system

83. How can the team ensure that a new information system works?

Application testing

84. What kinds of documentation are required?

User documentation, procedure handbook

85. How do employees learn how to use the new information system?

User training, procedure handbook

86. What are the “go live” options?

System conversion

87. What happens during the maintenance phase?

Modifications, correcting problems

88. How important is user support?

Quality of service performance system

89. How long does the maintenance phase last?

Weeks to months

Unit 2: Digital Devices

90. What is a computer?

Multipurpose device that accepts input, processes data

91. What is significant about a computer’s ability to store instructions?

Computer “runs” software

92. What kinds of software of computers run?

Application software, System software, development tools

93. What are digital electronics?

Represents data bits as electrical signals that travel over circuits

94. What is an integrated circuit?

Sets of microscopic electronic circuits etched into thin slide

95. How do chips fit together?

Semiconductors

96. What is form factor?

Size and dimension of a device or component

97. What are the features of a component system?

Camera, speaker, display device, keyboard, mouse

98. What are the features of a clamshell device?

Display screen, camera, microphone, system unit

99. What are the features of a slate device?

Ring/silent switch, on/off button, display screen

100. What is important to remember about device maintenance?

You can extend the life of your digital devices with regular maintenance

101. What is the most powerful computer?

Supercomputer

102. What are the options for personal computers?

Desktop, portable, mobile devices

103. What about other digital devices?

Niche devices

104. Why is it important to figure out how you are going to use your new device?

Consider how you plan to use your device

105. How important is compatibility?

Compatibility helps choose computers that work efficiently

106. What exactly is a microprocessor, and what does it look like?

Integrated circuit designed to process instructions

107. What is a multi-core processor?

One single component with multiprocessing skills.

108. What is FSB?

Computer communication interface

109. How does the cache size affect performance?

Allows microprocessor to access data more rapidly

110. What impact does word size have on performance?

Limits the amount of memory that the processor can access

111. How does an instruction set affect performance?

More useful work

112. Can a microprocessor execute more than one instruction?

Yes,

113. How can you compare microprocessor performance?

114. What is RAM?

Temporary holding area for data

115. How does RAM work?

Capacitors hold the bits that represents data

116. Can a computer run out of memory?

Yes

117. What is ROM?

Type of memory circuit that is housed in a single integrated circuit in the system board

118. What is EEPROM?

Read only memory