SECTION A mark each

Shade the letter representing the correct answer of your choice on the multiple choice answer sheet provided.

1. Which approach to Information Systems is concerned mostly with system utilization, implementation, and creative design?
   a. Behavioral
   b. Technical
   c. Sociotechnical
   d. Organizational

2. Output that is returned to appropriate members of the organization to help them evaluate or correct the input stage is known as ----------.
   a. Results
   b. Information
   c. Feedback
   d. Validated output

3. Building contemporary Information Systems produce
   I. Institutional Changes
   II. Managerial Changes
   III. Technical changes

   a. I and II only
   b. I and III only
   c. II and III only
   d. I, II and III

4. The main reason(s) why Information Systems play a large role in organizations today are because of
   I. The introduction of powerful communications networks
   II. The exponential increases in computing power
   III. The declining cost of computer technology

   a. I and II only
   b. I and III only
   c. II and III only
   d. I, II and III

5. Which of these is not true of the Internet?
   I. Computers that operate on different platforms can communicate
   II. The Internet continues to work even when some networks fail or are removed from the system.
   III. It can process large pools of data.

   a. I only
   b. II only
   c. III only
   d. None of the above

6. Which of the major organizational design options give greater decision-making authority to lower-level employees who may not necessarily work in an office and may be scattered geographically?
   I. Flattened organizations
   II Separating Work from location
   III. Redesigning organizational boundaries and electronic commerce.

   a. I only
   b. I and II only
   c. II and III only
   d. I and III only

7. A capability which has fueled the commercial use of the Internet, allowing companies to combine graphics text and sound into

brochures, advertisements, and forms, etc is called a(n) .....

a. Electronic market
b. World Wide Web
c. Interorganizational system
d. e-mail

8. The principal function of ..... systems is to answer routine questions and track the flow of transactions through the organization

a. Strategic level
b. Operational level
c. Management level
d. Query level

9. Which of these is true of Management level systems?

I. They provide periodic reports rather than instant information on operations
II. They match changes in the external environment with existing organizational capabilities.
III. Some tend to focus on less structured decisions for which information requirements are not clear.

a. I and II only
b. I and III only
c. II and III only
d. I only

10. A system that designs promotional display for a firm's product should be a ..... level system under the sales function.

a. Operational
b. Strategic
c. Management
d. Knowledge

11. Which of these systems may not supply information to an MIS?
I. KWS and OAS
II. TPS
III. DSS
IV. ESS

a. I and II only
b. I and III only
c. II and III only
d. III and IV only

12. Management Information Systems
I. offer user flexibility, adaptability, and a quick response
II. have an internal rather than an external orientation
III. have little analytical capability
IV. use sophisticated analysis and modeling tools.

a. I and II only
b. I and III only
c. II and III only
d. III and IV only

13. Decision support systems
I. are generally reporting and control oriented
II. tend to make less use of analytical models than ESS
III. allow users to initiate and control the input and output.
IV. use information from TPS, MIS, and external sources.

a. I and II only
b. I and III only
c. II and III only
d. III and IV only

14. In the competitive forces model, which of these are considered treats?
I. Substitute products or services
II. Traditional competitors

Pol/Gov/MIS - 96

II. New entrants
IV. Customers

a. I and II only
b. I, II and III only
c. I, II, III and IV
d. I and III only

15. The raising of ---------- reduces customers' bargaining power
I. Service cost
II. Switching cost
III. Share holder dividends

a. I only
b. II only
c. III only
d. I and III only

16. The ------ model highlights specific activities in the business where competitive strategies can be best applied and where information systems are most likely to achieve competitive advantage.
a. Value chain
b. Competitive forces
c. Primary activities
d. Supply chain

17. Which of these would help develop tight linkages to customers (and suppliers)?
I. Just-in-time delivery systems
II. Inventory replenishment systems triggered by point-of-sale purchases
III. Stockless inventory systems

a. I and II only
b. I and III only
c. II and III only
d. I, II and III

18. The methodology that addresses the problem of aging software by salvaging and upgrading it so that the user can avoid a long and expensive replacement project is known as

a. Software upgrading
b. Software reengineering
c. Software engineering
d. Object –oriented software development

19. The system life cycle may be used in building
I. TPS and MIS where requirements are highly structured and defined
II. Complex technical systems that need tight controls over the system building process.
III. Experimental systems rapidly for evaluation by users

a. I and II only
b. I and III only
c. II and III only
d. I, II and III

20. Which of the following statements is true of the systems lifecycle?
I. Freezing of specifications easily in the development process is encouraged
II. Systems do not always meet quality assurance standards
III. Formal specification of requirements may inhibit system-builders from exploring and discovering the problem structure.
IV. Not suitable for many small desktop systems.

a. I and II only
b. II and III only
c. I, III and IV only
d. III and IV only

21. Case tools may be used in
I. Forward engineering
II. Backward engineering
III. Prototyping

a. I only
b. II only
c. III only
d. I and II only

22. Prototyping is especially valuable
I. for designing of end-user interface
II. Where requirements are uncertain
III. Where documentation is not essential
IV. Large quantities of data need to be accommodated

a. I and II only
b. I and III only
c. I, II and III only
d. II and III only

23. In selecting application software packages, the most important evaluation criteria are
I. User-friendliness
II. Installation and maintenance effort
III. Vendor quality and cost
IV. Processing speed

a. I, II, and III only
b. I, II and IV only
c. II, III and IV only
d. III and IV only

24. Which aspect of the system development process do fourth-generation tools make their greatest contribution?
I. System study
II. System design
III. Programming.
IV. Installation

a. I and II only
b. II and III only
c. I and III only
d. III and IV only

25. If a firm's internal IT staff cannot keep pace with technological change or the firm wants to free up scarce and costly talent for higher payback activities, one may consider using

a. Prototyping
b. Outsourcing
c. End-user development
d. Application software development

26. Disadvantages of outsourcing include
I. The possible loose of control over ones information system function
II. The possible introduction of many disparate and incompatible technologies into the firm
III. Trade secrets or propriety information may leak out to competitors.
IV. Required customization may become expensive and time-consuming that they eliminate many advantages of outsourcing

a. I and II only
b. I and III only
c. I and IV only
d. II and III only

27. Outsourcing may be contemplated where
I. Rewards for excellence are high and where the penalties for failure are also high.

Predictability of ... services is very important
III. When one's capabilities are limited, ineffective or technically inferior

a. I and II only
b. I and III only
c. II and III only
d. III only

Information that can be checked, perhaps from many different sources, for correctness is said to be ----------

a. reliable
b. accurate
c. verifiable
d. flexible

Organizations are -------systems.

I. Open
II. Artificial
III. Probabilistic
IV. Physical

a. I, II, and III only
b. I, II and III, IV
c. II, III and IV only
d. I and III only

The information systems professional

I. is a technical specialist
I. operates as an internal consultant
II. has a generalist perspective

a. I and II only
b. I and III only
c. II and III only
d. I, II, and III

Due to the emergence of the global economy, firms need to be able to use IT to

... operations
II. Create and distribute new knowledge and information
III. Deliver mass-customized products and services
IV. Operate 24 hours a day in different national environments.

a. I and II only
b. I and IV only
c. II and IV only
d. III and IV only

32. The new type of business is

I. is a flexible arrangement of specialists
II. is less hierarchical
III. delivers mass-produced products (or services)
IV. is decentralized

a. I and II only
b. I and IV only
c. II and IV only
d. III and IV only

33. In transforming data into information, which of this need to be available?

I. Rules
II. Computers
III. Knowledge
IV. Relationships

a. II and III only
b. III and IV only
c. I, II, and IV only
d. I, III and IV only

34. The interconnections and interactions between subsystems are termed .....

a. boundaries
b. interfaces

c. data
d. feedback

35. The technical approach to information systems focuses on problems of
I. Implementation
II. Program testing
III. Logical and physical design
IV. Requirements determination

a. I and II only
b. II and III only
c. I, II, and III only
d. II and IV only

36. Computer science contributes to Information Systems by concerning itself with
I. establishing theories of computability
II. development of models for decision-making
III. mathematical techniques for optimizing parameters of organizations such as transportation
IV. methods of efficient data storage

a. I and II only
b. II and III only
c. I and IV only
d. II and IV only

37. Information systems can be classified by
I. Knowledge level
II. Functional specialty
III. Decision-making authority
IV. Organizational level they serve

a. I and II only
b. II and III only
c. I and IV only
d. II and IV only

38. ------- use networks to link people, assets, and ideas to create and distribute products and services without being limited by traditional organizational boundaries or physical locations.

a. Interorganizational systems
b. Virtual organizations
c. electronic markets
d. custom manufacturing

...the streamlining of ... procedures, eliminating ... bottlenecks, so ... procedures become ...
a. CSEs
b. Automation
c. Rationalization of procedures
d. Business reengineering

26. The process of streamlining business procedures so that documents can be moved easily and efficiently from one location to another is known as
a. rationalization of procedures
b. work-flow management
c. Business reengineering
d. None of the above

... is the activities that go into producing an information system solution to an organizational problem or opportunity.
a. Implementation
b. System analysis
c. System development
d. None of the above

... constitute all of the organizational activities working towards the adoption, management, and routinalization of a new information system
a. Conversion
b. Production and maintenance
c. Operation
d. Implementation

... The modification of a system package to meet an organization's unique requirements without destroying the integrity of the software package is known as
a. Software review
b. ...
c. ...
d. ...

... is the methodology that addresses the problem of aging software by salvaging and upgrading it so that the users can avoid a long and expensive replacement project.
a. Software Upgrading
b. Software reengineering
c. Object-oriented software development
d. None of the above

28. ... is an approach to software development that de-emphasizes procedures and shifts the focus from modeling business procedures and data to combining data and procedures to create objects.
a. Computer-aided software engineering
b. Object-oriented software development
c. Structured methodologies
d. Software reengineering

29. The process of building an experimental system quickly and inexpensively for demonstration and evaluation so that users can better determine their information requirements is known as
a. Modelling
b. Prototyping
c. End-user development
d. CASE

... End-user development provides the following benefits.
a. Increase user involvement and satisfaction.
b. Minimize integrity problems and ensure security standards
c. Improved requirements determination
d. None of the above

c. data
d. feedback

35. The technical approach ... information systems focu... problems of
I. Implementation
II. Program testing
III. Logical and physical ...
IV. Requirements determination

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SECTION B

Answer ALL Questions

1. a) Mention four (4) design options that Information Systems bring to organizations. [2 marks]

   b) Describe any TWO of these design options. [4 marks]

2. a) What are the four basic Competitive Strategies? [2 marks]

   b) How can Information Systems help pursue each of the four basic competitive strategies? [4 marks]

3. a) How can Information Centers solve some of the management problems created by end-user development? [3 marks]

   b) Apart from using Information Centers what other strategies can be used to ensure that end-user computing serves larger organizational goals? [3 marks]

4. a) How does Groupware support Information Work? [2 marks]

   b) Compare the capabilities of proprietary groupware and the Internet for collaborative work. [4 marks]

5. a) Mention six (6) ways that GDSS can enhance group decision making. [3 marks]

   b) Briefly describe the Software System component of a DSS. [3 marks]

1. Case tools may [illegible]
   I. Forward engineering
   II. Backward engineering
   III. Prototyping

   a. I only
   b. II only
   c. III only
   d. I and II only

22. Prototyping is especially suitable
   I. for designing of end-user interface
   II. Where requirements are uncertain
   III. Where documentation is essential
   IV. Large quantities of data to be accommodated

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   I. User-friendliness
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24. Which aspect of the system development process do fourth generation tools make their greatest contribution?
   I. System study
   II. System design
   III. Programming

[illegible]

[illegible]
   a. [illegible] and II only
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   c. II and III only
   d. II and IV only

25. If a firm's internal IT staff cannot keep pace with technological change or the firm wants to free up scarce and costly talent for higher payback activities, one may consider using

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II. They match changes in the external environment with existing organizational capabilities.
III. Some tend to focus on less structured decisions for which information requirements are not clear

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b. I and III only
c. II and III only
d. I only

10. A system that designs promotional display for a firm's product should be a --------- level system to the sales function

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b. Strategic
c. Management
d. Knowledge

11. Which of these systems may not supply information to an MIS?
I. KWS and OAS
II. TPS
III. DSS
IV. ESS

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b. I and III only
c. II and III only
d. III and IV only

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IV. use sophisticated analysis and modeling tools.

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b. I and III only
c. II and III only
d. III and IV only

13. Decision support systems
I. are generally reporting and control oriented
II. tend to make less use of analytical models than ESS
III. allow users to initiate and control the input and output.
IV. use information from TPS, MIS and external sources.

a. I and II only
b. I and III only
c. II and III only
d. III and IV only

14. In the competitive forces model, which of these are considered to be
I. Substitute products or services
II. Traditional competitors

SECTION B

Answer ANY THREE (3) Questions [10 marks each]

1. a. Using an example, explain the meaning of the term "information content".[3 marks]

   b. Why is it important to adopt systems thinking when dealing with Information System? [3 marks]

   c. Many large organizations that have appropriate information technology still exhibit grave inefficiencies from time to time. Why is this so? [4 marks]

2. a. Briefly describe one major worldwide change in the business environment that has brought about a number of new challenges and opportunities to business firms and their management. [3 marks]

   b. Briefly define and compare the Competitive and Value chain models for identifying opportunities for strategic systems. [7 marks]

3. a. Scholars have identified at least three basic elements of GDSS that help groups to arrive at decisions. Describe each of these elements. [6 marks]

   b. How different is a neural network from an expert system? [4 marks]

4. a. What classes of applications are strong candidates for outsourcing? [3 marks]

   b. Compare End-user development and Outsourcing on the basis of their features, advantages and disadvantages. [7 marks]

K. A. PABBI

Which of these types of systems is likely to supply data to an MIS as input?
I. Knowledge Work Systems
II. Transaction Processing Systems
III. Decision Support Systems
IV. Executive Support Systems

a. I & II only
b. II & III only
c. III & IV only
d. II only
e. III only

14. Which of these may be considered characteristics of Decision Support Systems?
I. Information requirements are known and stable.
II. They use sophisticated analysis and modeling tools.
III. They allow users to initiate and control the input and output.

a. I & II only
b. I & III only
c. II & III only
d. I only
e. II only

15. Which of these types of applications will serve the operations personnel?
I. Graphics workstation
II. Annual budgeting
III. Order processing

a. I & II only
b. II & III only
c. III & IV only
d. II only
e. III only

16. Which of these types of systems will use aggregate data, external and internal data as input?
a. TPS
b. OAS
c. MIS
d. DSS
e. ESS

A subsystem at the lowest level whose inputs and outputs defined but not how the inputs are transformed to outputs is termed a/an _____.
a. module
b. units
c. suprasystem
d. subsystem
e. black box

18. A _____ perspective of information systems combines the theoretical work of computer science, operations research, and management science with a practical orientation towards building systems and applications.
a. technical
b. mathematical
c. sociotechnical
d. behavioral
e. scientific

19. The purpose of _____ level systems is to help business firms integrate new ideas into the business and to help the organization control the flow of paper work.
a. operations
b. knowledge
c. managerial
d. tactical
e. strategic

20. Which of these show a situation where a large organization uses IT to achieve some of the agility and responsiveness of small organizations?
I. The use of desktop machines and inexpensive computer-aided design (CAD) software that provide the precision, speed, and quality of giant manufacturers.
II. Custom manufacturing systems that allow large factories to offer customized products in small quantities.
III. The use of massive databases of customer purchasing records that can be analyzed so that large companies can know their customers' needs and preferences as easily as local manufacturers.

a. I & II only
b. II & III only
c. I & III only
d. II only
e. III only

21. Which of these are features of flatter organizations?

I. Employees no longer work in an office.
II. Senior managers are given greater decision-making authority than in the past.
III. Employees work in teams.
IV. Management's span of control is broadened.

a. I & II only
b. II & III only
c. III & IV only
d. I, II & III only
e. I, III & IV only

22. Which of these can you do on the Internet?

I. Transfer computer files of text, software, graphics, etc.
II. Advertise, sell, and purchase goods and services.
III. Send email messages: transmit documents and data.
IV. Join interactive discussion groups.

a. I & II only
b. II & III only
c. III & IV only
d. I, II & III only
e. I, II, III & IV only

SECTION B

3 marks each

1. Describe one major change that information systems have brought to organizations.
Globalization • Communicate within its distributors and suppliers
• Operate 24hrs a day in different national environments
• Service local and international reporting need.

2. What do we mean by the information architecture of the organization?

3. Distinguish between a Strategic Level System and a Strategic Information System.

summarize info and reports

4. What are the characteristics of MIS? How does MIS differ from DSS?

5. Briefly define and compare the Competitive and Value chain models for identifying opportunities for strategic systems.

6. What are the costs of decoupling?

K. A. PABBI

(a) Tap data from the TPS (transaction processing system)
(b) Serve management level systems
(c) Help summarize and report the current operations of a system

(b) Cost of decoupling itself
(c) each subsystem may acts as a subsystem

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHOLOGY, KUMASI

COLLEGE OF SCIENCE

FACULTY OF PHYSICAL SCIENCE

DEPARTMENT OF COMPUTER SCIENCE

Bsc (Comp.Sc.) Mid-Semester Examination, October 2007

CSM481 INFORMATION SYSTEMS I

Attempt ALL questions

Time Allowed : 50mins.

SECTION A

½ Mark e...

1. In indicating what is part of a system and what is not, you are defining the _____ of the system.
   a. elements
   b. environment
   c. boundary
   d. interface
   e. subsystems

2. Which of the following is/are true about interfaces?
   Interconnections between subsystems are termed interfaces.
   I. Interfaces may take the form of inputs.
   II. A black box may not have an interface.

   a. I & II only
   b. I & III only
   c. II & III only
   d. I only
   e. II only

3. Information systems are _____ systems.
   Open
   Relatively closed
   III. Probabilistic
   IV. Artificial

   a. I & II only
   b. II & III only
   c. III & IV only
   d. I only
   e. II only

4. _____ is a measure of the relative cost of producing output.

   a. Equifinality
   b. Efficiency
   c. Effectiveness
   d. Standard operating procedures
   e. Workflow management

5. A system that designs promotional display for a firm is a _____ level system under the sales function.
   a. operational
   b. strategic
   c. management
   d. knowledge
   e. executive

Rahatu

Loosing the connections and interdependence between subsystems so that they can operate in the short run with some measure of independence is known as _____.

a. separation
b. simplification
c. decoupling
d. standardization
e. decentralization

An improved information or communication system may
decrease the opportunity for tight coupling
reduce the need for decoupling mechanisms.
increase the need for decoupling mechanisms.

a. I & II only
b. I & III only
c. II & III only
d. II only
e. III only

The technical approach to Information Systems focuses on problems of Information Systems implementation.
Development of models for management practice.
The political impact and use of Information Systems.

a. I & II only
b. II & III only
c. I & III only
d. I only
e. II only

With virtual organizations,

Networks are used to link suppliers, customers and even competitors.
One company can take advantage of the capabilities of another company without actually physically linking to that company.
Management may have fewer levels, with lower-level employees being given greater decision-making authority.

a. I & II only
b. I & III only
c. II & III only
d. I only
e. II only

10. _____ models are used to describe the interaction of external influences, especially threats and opportunities that affect an organization's strategy and ability to compete.

a. Value chain
b. Competitive forces
c. Supply chain
d. Product differentiation
e. Focused differentiation

11. According to the value chain model, which of the following activities are considered support activities?

I. Procurement
II. Service
III. Human resource

a. I & II only
b. I & III only
c. II & III only
d. I only
e. II only

12. According to Porter's competitive forces model, which of these are considered competitive strategies that can be used to deal with competitive forces?

I. Focused differentiation
II. Product differentiation
III. Value chain analysis

a. I & II only
b. I & III only
c. II & III only
d. I only
e. II only