M_InfoNursePQ (800+ Questions) - Quiz Questions with Answers

1.

If the organization receives notice that a software program currently in use is to be sunsetted, the informatics nurse realizes that the organization must:

contact a different vendor for software.

purchase new hardware to use with the software.

replace both software and hardware.

upgrade or replace the software.

Explanation:

If the organization receives notice that a software program currently in use is to be sunsetted, the informatics nurse realizes that the organization must upgrade or replace the software because sunsetting means that the software will no longer be supported by the company. Sunsetting usually occurs after 2 or 3 upgrades so that organizations that have chosen to delay upgrading may be faced with potential failure of its computer system. Hardware may also be sunsetted, usually after a few years.

2.

"Knowledge viability" refers to applications that:

interface easily with existing technology.

provide valid information from a variety of sources.

provide regular upgrades.

can be used with multiple operating systems.

Explanation:

"Knowledge viability" refers to applications that provide valid information from a variety of sources. This information should be easy to access, accurate, and timely, and presented in such a way that it can generate further knowledge. Knowledge viability relies on a system that is adaptive and can manage situations and scenarios that are complex. A viable system is able to respond in a variety of ways to changing situations in order to survive.

3.

If the informatics nurse wants to develop a chart or diagram that shows the sequential steps in a process, the best choice is the:

Pareto chart.

control chart.

run chart.

flow chart.

Explanation:

If the informatics nurse wants to develop a chart or diagram that shows the sequential steps in a process, the best choice is the flow chart, which is used in quality improvement. While there

may be some variation, the symbols usually include:

- *Parallelogram: input and output (start/end).*
- *Arrow: direction of flow.*
- *Diamond-shape: conditional decision (Yes/No or True/False).*
- *Circles: connectors with diverging paths with multiple arrows coming in but only one going out.*

4.

A primary consideration when considering an all-in-one computer as opposed to a desktop computer with the tower is that the all-in-one computer:

cannot be so easily upgraded as desktops.

runs cooler than desktops.

can be left running for longer periods than desktops.

is easier to repair than desktops.

Explanation:

A primary consideration when considering an all-in-one computer as opposed to a desktop computer with tower is that the all-in-one computer cannot be so easily upgraded as desktops and, in some cases, cannot be upgraded at all. Additionally, all-in-ones tend to run hotter because the components are in a smaller area, so all-in-ones often should not be left running for extensive periods. All-in-ones are often more difficult to repair and may require proprietary components only.

5.

To ensure network security, the best current Wi-Fi encryption is:

WPA and AES.

WPA2 and AES.

WEP.

WPA2 and TKIP.

Explanation:

To ensure network security, the best current Wi-Fi encryption is WPA2 and AES. Wireless Equivalent Privacy (WEP) is the oldest security algorithm but has many security flaws and was retired in 2004; however, it may be present in older systems. Wi-Fi Protected Access (WPA) was adopted in 2003 and contained Temporal Key Integrity Protocol (TKIP), which provided better security than WEP, but again had security flaws. Wi-Fi Protected Access 2 (WPA2) was adopted in 2006 and contained the Advanced Encryption Standard (AES) and Counter Mode Cipher Block Chaining Message Authentication Code Protocol (CCMP) to replace TKIP.

6.

The type of information system that identifies trends (patterns and variances) in patients' EHRs is:

decision support.

communication.

business.

case management.

Explanation:

The type of information system that identifies trends (patterns and variances) in patients' EHRs is case management information systems. After trends are identified, then the case management system utilizes decision support software to guide preventive measures and development of the care plan. Case management systems often provide standardized plans of care that support best practices. The goal of preventive care is to reduce or prevent complications and to promote recovery. Case management systems may track patients both as inpatients and outpatients.

7.

The purpose of acuity systems (as part of business systems) is to:

collect demographic information about patients.

indicate revenue and expenses.

provide information about patient care requirements.

schedule staff and assign patient beds.

Explanation:

The purpose of acuity systems (part of business systems) is to provide information about patient care requirements based on the acuity level of patients as assessed by specific indicators (such as surgical site infection, fever, and treatment needs). The acuity system facilitates staffing according to patient acuity and can result in better care as well as cost savings because resources are used where they are most needed. The acuity system should facilitate the five rights of staffing: (1) right number of staff, (2) right skills, (3) right location, (4) right time, and (5) right patient assignments.

8.

For a large healthcare organization with multiple satellite offices and clinics and many mobile devices, the best choice for help desk is probably a(n):

automated cloud-based hosted service.

in-house telephone request system.

in-house e-mail request system.

in-house help desk with paper request forms.

Explanation:

For a large healthcare organization with multiple satellite offices and clinics and many mobile devices, the best choice for help desk is probably an automated cloud-based hosted service. The advantage to an automated system is that help tickets are automatically generated to fit the request for service and sent to the appropriate person with requests ordered in accordance with priorities established by the organization. A hosted service is especially valuable for complex organizations; having a person available to answer questions may save time and money.

9.

The informatics nurse may recommend gap analysis in order to determine the:

cause of decreased efficiency and/or financial instability.

resources that resulted in increased performance and efficiency.

resources needed to move from the current state to a proposed state.

gaps in security in the electronic health system and use of mobile devices.

Explanation:

The informatics nurse may recommend gap analysis in order to determine the resources (including time) needed to move from the current state to a proposed state. Gap analysis looks at the "gap" between a current state and a desired one. Steps include assessing the current situation, identifying current processes and outcomes, identifying target outcomes, outlining steps needed to achieve target goals, identifying gaps, and identifying resources and measures needed to close the gaps.

10.

When doing system analysis and gathering information, the first tool is often an:

RFQ.

RFP.

RFI.

RFT.

Explanation:

When doing system analysis and gathering information, the first tool is often an RFI (request for information). RFIs are often sent to a number of vendors, outlining the information needed and providing an overview of the organization's plans for purchase. The RFI may include an RFP (request for proposal) as well as a an RFQ (request for a quote), although the RFP and RFQ may be sent after the information is received and reviewed as part of the elimination and selection process. The RFT (request for tender) asks for pricing and information when contracting for a specific project.

11.

The best type of display to use to demonstrate and manage schedules and time estimates needed to complete a number of tasks associated with quality improvement projects is a(n):

Gantt chart.

flow chart.

storyboard

Pareto chart.

Explanation:

The best type of display to use to demonstrate and manage schedules and time estimates needed to complete a number of tasks associated with quality improvement projects is a Gantt chart, which is created after completion of a timeline. The chart may have the timeline represented in days, weeks, or months, depending on the overall duration of the project, on the horizontal axis across the top. The tasks are listed on the left on the vertical axis. Color-coded horizontal lines or bars are then drawn from the projected beginning date to ending date for each task.

12.

The purpose of a data flow diagram is to demonstrate graphically:

how data is stored, warehoused, and mined.

how data moves into a system and from one process to another.

the different types of data that may be present in an organization.

the time needed to process incoming data into a system.

Explanation:

The purpose of a data flow diagram is to demonstrate graphically how data moves into a system and from one process to another. The data flow diagram is a type of flow chart and uses similar symbols:

- *Square: External entity (named)/Sources of data or data destinations.*
- *Rounded rectangle (named with verb and object only, not including the word "process"): process used in inputting and outputting data.*
- *Arrow (named): direction of data flow.*
- *Three-sided open rectangle (named and numbered but not including the word "file"): data storage.*

13.

"Data mining" refers to:

sorting through data to identify patterns and relationships.

identifying key words.

generating multiple models for obtaining data.

applying a model to classify new data.

Explanation:

"Data mining" refers to sorting through data to identify patterns and relationships in large relational databases in order to extract and utilize data. Data mining allows data to be extracted

and transformed, stored in a database, accessed, and analyzed by software programs. Additionally, the data retrieved can be presented in various forms, such as in graphs or tables. The types of relationships that are commonly found in data mining include classes, clusters, associations, and sequential patterns.

14.

A primary focus of Total Quality Management (TQM) is:

reducing costs of business.

top-down leadership in change processes.

identifying members of the organization that stymie progress.

meeting the needs of the customers.

Explanation:

A primary focus of Total Quality Management (TQM) is meeting the needs of the customers. TQM eschews top-down leadership in change processes (although management should actively empower staff and remain accountable) but encourages participation of all staff at all levels of an organization. TQM includes institution of teams and teamwork and encourages a system of incentives and rewards. All staff members should work together to bring about organizational change to meet customer needs.

15.

In response to a sentinel event, the informatics nurse should advise an initial response that includes completing a:

plan to avoid recurrence.

list of potential causes.

root cause analysis.

list of staff involved.

Explanation:

In response to a sentinel event, the informatics nurse should advise an initial response that includes completing a root cause analysis. The informatics nurse may assist in obtaining necessary information from the electronic health record as automated searches are often much faster and more efficient than manual searches. Root cause analysis must be reviewed objectively, taking into consideration that environmental factors and indirect causes (such as decreased staff) may contribute to the direct cause (staff error) of an event.

16.

The primary purpose of system integration testing is to determine:

whether hardware and software can function adequately together.

whether wrappers need to be applied to software.

whether existing hardware needs to be replaced.

whether the software is adequate for current needs.

Explanation:

The primary purpose of system integration testing is to determine whether hardware and software can function together adequately. Unit testing is done before system integration

testing and system integration testing is followed by system testing and acceptance testing. System integration testing is a type of black box testing (functional testing done to determine if an input results in the correct output) and is conducted to identify problems within the component parts of a system or with the system itself. System integration testing should evaluate load, volume, and usability, and may utilize test cases and test data.

17.

A method that can be used prior to utilizing a new process in order to identify and correct problems in the process is:

Six Sigma.

Quality Improvement Process (QIP).

Focus, Analyze, Develop, Execute (FADE).

Failure, Mode, and Effects Analysis (FMEA).

Explanation:

A method that can be used prior to utilizing a new process in order to identify and correct problems in the process is Failure, Mode, and Effects Analysis (FMEA). FMEA is a 12-step process that begins with describing the process in detail and developing a team that creates a flow chart listing each step in a process and then brainstorms each step to determine potential causes for failure and potential adverse outcomes, which are rated according to severity, occurrence, and detection, and a risk priority number is assigned. The team then brainstorms methods to reduce potential failures and identify performance measures.

18.

Which governmental agency is responsible for enforcing the electronic transactions and code sets for the Administrative Simplification provisions of HIPAA?

FDA

FCC

CMS

NIH

Explanation:

The governmental agency responsible for enforcing the electronic transactions and code sets for the Administrative Simplification provisions of HIPAA is the Centers for Medicare & Medicaid Services (CMS). CMS is not responsible for enforcing security or privacy regulations, which are enforced by the Office of Civil Rights. While enforcement has been primarily in response to complaints, provisions of the Affordable Care Act require increased enforcement. CMS is also responsible for enforcing the requirement for unique health plan identifiers (HPID).

19.

The classification system presently used for mortality statistics is:

ICD-9.

ICD-10.

ICD-10-CM.

ICD-10-CM/PCS.

Explanation:

The classification system used for mortality statistics is ICD-10 (International Classification of Diseases, tenth revision). Both the underlying (primary) cause of death and non-underlying causes (other causes) are coded. ICD-9 was used between 1979 and 1998 for reporting of mortality statistics. ICD-9-CM (Clinical Modification) is usually just referred to as ICD-9 and is used for classification of diseases and procedures associated with hospitalization. ICD-9-CM was replaced with ICD-10-CM on October 1, 2015. ICD-10-CM/PCS is a transitional system.

20.

According to HIPAA's Privacy Rule, "minimum necessary" refers to the:

time needed to complete updating of patient information.

amount of protected health information that is disclosed.

amount and type of security in the electronic health record.

number of people with access to the electronic health record.

Explanation:

According to HIPAA's Privacy Rule, "minimum necessary" refers to the amount of protected health information that is disclosed. The physician should provide the minimum amount of patient information necessary to fulfill a request. For example, if laboratory reports are requested, then only those laboratory tests should be disclosed and nothing else. These restrictions do not apply when information is disclosed for treatment purposes, when information is disclosed to the patient, when the patient has authorized further disclosure, or when disclosure is required by law.

21.

Under Meaningful Use regarding EHRs for eligible hospitals and critical access hospitals (CAHs), which of the following is a core objective?

Record smoking status for patients 16 years and older

Provide patient with paper copies of their health information on request

Provide clinical summaries for patients

Record and chart changes in height and weight

Explanation:

Under Meaningful Use regarding EHRs for eligible hospitals and critical access hospitals (CAHs), a core objective is to record and chart changes in height and weight. Current core objectives include using CPOE for medication orders; implementing drug/drug and drug/allergy interaction checks; maintaining current problems, medication, and allergy lists; recording demographics; recording and charting changes in height, weight, BMI, and BP, as well as growth charts for children; recording smoking status for patients at least 13 years; implementing one clinical decision support rule of a high priority hospital condition; providing electronic copies of health information and discharge instructions on request; and protecting electronic health information.

22.

With the Six Sigma model, which of the following is utilized for the development of new processes?

CTQ

DMAIC

DMADV

PDCA

Explanation:

With the Six Sigma model, DMADV (define, measure, analyze, design, and verify) is used for development of new processes. DMAIC (define, measure, analyze, improve, and control) is used to improve existing processes or products. Six Sigma is a data-driven method of continuous improvement that considers the perceptions of the customers, especially that which is "critical to quality" (CTQ). Six Sigma uses trained people to guide the processes of change and utilizes martial arts titles related to belts: green belts, black belts, and master black belts.

23.

Which of the following is a 4-step process that involves defining, diagnosing, remediating, and holding?

Quality Improvement Process (QIP)

Lean Six Sigma

Process Improvement Model

IMPROVE model

Explanation:

The Quality Improvement Process (QIP), developed by Juran, is a 4-step method that involves planning, control, and improvement for quality control. Steps:

- *Defining: identifying project, listing and prioritizing problems, and identifying team.*
- *Diagnosing: analyzing problems through root cause analysis and formulating theories.*

- *Remediating: considering alternative solutions and implementing solutions and controls while concurrently dealing with resistance to change within the organization.*
- *Holding: evaluating performance and monitoring the control system to ensure maintenance of improvements.*

24.

The abbreviation RDBMS refers to:

resource data behavioral management system

regional database management system.

relational database management system.

resource database modular system.

Explanation:

The abbreviation RDBMS refers to relational database management system. RDBMS is a system that uses a relational model to manage data. The relational model was developed by Codd and utilizes a table structure with each item within the table having a distinct identifier. The tables comprise unique rows (records) and columns (fields). The tables (which comprise the relationship) can be manipulated and mined to create new tables from the data that are present.

25.

When developing teams for quality improvement processes, the informatics nurse should recognize that power issues among the team members often begin with observations of the:

hierarchical staff roles.

team leader.

other team members.

task requirements.

Explanation:

When developing teams for quality improvement processes, the informatics nurse should recognize that power issues among the team members often begin with observations of the team leader. The team members observe the manner in which the leader uses power and controls the meetings, and, based on these observations, usually begin to form alliances and may begin to exercise individual or group control. This often occurs early in the team-building development and can facilitate teamwork or hinder it.

26.

A disadvantage of a freestanding personal health record (PHR) is that:

only the patient enters information.

only the doctor enters information.

it is difficult to access.

the information cannot be altered.

Explanation:

A disadvantage of a freestanding personal health record (PHR) is that only the patient enters information, so the information may not always be accurate. Freestanding PHRs are sometimes

offered to patients by insurance companies, physicians, or local hospitals. A PHR linked to the patient's EHR at the hospital allows the provider to view not only the information the patient has entered into the PHR but also the EHR. In some cases, a PHR may be linked to several EHRs so that the patient and multiple healthcare providers can access the information.

27.

The best method to ensure that nurses follow an evidence-based practice is to:

offer group classes.

print flyers.

give one-on-one instruction.

embed it into electronic nursing documentation.

Explanation:

The best method to ensure that nurses follow an evidence-based practice is to embed it into electronic nursing documentation. Embedding may include alerts, pop-up boxes with clinical information, and adding interaction, which increases staff engagement. Any information should include references so that the nurses can do follow-up research. When possible, nurses should be rewarded in some way for participation, such as with continuing education credits, a certificate of completion, or time off.

28.

The four primary patient care support systems are (1) clinical documentation system, (2) pharmacy information, (3) laboratory information, and (4):

administrative services.

information services.

radiology information.

specialized care information.

Explanation:

The four primary patient care support system are:

- *Clinical documentation (or EHR): The most commonly used patient care support system, collects patient data in real time.*
- *Pharmacy information: Allows pharmacists to order medications, dispense them, and manage them for an organization. Should include allergy information and height and weight.*
- *Laboratory information: Provides information about laboratory tests, such as blood tests.*
- *Radiology information: Schedules procedures and provides reports. Usually includes picture archiving and communication system (PACS).*

29.

In a database, each field in a table is a(n):

attribute.

entity.

data file.

route.

Explanation:

In a database, each field in a table is an attribute, with fields being columns and records being rows. A data file (collections of different related records) comprises a table, which is also referred to as an entity. In each record, one field is the primary or key field, which contains the unique identifier for that particular record. A database contains one or more entities. The entity relationship diagram (one-to-one, one-to many, or many to many) indicates the relationships that exist among the different entities.

30.

One of the essential components of an EHR is the administrative process. An example of an administrative process is:

storage of patient demographic information.

electronic scheduling of outpatient visits.

ability to input medication orders.

e-mailing and web messaging.

Explanation:

An example of an administrative process is electronic scheduling for outpatient and inpatient visits. Other administrative processes include billing and claims management. The essential components of an EHR include health information/data (demographics, diagnoses, medication lists, allergies), results management (radiology and laboratory reports), order entry management (physician's orders), decision support (alerts, reminders), electronic communication/connectivity (e-mailing and web messaging), patient support (education, home telemonitoring), administrative purposes, and reporting/population health management (tools to support mandatory reporting).

31.

A common benefit derived from the use of the EHR is:

decreased costs.

increased staff satisfaction.

reduced medication errors.

decreased rates of infection.

Explanation:

A common benefit derived from the use of the EHR is reduced medication errors. Other benefits include increased use of guideline-based care because the guidelines are embedded in the EHR. The EHR also facilitates surveillance and monitoring because the databases can be more easily searched for information than when manual searches are required. An additional benefit is decreased utilization of care. Research does not clearly indicate that there are cost savings because the initial outlay to convert to an EHR and to perform maintenance may be very costly.

32.

When setting performance goals using the SMART method, the acronym represents Specific, Measureable, Achievable, Relevant, and:

Theory.

Technique.

Task.

Time-framed.

Explanation:

Time-framed. SMART goal setting includes:

- *Specific: concrete actions, desired results.*
- *Measurable: describes assessment parameters.*
- *Achievable: appropriate for person's scope of practice and realistic.*
- *Relevant: aligned with departmental or organizational mission.*
- *Time-framed: beginning and ending dates for meeting goals.*

The goals of the individual should relate to the organization's mission and strategic goals. The performance goals should be clearly written so that the individual has a clear understanding of what is expected, how it can be accomplished, and by what date.

33.

When initiating a social media site (such as Facebook) to provide information about a healthcare organization and to allow feedback, the best way of handling feedback (comments) from the public is to:

monitor and censor if inappropriate.

apply no restrictions.

provide a mechanism for public to send alerts of inappropriate content.

monitor and provide rebuttals if necessary.

Explanation:

When initiating a social media site (such as Facebook) to provide information about a healthcare organization and to allow feedback, the best way of handling feedback (messages) from the public is to monitor and censor if inappropriate. Unfortunately, because of the

anonymous nature of messages on social media sites, comments can be obscene, slanderous, and threatening. Because the purpose of the social media site is to provide information and promote marketing, all comments should be monitored and only posted if the content (negative or positive) is appropriate.

34.

A significant advantage of a computerized perinatal data system imbedded in an EHR for both maternal and fetal heart monitoring is:

reduced costs of providing care.

point-of-care monitoring.

easier archiving and retrieving of records.

decreased staffing needs.

Explanation:

A significant advantage of a computerized perinatal data system imbedded in an EHR for both maternal and fetal heart monitoring is easier archiving and retrieving of records so that information can be readily accessed. The computerized system usually provides a system status screen so that many patients can be monitored at one time on one screen, with alerts indicating problems according to preset parameters. Trend screens provide the most recent (minutes of) data for any patient.

35.

The primary purpose of the Nationwide Health Information Network (NwHIN) is to:

ensure secure internet exchange of information through standards, policies, and services.

provide servers and networks to facilitate secure exchange of information.

provide licensure for healthcare facilities using the network to exchange information.

provide a network for exchange of evidence-based guidelines.

Explanation:

The primary purpose of the Nationwide Health Information Network (NwHIN) is to ensure secure internet exchange of information through standards, policies, and services. NwHIN is funded by the Office of the National Coordinator for Health Information Technology (ONC). The primary goal is to assist healthcare providers to move from a system of paper medical records to a secure electronic health record that can be easily accessed by various healthcare providers and utilized to evaluate the quality of care.

36.

A program interface that utilizes pointers (such as arrows) and icons to represent commands is the:

command-driven interface.

graphical user interface (GUI).

direct manipulation interface.

motion tracking interface.

Explanation:

A program interface that utilizes pointers (such as arrows) and icons to represent commands is the graphical user interface (GUI), which utilizes the graphic capabilities of the computer. Rather

than having to learn text-based commands, the user can select an icon, utilizing a pointer (such as an arrow) to carry out a command or open a window. Icons are generally grouped on the computer screen (the desktop) for easy display. GUIs also facilitate the use of menus to select desired actions.

37.

Considering computer ergonomics, when a person is using the computer, the top of the monitor should be approximately:

4 inches above eye level.

4 inches below eye level.

8 inches below eye level.

at eye level.

Explanation:

Considering computer ergonomics, when a person is using the computer, the top of the computer should be approximately at eye level. While there is some variation in height, most differences relate to lengths of the lower extremities rather than the trunk, so desk placement does not usually pose a problem. However, wall-mounted computer screens (such as at point of care) should be adjustable to provide for ease of use and good visualization.

38.

When changes have been made to a computer system, such as updates to the software, it is most important to conduct:

usability testing.

load testing.

scalability testing.

regression testing.

Explanation:

When changes have been made to a computer system, such as updates to the software, it is most important to conduct regression testing to ensure that errors in the new code do not interfere with functioning. Regression testing is done to ensure that functions available in the older version of the software are still viable with the new version. A series of test cases (also known as test bucket) are run utilizing the new version of the software and then evaluated to ensure that the new program performed correctly.

39.

In project management, the purpose of the work breakdown structure is to:

determine the time needed for each phase of the project.

determine the costs associated with each phase of the project.

determine the goal/product to be completed in each phase of the project.

determine the manpower needed to complete each phase of the project.

Explanation:

In project management, the purpose of the work breakdown structure is to determine the goal/product to be completed in each phase of the project. The goal/product must be approved

at the end of the phase, and then the team moves on to the next phase. Projects vary somewhat, but they are temporary by nature and time-limited, so the phases should be carefully planned so that every phase is completed by the target completion date.

40.

In the Foundation of Knowledge model, the element that interacts with all other elements is:

resources.

feedback.

time.

input

Explanation:

In the Foundation of Knowledge model (Mastrian), the element that interacts with all other elements is feedback. The base of the model is random data, bits, bytes, and information. Out of this base, the 4 primary elements, expressed as transparent expanding cones of light, develop the following: knowledge acquisition, knowledge generation, knowledge dissemination, and knowledge processing. The model is dynamic and interacting, constantly evolving, with feedback critical to all of the elements of the model.

41.

As a project manager, the best way to deal with scope creep is usually to:

divide the project.

reprioritize tasks.

refuse to accept requests for changes/additions.

complain to administration about requested changes/additions.

Explanation:

As a project manager, the best way to deal with scope creep is usually to reprioritize tasks to determine which tasks remain essential and which have lower priorities. Scope creep refers to the tendency of a project to enlarge in scope because of requests for additions and changes as well as problems encountered in completing the tasks associated with a project and miscalculations. Scope creep may make it difficult to finish a project in the projected time and may increase costs.

42.

A balanced scorecard that shows progress in performance measures should be based on:

organizational strategic plan.

prioritization of processes.

immediate goals.

financial profit and loss.

Explanation:

A balanced scorecard that shows progress in performance measures should be based on the organizational strategic plan and tied to the mission and vision statements to show how the

goals and objectives are being met. Measures may include information about patients (numbers, satisfaction, length of stay), financial data (cost-benefit analysis, return on investment), clinical outcomes (infections, complications, utilization), education (in-service, continuing education), community (needs), and growth (new programs).

43.

Peplau's theory of nursing stresses the importance of:

the mechanisms people use to react to stress.

serving patients and promoting self-care.

collaboration between the nurse and patient.

patient behavior, nursing response, and nursing actions.

Explanation:

Peplau's theory of nursing stresses the importance of collaboration between the nurse and patient. Peplau's interpersonal relations model of nursing (1952) focused on the relationship and interactions between the nurse and patient, stating that patients should be cared for by educated nurses who show them respect. The nurse is to serve as a "maturing force" to help the patient deal with illness as a maturing opportunity. The phases of the nurse-patient relationship include orientation, problem identification, explanation of possible solutions, and problem resolution.

44.

When applying the Complex Adaptive Theory to the system design life cycle, the informatics nurse would expect:

reciprocal changes to occur between user and system.

users to bring about changes in systems.

systems to bring about changes in users.

systems to be too complex to effectively change.

Explanation:

When applying the Complex Adaptive Theory to the system design life cycle, the informatics nurse would expect reciprocal changes to occur between the user and the system. Thus, the user changes elements of the system depending on the type of use, and the system in turn changes the behavior of the user. Adaptive systems tend to be dynamic rather than static and are able to adjust to changes to avoid chaos. Adaptive systems generally value effectiveness over efficiency.

45.

When designing a web page that should appeal to both males and females, a good choice of background color is:

grey.

blue.

orange.

brown.

Explanation:

When designing a web page that should appeal to both males and females, a good choice of background color is blue because this is a favorite color of both genders. In color preferences blue, green, and purple are the favorite colors of females, and gray, orange, and brown are usually the least favorite; while blue, green, and black are the favorite colors of males, and orange, brown, and purple the least favorite. Thus, blue and green are essentially safe colors (although people with red-green color blindness may have difficulty with green), and brown and orange should be avoided.

46.

Which of the following is a technique that can be used for data reduction?

Boosting

Bagging

Clustering

Deploying

Explanation:

A technique that can be used for data reduction is clustering. Clustering groups of statistical units into clusters (classes) in order to reduce the overall number of statistical units. A cluster is comprised of elements that are similar to each other and dissimilar to other clusters, so clustering is essentially a method of grouping. To determine why the groups are different, then a different data reduction technique, factor analysis, must be used.

47.

A reference database is one that is generally focuses on:

general information about a variety of subjects.

reference lists for various subjects.

linking to other sources of information.

one type of information, such as all dictionaries.

Explanation:

A reference database is one that generally focuses on one type of information, such as all dictionaries, all biographical information, all user manuals, or all encyclopedias. A reference database may also provide references for different types of information, such as the reference indices utilized by libraries, so a reference database may be a good place to begin a search for specific types of information. A search can provide an extensive list of sources, such as articles about a specific topic.

48.

The least effective method of conducting a search for valid information about a topic is:

database searching.

web surfing.

web searching.

data mining.

Explanation:

The least effective method of conducting a search for valid information about a topic is web surfing, which involves looking at one website after another for information, sometimes following links from one site to another. One problem is that, even if information is found, many websites do not have validity in terms of research, and the information found may not be accurate. Web searching, which utilizes a search engine, may produce a more focused search but has the same problem with validity.

49.

The first step to decommissioning a computer system (data and equipment) is to:

securely delete files.

destroy all storage devices.

discontinue all access.

label decommissioned equipment.

Explanation:

The first step to decommissioning a computer system (data and equipment) is to discontinue all access so that no one is able to input data or retrieve data. This includes securing mobile devices and workstations. Then, files must be securely erased so that they cannot be retrieved and storage devices destroyed. Decommissioned systems, including all decommissioned equipment, should be clearly labeled, securely stored, and any configuration settings removed. Keeping a checklist and careful records is especially important during decommissioning.

50.

For staff education, which of the following is an example of high-fidelity simulation?

Staff practice new EHR using real computers and software with test patients

Staff learn EHR skills while actually working and inputting data about real patients

Staff watch videos that demonstrate the proper use of the EHR

Staff use stereoscopic goggles to practice using the EHR in a virtual reality system

Explanation:

For staff education, an example of high-fidelity simulation is when staff practices a new EHR using real computers and software with test patients. High-fidelity simulations use real or realistic materials and equipment in order to learn new skills. Low-fidelity simulations, on the other hand, are usually less expensive and utilize verbal, print, audio, or video materials, and may involve discussing processes and case studies rather than actually carrying out processes.

51.

Software upgrades are typically released about every:

6 months.

12 months.

18 months.

24 months.

Explanation:

Software upgrades are typically released about every 18 months. One upgrade can sometimes be skipped without adversely affecting workflow, but by the second upgrade, the system may become obsolete if the upgrades are not carried out. Some upgrades or changes in programming may be necessitated by regulatory requirements, so upgrades should be carefully evaluated. The need for changes in programming is very common with information systems and is usually an ongoing process rather than periodic.

52.

System testing that involves fault injection is done to:

determine how any errors can occur before a system fails.

provide comparison data regarding expected outcomes.

provide data regarding system errors.

determine the system response if a component fails.

Explanation:

System testing that involves fault injection is done to determine the system response if a component fails. Faults are purposely introduced into the system to cause one or more components to fail, and then test cases or a series of actions are used to determine how the system responds to the failure of the components and the types of data that may be lost as well as the types of functioning that may be impaired.

53.

When installing a new computer information system, volume testing is usually done:

as an ongoing process.

before going live.

after going live.

by the manufacturer before installation.

Explanation:

When installing a new computer system, volume testing is usually done before going live to ensure that the system can handle the volume of work necessary. The system is tested under various loads, such as at peak times when multiple users are accessing the system and at low volume times. The testing attempts to identify the upper load limits at which the system can function adequately and the point at which errors occur. Both static and dynamic testing are done at safe working load (SWL) and above SWL.

54.

Which of the following provides the core medical terminology used in recording clinical data in the EHR?

RxNorm

NDF-RT

LOINC

SNOMED CT

Explanation:

SNOMED CT (Systemized Nomenclature of Medicine—Clinical Terms) provides the core medical terminology used in recording clinical data in the EHR. SNOMED CT (1999) was created from a merger and further development of 2 previous terminologies: SNOMED RT (Reference Terminology) by the College of American Pathologists and Clinical Terms Version 3 (CTV3) by the National Health Service of the UK. Property rights now rest with the International Health Terminology Standards Development Organization (IHDTSO), which promotes use of SNOMED CT internationally. Components of SNOMED CT include concepts (clinical meanings arranged hierarchically), descriptions (linking to concepts), and relationships (linking concepts).

55.

According to von Bertalanffy's systems theory, the five elements that comprise a system are:

input, throughput, output, evaluation, and feedback.

tasks, contexts, parameters, processes, and outcomes.

data, resources, processes, feedback, and adaptation.

program, project, process, procedure, and product.

Explanation:

According to von Bertalanffy's systems theory, the 5 elements that comprise a system are:

- *Input: This is what goes into a system in terms of energy or materials.*
- *Throughput: These are the actions that take place in order to transform input.*
- *Output: This is the result of the interrelationship between input and processes.*
- *Evaluation: Monitoring success or failure.*
- *Feedback: This is information that results from the process and can be used to evaluate the end result.*

Systems theory postulates that the entire system must be viewed holistically rather than concentrating on components of the systems because the interrelationships among different elements of the system must be understood.

56.

Under the HIPAA Security Rule, maintaining the "integrity" of electronic protected health information (e-PHI) means to:

document e-PHI accurately.

avoid altering or destroying e-PHI.

transmit e-PHI securely.

ensure that e-PHI are stored securely.

Explanation:

Under the HIPAA Security Rule, maintaining the "integrity" of the electronic protected health information (e-PHI) means to avoid altering or destroying e-PHI in ways that are unauthorized. The Security Rule states that entities must ensure the confidentiality, integrity, and availability of e-PHI. Confidentiality requires protection from improper use or disclosure while availability requires that authorized personnel be able to readily access the e-PHI.

57.

A primary difference between radiofrequency identification (RFID) and barcode is that RFID:

has greater read range.

has lower read rate.

is more labor intensive.

can identify type but not unique characteristics.

Explanation:

A primary difference between radiofrequency identification (RFID) and barcode is that RFID has great read range. While the read range for barcode ranges from inches to a few feet, passive ultra-high frequency (UHF) RFID ranges up to 40 feet if readers are fixed or up to 20 feet if readers are handheld. Active RFID has a read range hundreds of feet. Active RFID tags are battery powered and emit a signal while passive RFID tags require activation by a reader.

58.

The purpose of operational system testing is to assess how well a system functions:

after introduction of a new component.

if a component fails to work properly.

after installing software upgrades.

before installing software upgrades.

Explanation:

The purpose of operational system testing is to assess how well a system functions after introduction of a new component. This may require extensive testing because a component may work well for some applications or functions and not for others. Operational system testing may also require fault injection as well to determine how failure of the component would affect the system as a whole.

59.

The best reason to switch from a traditional analog telephone system to Voice over Internet Protocol (VoIP) is to:

ensure better security.

make faster calls.

reduce telephone down time.

save money.

Explanation:

The best reason to switch from a traditional analog telephone system to Voice over Internet Protocol (VoIP) is to save money. VoIP converts analog audio signals to digital data, which can be transmitted over the internet, allowing calls anywhere in the world with internet access, essentially for free or for low cost. The 3 means of using VoIP service are (1) analog telephone adaptor (ATA), (2) IP phones (which connect directly to routers), and (3) computer-to-computer.

60.

The primary goal of Health Level Seven (HL7) is:

ensuring compliance with internet protocols.

providing and sharing standards for exchange of electronic health information.

providing guidance to organizations implementing electronic health records.

providing grants to organizations implementing electronic health records.

Explanation:

The primary goal of Health Level Seven (HL7) is providing and sharing standards for exchange of electronic health information (interoperability). HL7 is a nonprofit ANSI-accredited organization. Organizations must utilize the same standards if they are to share data, such as when a patient wants to transfer records from one hospital to another. HL7 is critical to development of electronic health records. HL7 has a number of different trademarks that can be applied for to use with products and services. HL7 provides specifications but does not provide software.

61.

Semantic interoperability is essential to ensure that:

data can be moved from one system to another.

the data moved from one system to another system are understood in the same way.

business functions housing one system can work with those housing another system.

data from one system are protected during transfer to another system.

Explanation:

Interoperability is the ability to transfer, share, and utilize information from one system to another. Three aspects of interoperability include:

- *Technical: the ability to move data freely from one system to another.*
- *Semantic: the ability to understand data that have been moved from one system to another in the same way, attesting to the fact that data are not corrupted or misinterpreted.*
- *Syntactical: the ability to transfer data formats.*

- *Process: the ability of business functions where one system is housed to work with those housing another system.*

62.

A patient's name and ID number are examples of:

alpha data.

numeric data.

alphanumeric data.

image data.

Explanation:

A patient's name and ID number are examples of alphanumeric data, with alpha referring to letters and numeric referring to numbers. All text and numeric displays on monitors, such as displays of oxygen saturation, are examples of alphanumeric data. Audio data refers to all sounds, including beeps and alarms. Image data includes pictures, illustrations, graphs, and image recordings, such as ECG tracings. Video data includes all moving animations, picture, and graphics.

63.

Which of the following is the primary reason for conducting end-user testing?

Identify user competencies

Identify errors

Determine volume capability

Determine ongoing education needs

Explanation:

The primary reason for conducting end-user testing is to identify errors. Testing is carried out by end users to ensure that the computer system functions correctly and meets the organization's needs. Analysis may include asking end users to carry out specific tests, interviews with users, questionnaires regarding usability, comparative testing with users comparing work on two different systems, direct observation (over-the-shoulder), and indirect observation (audio/video feeds). Computer-generated data may be evaluated for accuracy and errors.

64.

A "warm" site is a site:

with patient data that can be activated within 8 hours.

with a database that has become corrupted.

with patient data that has experienced a security breach.

where paper patient records are stored.

Explanation:

A "warm" site is a site with patient data that can be activated within 8 hours. This backup system should be capable of running the EHR if the home system fails. This warm site should

be located at a distance as part of disaster planning, such as system failure that may result from natural events, such as hurricane, tornado, and flooding, as well as terrorist attacks. The location should be more than 50 miles away and more than 20 miles from the coast to lessen the chance that the same disaster would strike both facilities.

65.

If the informatics nurse does not understand the recommended practice or worksheet on a SAFER guide, the next step is to:

leave a message in “Assessment” notes.

assign a score of “Not applicable.”

refer to “Potentially useful practices.”

refer to “Suggested sources of input.”

Explanation:

If the informatics nurse does not understand the recommended practice or worksheet on a SAFER guide, the next step is to refer to “Suggested Sources of Input.” For example, in the “High Priority Practices” SAFER guide, phase 1 is “Safe Health IT” and the first recommended practice is related to backing up data and application configurations. A rationale is given as well as a list of useful practices. Suggested sources of input include a list of those who may be able to provide useful information, such as clinicians, support staff, and health IT staff.

66.

Data are classified as “dirty” when:

the database has not been backed up.

the database can be accessed by multiple individuals.

the database contains errors.

the database is outdated.

Explanation:

Data are classified as "dirty" when the database contains errors that render the data inaccurate. This compromises the data integrity. Dirty data may result from human errors in entering data (such as misspelling a name or incorrectly entering an ID number). Dirty data may also result from viruses, worms, or other bugs installed into a system. Hackers may enter a system and alter or remove data. Hardware and software may fail, corrupting or destroying data.

67.

In respect to patient data in a database, the most important factor is:

accessibility.

relevance.

transferability.

security.

Explanation:

In respect to patient data in a database, the most important factor is security, although accessibility, relevance, and transferability are also important factors. Unauthorized users must be blocked from gaining access to patients' records in order to protect confidentiality, but

authorized users must be able to easily access those same records. Both physical security (preventing damage to or loss of equipment) and informational security (protecting the data) must be considered. Data must be protected during storage and during transfer.

68.

According to the Health Information Exchange (HIE), the first step in implementing electronic health records is to:

plan approach.

assess readiness.

select electronic health record (EHR).

conduct training.

Explanation:

According to the Health Information Exchange (HIE), the first step in implementing electronic health records (EHRs) is to assess readiness to transition from paper to EHR or to upgrade the current system. Assessment should review current procedures for data collection and clinical workflows as well as determine the knowledge base of staff members related to computers. Internet access should be assessed to ensure high-speed internet is available. Because of the costs involved, the organization must determine it if has the necessary financial capital.

69.

"Relevant data" refers to data that:

are available when needed.

can be used for various purposes.

derive from clean data.

apply to user's needs

Explanation:

Relevant data refers to data that apply to users' needs; therefore, the determination as to whether data are relevant is relatively subjective, depending on whether the data meets the specific needs of a user at a specific time. Timely data are available when needed. Flexible data can be used for various purposes; for example, data about supplies may be accessed and utilized by various departments to obtain supplies and by others to determine budgetary or ordering needs. Reliable data provides reliable information because the data is "clean."

70.

Adequate system response time is:

<2 seconds.

<10 seconds.

<20 seconds.

<30 seconds.

Explanation:

The system response time is the time needed to display information, such as lab results. Adequate system response time is less than 10 seconds. The response time can be affected by

the bandwidth available, the volume of requests, the types of requests, the number of users in the system, and the average time the user spends viewing the results (think time). If the number of users increases, the average response time also increases. Formula: response time = (concurrent users/request per second) minus average viewing time in seconds.

71.

Considering safety measures, the EHR "uptime rate" refers to:

time (minutes) the EHR can function utilizing a generator during an electricity outage.

time (minutes) needed to upload information, such as a test result, into the system.

time (minutes) the EHR was available to healthcare providers divided by the number of total minutes in reporting time.

time (minutes) needed to get a system back online after a shutdown.

Explanation:

Considering safety measures, the EHR "uptime rate" refers to the time in minutes the EHR was available to healthcare providers divided by the number of minutes in the reporting time. The EHR uptime rate should be monitored as well as the downtime rate. The downtime of the system is used to help calculate the uptime rate. Ideally, the downtime rate should be very low. Another good practice is to maintain a list of EHR-related adverse events, such as breaches in confidentiality as well as error rates that may suggest a potential for writing information or orders in the wrong chart.

72.

Data should be transferred to an offsite data storage area at least:

every 8 hours.

every 24 hours.

weekly.

monthly.

Explanation:

Data should be encrypted, backed up, and transferred to an offsite data storage area at least weekly. Hardware systems that are essential, including servers, routers, and internet connections, should be duplicated. All backup systems should be tested regularly, at least on a monthly basis. Because hardware and software are likely to fail at some point, redundant systems are critical. Backup is necessary to ensure that information is not lost in the event of a system breakdown or failure.

73.

Which of the following is used to code medications classes, such as antibiotics?

RxNorm

NDF-RT

SNOMED CT

LOINC

Explanation:

NDF-RT (National Drug File-Reference Terminology) is used to code medication classes, such as antibiotics, while RxNorm is used to code specific medications, such as clindamycin. NDF-RT was developed by the US Department of Veterans Affair as a reference terminology for medications and is a standard adopted by Consolidated Health Informatics (CHI) and is part of the Federal Medication Terminologies (FMT) initiative and supports the FDA Structured Product Labeling (SPL) initiative and Established Pharmacologic Class (EPC) concepts.

74.

As a project manager, the informatics nurse may use a swim lane diagram (Rummler-Brache) to show:

processes and individual/departmental responsibilities.

costs associated with each phase of a project.

the timeframes for different phases of the project.

the project manager's personal responsibilities during the project.

Explanation:

As a project manager, the informatics nurse may use a swim lane diagram (Rummler-Brache) to show the processes and individual/departmental responsibilities. The horizontal rows indicate individuals/departments and both horizontal and vertical lines and arrows are used to show the workflow separating tasks, which are named in rectangles on the horizontal planes. The diagram clearly indicates steps to the processes and responsible individuals. Before creating the swim lane diagram, it is necessary to determine the purpose and the process or processes to focus on.

75.

Which of the following is a correct presentation of a medication order in an EHR with a medication order set?

Penicillin G 6,000,000 U I.V. every 4 hours

ASA 325 mg qd

112 μg levothyroxine daily

Paroxetine hydrochloride 20 mg P.O. daily in AM

Explanation:

Paroxetine hydrochloride 20 mg P.O. daily in AM is a correct representation of order in an EHR with a medication order set. Large doses (in the millions) should be ordered in words, "6 million units" rather than 6,000,000, and the word "units" should be spelled out. Order sets should not use abbreviations for medications, such as "ASA" for aspirin. Micrograms should be abbreviated as mcg rather than μg, and medication dosage should not precede the name of the medication.

76.

The Institute for Safe Medication Practices (ISMP) order set guidelines provide guidance for developing order sets for:

medications.

physical therapy.

surgical care.

internet security.

Explanation:

The Institute for Safe Medication Practices (ISMP) order set guidelines provide guidance for developing order sets for medications, both for paper-based and electronic order sets. Guidelines include checklists for format (layout, font, prompts, symbols, abbreviations), content (development, medications, exclusions, inclusions), approval and maintenance (criteria for review, changes, verification, and biannual review of listings), and specific criteria (IV/epidurals, electrolytes, compounded medications, chemotherapy, analgesics, pediatric medications, weight-based dosages, and medications for older adults).

77.

The standardized nursing terminology system that includes nursing diagnoses, outcomes, interventions, and actions is:

NANDA.

OMAHA.

CCC.

NOC.

Explanation:

The standardized nursing terminology system that includes nursing diagnoses, outcomes, interventions, and actions is the Clinical Care Classification (CCC), which was initially developed to document home health care. CCC is used for documenting at point-of-care in all types of healthcare settings. CCC combines two terminologies, one for diagnoses and outcomes and the other for interventions and actions. CCC was the first national nursing terminology recognized by HHS and is accepted by the ANA.

78.

In the event of a scheduled or unanticipated downtime, power outage, or emergency situation in which the EHR functions are not available, the organization should have available enough paper forms for at least:

4 hours.

8 hours.

12 hours.

24 hours.

Explanation:

In the event of a scheduled or unanticipated downtime, power outage, or emergency situation in which the EHR functions are not available, the organization should have available enough paper forms for at least 8 hours (the maximal amount of time it should take to access and activate a warm site if necessary). Forms should include physician order forms, nursing documentation forms, and laboratory and radiology report forms, and a procedure should be established for entering information from the paper documents into the EHR when it is reactivated.

79.

Which of the following is the minimal recommended safe use of CPOE CDS?

Complete implementation of CPOE CDS

Partial adoption of CPOE CDS

Routine monitoring of CPOE CDS

Frequent supplementary use of free text

Explanation:

The recommended minimal safe use of Computerized Physician Order Entry with Clinical Decision Support (CPOE CDS) is complete implementation because partial implementation, poorly done implementation, or inadequate monitoring of use may result in safety issues. Monitoring should include evaluating for excessive use of free text and incomplete entries. CDS may be used as a standalone system or as part of the EHR. Physicians and nurse practitioners writing orders must be trained in writing orders in the proper format for the system used, and the CDS system must be updated regularly.

80.

Which of the following is an appropriate CDS function or feature?

Identifying system errors

Signaling need for training

Predicting outcomes

Reverse allergy checking

Explanation:

An appropriate CDS function or feature is revere-allergy checking; that is, when a new patient allergy is entered into the system, it should check existing orders for the new allergy. Other CDS functions and features include checking for drug-drug interactions as well as food-drug interactions, abnormal laboratory results alerts, alerts for inappropriate drug-conditions (such

as drugs contraindicated with pregnancy), inappropriate drug-age interactions (such as medications contraindicated for older adults), and maximal doses.

81.

When testing hardware and software in the "live" environment, the informatics nurse should include:

clearly identified "test" patients.

anonymous "test" patients.

individual monitoring of users.

backup documentation in paper format.

Explanation:

When testing hardware and software in the "live" environment, the informatics nurse should include clearly identified "test" patients. Both hardware and software must undergo testing before and after going live. When the system first goes live, a command center should be available to provide communication, exercise control, and coordinate all activities. The command center should be as close to "live" areas as possible and vendor representatives should be available.

82.

Which type of implementation of a new EHR system is usually the most expensive and time consuming?

Pilot

Big bang

Parallel

Phased

Explanation:

Parallel implementation of a new EHR system is usually the most expensive and time consuming because it requires that the new system and the legacy system be used concurrently, so if converting from a paper format, records would have to be maintained in paper as well as in electronic format. This format allows users to master the new system while using the previous system, but errors may increase because of the time constraints resulting from having to duplicate all documentation. However, if the new system crashes, there is no loss of information.

83.

Which of the following provides a taxonomy for documentation of patient care, including components of problem classification scheme, intervention scheme, and problem rating scale for outcomes?

OMAHA

SNOMED CT

CCC

NANDA

Explanation:

OMAHA provides taxonomy for documentation of patient care, including components of assessment, problem classification scheme (used for patient assessment), intervention scheme (used to develop care plans and services) and problem rating scale for outcomes (used to evaluate changes in patient condition). The OMAHA system was originally developed by the Visiting Nurse Association in Omaha, Nebraska, and is now in the public domain. The OMAHA system can be utilized across the continuum of care. Training requires several weeks to several months before implementation.

84.

If planning to use pilot implementation for conversion from paper documentation to EHR at an acute hospital, the best choice for the pilot program is:

a standalone unit with minimal interaction with other units.

multiple units in different parts of the hospital.

units with extensive interaction with other units.

the smallest possible unit in terms of patient census.

Explanation:

If planning to use pilot implementation for conversion from paper documentation to EHR at an acute hospital, the best choice for the pilot program is a standalone unit with minimal interaction with other units because units with extensive interactions will be unable to use some features of the EHR, such as importing or exporting data to other units that are not live. Pilot implementation requires ongoing evaluation and interviews with users to determine what problems may exist in the systems before full implementation. In some cases, those initially trained for the pilot implementation may be used to train others.

85.

Performance appraisal should generally be:

prompted by disciplinary action.

scheduled.

time-limited

ongoing.

Explanation:

While performance appraisal is sometimes prompted by disciplinary action, this is not usually the case. Additionally, while the actual review of the performance appraisal may be scheduled and the time in which an individual should reach a goal limited, generally performance appraisal should be an ongoing process that continues from one review period to another (usually annually) in order to provide feedback to the individual and help the individual reach goals.

86.

According to the information theory (Shannon), the three steps in the communication of a message are:

encoding, transmitting, and decoding.

producing, transmitting, and receiving.

producing, coding, and interpreting.

speaking, writing, and encoding.

Explanation:

According to Shannon's information theory (1948) the 3 steps to communication of a message are (1) encoding the message (bits, words, icons), (2) transmitting the message (voice, radio, computer), and (3) decoding. Information theory is utilized to evaluate the effectiveness of communication systems. Elements include signal-to-noise (S/N) ratio, channel capacity (maximal information that can be transmitted with minimal error), and entropy (amount of energy, code, or bits needed for storage or communications of one symbol).

87.

Small form factor (SFF) ("footprint") computers typically:

use less energy than standard computers.

have less volume than standard computers.

use only "green" technology.

are elevated on "legs."

Explanation:

Small form factor ("footprint") (SFF) computers typically have less volume than standard computers so that they take up less desk space. Because of their smaller size, SFF computers may have fewer expansion slots, but usually the same features are available in this format. The shape of the computer may differ from other computers as well, with some cube-shaped, book-shaped, and box-shaped. Because there is no industry standard for SFF computers, they vary widely according to manufacturer.

88.

When confidential patient data are contained on mobile devices, such as smartphones or PDAs, these devices should:

contain locking and tracking software.

not leave a secure facility.

be utilized by only one person.

contain only de-identified health information.

Explanation:

When confidential patient data are contained on mobile devices, such as smartphones or PDAs, these devices should contain locking and tracking software so that the data cannot be accessed and the device can be located. Some software is also available that allows distance deletion of data if the device is misplaced or stolen. The organization should have clear policies in place for handling loss of mobile devices or misuse in order to protect patient confidentiality.

89.

According to Benner's stages of clinical competence, a nurse who has 2 to 3 years of experience and the ability to master new situations but who needs extra planning time and may lack flexibility is a(n):

advanced beginner.

competent.

proficient.

expert.

Explanation:

According to Benner's stages of clinical competence, a nurse who has 2 to 3 years of experience and the ability to master new situations but who needs extra planning time and may lack flexibility is a competent. The 5 stages are (1) novice (little experience and rule-governed), (2) advanced beginner (some experience with new situations), (3) competent (see above), (4) proficient (thinks holistically and relies on experience, adaptable), and (5) expert (has a wealth of experience and acts intuitively).

90.

If utilizing a snowflake schema in data warehousing, the organization includes:

a fact table and number of single dimension lookup tables representing one level of the hierarchy.

multiple fact-tables only with no dimension lookup tables.

a fact table and dimensional tables comprised of multiple lookup tables representing different levels of hierarchy.

one fact table only with no dimension lookup tables.

Explanation:

If utilizing a snowflake schema in data warehousing, a fact table at center is surrounded by dimensional tables composed of multiple lookup tables representing different levels of hierarchy. For example, the dimension of time may be represented by multiple interconnected lookup tables: year, month, week, and day. The star schema, on the other hand, has a fact table at the center and single dimension lookup tables surrounding and connected to it.

91.

Moving data from current storage to a separate storage device for long-term storage when the data are no longer necessary for active use is:

data backup.

data warehousing.

data mining.

data archiving.

Explanation:

Moving data from current storage to a separate storage device for long-term storage when the data are no longer necessary for active use is data archiving. The data are often stored because of regulatory requirements or because the data may be of historical or research interest. Data should be stored in such a way that the data can be accessed if necessary. Data archiving may utilize cloud storage or storage in a physical device. Archiving may be automated to some degree, such as archiving patient records after a defined period of time.

92.

The primary focus of Weiner's attribution theory is on:

identifying belief systems.

communicating.

learning.

explaining behavior.

Explanation:

The primary focus of Weiner's attribution theory is on explaining behavior. Weiner believed that people attribute cause for behavior on (1) observing behavior, (2) judging that the behavior was intentional, and (3) attributing the cause for the behavior on internal or external causes. Weiner attributed achievement to individual effort, ability, task difficulty, and luck (good or bad). Weiner further classified attributions according to 3 factors: locus of control, stability of behavioral causes, and ability to control causes.

93.

To select "patient name" and "city" from an RDMS table labeled "Patients," the correct SQL statement is:

SELECT name + city;

SELECT patient name, city FROM patients;

SELECT patient name + city FROM patients;

SELECT patient name + city –street address From patients;

Explanation:

To select "patient name" and "city" from a RDMS table labeled "Patients," the correct SQL statement is:

SELECT patient name, city FROM patients;

Structured Language Query (SQL) is used to retrieve data, insert data, update records, and delete records in a relational database management system (RDMS). SQL can also create new tables and new databases and can create different views. Common commands include SELECT, UPDATE, DELETE, INSERT INTO, CREATE DATABASE, ALTER DATABASE, CREATE TABLE, ALTER

TABLE, and DROP TABLE. The commands are not case sensitive although they are often used in capitals, and the semicolon is used to separate statements.

94.

When utilizing barcode scanning for bedside medication verification, the nurse administering medications must:

scan the medication barcode and check the patient's ID.

check the medication barcode and scan the patient's ID barcode.

scan both the patient's ID barcode and the medication barcode.

scan the medication barcode and the EHR barcode.

Explanation:

When utilizing barcode scanning for point-of-care medication verification, the nurse administering medications must scan both the patient's ID barcode and the medication barcode to make sure that they match before administering the drug. When a physician's order is obtained from the CPOE, the patient's ID is verified and a barcode is attached to each individual dose of medication. The nurse at point of care often uses a handheld scanner when checking the barcodes and must not violate this procedure.

95.

According to Knowles theory of andragogy, adult learners are:

unmotivated.

self-directed.

deficient in knowledge.

impractical.

Explanation:

According to Knowles theory of andragogy, adult learners are self-directed (needing little direction from an instructor), practical and goal-oriented (wanting to know the end goal), knowledgeable (having many years of varied experience to draw from), relevancy oriented (needing to understand how education is to be used), and motivated (wanting to learn for the sake of achievement or to meet a goal). Adult learners like to be actively involved and are able to relate new information to that previously learned but need a clear understanding of how information will be applied and clear objectives.

96.

Which of the following terminologies is used to code for medical procedures and services under health insurance plans (both public and private)?

CPT

ICD-10

NOC

NIC

Explanation:

Current Procedural Terminology (CPT) was developed by the American Medical Association (AMA) and is used to code for medical procedures and services under health insurance plans (both public and private). The code set is copyrighted by the AMA and is continually evaluated and updated annually in October of each year. Medicare utilizes an adjusted form of CPT, the HCPS code. While ICD-10 codes are used to code for procedures, ICD-10 coding is used only for inpatients.

97.

The primary goals of human-computer interaction (HCI) usability are:

time, training, and trust.

ease of use, durability, and responsiveness.

effectiveness, efficiency, and satisfaction.

satisfaction, ease of use, and responsiveness.

Explanation:

The primary goals of human-computer interaction (HCI) usability are effectiveness (the interaction should achieve the desired result), efficiency (the interaction should be easy to carry out and should do so in a timely manner), and satisfaction (the user should feel comfortable with the interaction and satisfied with the effort and the results), so any usability studies should focus on these goals. Various types of usability studies may be conducted, including practice with prototypes and administration of questionnaires.

98.

The initial step in conducting a usability study is to:

evaluate constraints.

determine the emphasis of the study.

select testing methods.

define the purpose of the study.

Explanation:

The initial step in conducting a usability study is to (1) define the purpose of the study because this is necessary in order to choose the testing method; (2) evaluate constraints, such as time, resources, and staff; (3) refine components depending on the HCI framework; (4) determine the emphasis of testing (overall or one aspect); and (5) select testing methods, taking into account the identified constraints and evaluation of the HCI.

99.

The process of "thinking aloud" is used for:

post-test assessment.

pre-test assessment.

performance testing.

user aptitude testing.

Explanation:

The process of "thinking aloud" is used for performance testing. When a user or a group of users utilizes the computer system during performance testing, the users verbalize their experiences, perceptions, and feelings during the activities as these comments help the informatics nurse to identify problems (as well as positive aspects) that the users will encounter when using the system. The users are also observed for facial expressions, eye tracking, and general behavior.

100.

Which of the following is an example of a low-level error in inputting or outputting data?

User executes the wrong sequence of steps in inputting data

User inputs data that are incompatible with the computer system

User is unable to make a decision about the correct action

User is unable to correctly interpret outcomes data

Explanation:

An example of a low-level error in inputting of data is when the user executes the wrong sequence of steps. This type of error usually results in some type of alarm or hard stop of the program until corrected, so the error can usually be corrected fairly easily. A moderate-level error includes inputting data that are incompatible with the computer system. High-level errors include being unable to make a decision about the correct action or being unable to correctly interpret outcomes data.

101.

"Cognitive walkthrough" is especially valuable for:

periodic system evaluation.

testing on initiation of the live system.

self-learning activities.

prototype testing.

Explanation:

"Cognitive walkthrough" is especially valuable for prototype testing as it helps to identify problems with usability. A thorough study is completed to outline each step in a process needed to complete a task. Users carry out the steps in the process while using "think aloud" procedures to describe their experiences. Users are assessed for the ability to use the system and to carry out the steps. Sessions are often video- or audiotaped for further evaluation, and users may be given a post-test to evaluate understanding and retention.

102.

User acceptance testing (UAT) should ideally be completed:

immediately after a new system has gone live.

immediately before a new system goes live.

during alpha or beta testing before implementation.

during training sessions after a pilot program is completed.

Explanation:

User acceptance testing (UAT) should ideally be completed during alpha testing (by the developer) or beta testing (by end users) before implementation of the system so that problems can be identified and user acceptance evaluated. Some actual end users should be included in testing, although some surrogate users may be included. If user acceptance is low, then the technology may not be used in the way in which it was intended, and this could result in errors.

103.

Clinical information, such as order sets and patient education materials, should be reviewed at least:

monthly,

biannually.

annually.

biennially.

Explanation:

Clinical information, such as order sets and patient education materials, should be reviewed at least biannually; more frequent review may be required depending on changes to the system, changes in order sets, changes in clinical practice or user feedback suggesting a need for modification or change. Manufacturers may send out alerts that require review of the system and updates as well. Review may also be triggered by unusual findings, such as an increased error rate.

104.

The informatics nurse should be aware that one of the most common problems with EHRs related to safety is:

failing to document patient information.

disclosing passwords to unauthorized personnel.

displaying inaccurate ID information on screens.

documenting patient information on the wrong record.

Explanation:

The informatics nurse should be aware that one of the most common problems with EHRs related to safety is documenting patient information on the wrong record. If undetected, this presents a serious danger to the patient. If detected and corrected, this takes time away from patient care. One method of assessing this problem is to review when information on one record has been removed or identified as an error and the same information is immediately applied to another record.

105.

The purpose of a master patient index is to:

ensure accurate patient identification.

ensure accurate billing codes.

reduce system response time.

provide backup for lost data.

Explanation:

The purpose of a master patient index is to ensure accurate patient identification. Because patients may have the same or similar names, the master patient index should contain the name as well as other identifying information, such as birthdate, social security number, patient ID number, and zip code. An alert should sound if a person attempts to enter data or search for data about a patient with the same name as an existing patient.

106.

When developing a test or read-only version of the EHR for staff development, the interface should be distinctly different from the live version to:

provide practice in using different interfaces.

demonstrate that different interfaces can render the same results.

prevent documenting or accessing data in the wrong system.

decrease costs associated with producing the test or read-only version.

Explanation:

When developing a test or read-only version of the EHR, the interface should be distinctly different from the live version to prevent documenting or accessing data in the wrong system. Data entered inadvertently into the test/read-only version cannot generally be retrieved and may be lost. If accessing data, the data may be inaccurate. The differences in interfaces should be very noticeable, such as using a completely different color scheme for the layout and different fonts and/or font sizes.

107.

When reviewing user data, the informatics nurse notes that one staff member has far higher error rates than others. The best method of dealing with this is to:

send the person a written notice.

send the person an e-mail, detailing the objective error rates, and schedule a meeting.

speak to the person face-to-face.

report the person to the unit supervisor.

Explanation:

If, when reviewing user data, the informatics nurse notes that one staff person has far higher error rates than others, the best method of dealing with this is to speak to the person face-to-face to discuss the reasons for the errors and any need for additional training. While sharing the rates with the individual objectively is helpful, this would best be done after a face-to-face discussion. The informatics nurse should avoid accusatory language or attitudes and instead focus on collaborating with the person to identify the person's needs and reduce the error rate.

108.

BI-RADS criteria are used to store:

radiology results.

culture and sensitivity results.

ECG results.

mammography results.

Explanation:

BI-RADS (Breast Imaging Reporting and Data System) criteria, developed by the American College of Radiology, are used to store and report mammography results so that the results are standardized. BI-RADS provides mammography assessment categories that range from 0 (inconclusive) to 6 (proven malignancy with biopsy). BI-RADS also has categories for breast composition: (a) fatty, (b) scattered density, (c) dense, and (d) extremely dense.

109.

The EHR alert for a serious potential error requiring a specific action before proceeding is called a:

critical alert.

soft stop.

hard stop.

adverse hold.

Explanation:

The EHR alert for a serious potential error requiring a specific action before proceeding is called a hard stop because this makes the user focus on the seriousness of the potential error. Hard stops should only be programmed for very serious errors because if they occur too often, the users may develop "alert fatigue" and take the alerts less seriously or simply override them. However, in some cases more hard stops may be necessary because staff may be more likely to follow protocols if warned by a hard stop that they are deviating from standards.

110.

A high alert override rate usually indicates:

equipment error.

cause for concern.

staff noncompliance.

appropriate staff response.

Explanation:

A high alert override rate usually indicates cause for concern. Physicians and other staff members may be able to override both soft (alert only) and hard stops (alert plus required action), but if this is done frequently, then it may indicate that there is too much flexibility in the system. On the other hand, it may also indicate that some of the alerts are unnecessary or excessive and should be eliminated or downgraded from hard to soft.

111.

When an EHR system is in place, the percentage of verbal or paper orders should be below:

2%.

5%.

10%.

15%.

Explanation:

When an EHR system is in place, the percentage of verbal or paper orders should be below 10%. While not possible to completely eliminate verbal or paper orders, the potential for error is always increased if orders are entered into the system by ancillary personnel. Physicians should be encouraged to use the CPOE CDS system for orders whenever possible, but the efficiency of the CPOE CDS system may vary, and problems can arise if the system is insufficient.

112.

Prior to being issued a unique identifier and password to enter data into an EHR, the staff member should have:

been trained and tested in the EHR system.

reviewed the EHR handbook

been assigned a mentor to monitor and assist in using the EHR system.

completed a course of self-study for the EHR system.

Explanation:

Prior to being issued a unique identifier and password to access and enter data into an EHR, the staff member should have been trained and tested in the EHR system. While some self-study may be indicated, staff members should not be expected to learn on the job or teach themselves because EHR systems can be quite complex, and insufficient training increases the risk of errors. Training must be provided promptly for all new hires or staff members who indicate they need training.

113.

The three primary components of informatics practice are:

manager, educator, and developer.

data, information, and knowledge.

problem, solution, and evaluation.

right information, right people and right time.

Explanation:

The three primary components of informatics practice are data (discreet bits that are not interpreted), information (organized and interpreted data), and knowledge (synthesized information). Not only must information be disseminated to the right users, but the information must also promote the generation of new knowledge that is appropriate to the setting. The five rights related to information sciences are (1) right information, (2) right people, (3) right settings, (4) right way, and (5) right time.

114.

Which of the following does the CPU use to store in-process data?

Read-only memory (ROM)

Random access memory (RAM)

Virtual memory

Cache memory

Explanation:

The CPU uses cache memory to store in-process data so it can be retrieved quickly. Random access memory (RAM) is temporary volatile (lost when the power is turned off) memory that is used by the processor when working on a task. Read-only memory is permanent or semi-permanent nonvolatile memory that stores saved data and is essential for the operating system. Virtual memory is temporary use of the hard drive for memory when many programs are running at the same time.

115.

Which of the following is the most currently relevant interface that provides the means for attachment of additional hardware devices, such as a scanner, to a computer?

IDE

SCSI

USB

SAS

Explanation:

IDE (Integrated Drive Electronics Controller), also known as ATA, was the primary parallel interface for the hard drive, CD-ROM, and DVD drive first created in 1986, but has been replaced with more advanced Serial ATA (SATA). SCSI (Small Computer System Interface) was a parallel interface introduced in 1986 that provided the means for attachment of additional hardware devices, such as a scanner, to a computer. It was then replaced by Serial Attached SCSI (SAS) that allows controllers to link directly to up to 128 devices and functioned at a higher speed (3 Gb/s).While SAS is still used in some formats, most common and effective is the USB interface, first created in 1996, with updated versions released since. USB is economical and self-configuring, allowing for more universality and ease of use. It can be used with a wide variety of devices, and is a standard in all modern computers.

116.

A parallel port is usually used to connect a(n):

external modem to a computer.

plug-in devices, such as a digital camera, to a computer.

digital video device to a computer.

printer to a computer.

Explanation:

A parallel port is an interface that connects a printer to a computer (although it is being surpassed by the USB port or Bluetooth enabled printers). Serial ports connect a computer to an external modem. Universal serial bus (USB) ports are an industry standard that connects various types of plug-in devices to a computer, including keyboards, digital cameras, graphic tablets, and light pens. FireWire is an interface for fast connection often used to connect video devices.

117.

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

Speech synthesizer

Light pen

Mouse

Touch screen

Explanation:

A speech synthesizer is an example of an output device, which is a device that disseminates data in a form that can be utilized with data accessed through an exit device that is part of or attached to a computer. Output devices are examples of hardware but in fact are often combinations of hardware, software, and telecommunications. Other examples of output devices are printers, speakers, portable disk drives, headphones, braille embossers, and monitors.

118.

When assigning roles to team members, the informatics nurse should first consider their:

personality types.

education and skills.

commitment to team efforts.

available time investment.

Explanation:

When assigning roles to team leaders, the informatics nurse should first consider their education and skills in order to match members to the most appropriate roles because members are more likely to be effective if they are dealing with roles with which they have some familiarity. The members' available time investment is also important to ensure that the members actually have the time needed to carry out the roles. Commitment to team efforts is also important but can be modified by effective or ineffective leadership. Personality types vary widely but should not be a deciding factor.

119.

Two megabytes of memory is sufficient to produce:

one typewritten page of text.

one high resolution 5x7" printed photograph.

one minute of high-fidelity sound.

one digital mammogram.

Explanation:

Two megabytes of memory are sufficient to produce 1 high resolution 5x7" printed photograph while 2 kilobytes can produce a typewritten page of text; 10 megabytes, 1 minute of high-fidelity sound; and 50 megabytes, 1 digital mammogram. Data storage is based on binary digits (bits) with 8 bits = 1 byte, 1000 bytes = 1 kilobyte (KB), 1000 KB = 1 megabyte (MB), 1000 MB = 1 gigabyte (GB). Larger capacity storage is a future trend with terabytes (TB) (1000 GB), petabytes (PB) (1 million GBs), exabytes (EB) (1000 PB), zetabytes (ZB) (1000 EB), and yottabytes (YB) (1000 ZB).

120.

The most critical software on a computer is the:

operating system software.

communication software.

graphics software.

data management software.

Explanation:

The most critical software on a computer is the operating system software because if the operating system is not functioning properly, nothing else will work. The operating system software loads first when a computer is turned on and manages both hardware and software applications. Software must be compatible with the type of operating system in order to function. Operating systems include Apple Mac OS X, Unix, Microsoft Windows, and Linux.

121.

The purpose of the Network Interface Card is to connect:

peripheral device to a computer.

modem to a computer

computer to a network.

multiple networks.

Explanation:

The purpose of the Network Interface Card (NIC) (also known as network interface controller or LAN adapter), which is installed or built into the motherboard of a computer, is to allow the computer (and its modem) to connect to a network. NICs may be configured for a specific type of network or may allow access to multiple networks. Networks within a hospital, usually local area networks (LANs), may be open to the internet or closed.

122.

Which of the following is the most critical aspect in the design of human-computer interaction (HCI)?

Continuous user input

Expert advice

Cost effectiveness

Administrative guidance

Explanation:

The most critical aspect in the design of human-computer interaction (HCI) is continuous user input, which should be included in all aspects of planning and design (user-centered design). Design must include evaluation and a process for correcting problems that are identified, with the focus always on the needs of the end user. While cost-effectiveness, expert advice, and administrative guidance are important, these concerns should not outweigh those of the actual users.

123.

The primary threat to the security of a network is:

technical errors.

social engineering.

spyware.

malicious insider.

Explanation:

The primary threat to the security of a network is a malicious insider, such as an unhappy employee or an employee who has been fired. Once a person is no longer employed, the person's access to the computer system must be terminated immediately and the ID and password deactivated. Any ID badges issued by the organization should also be obtained so that the person is unable to gain access to secure areas of the organization.

124.

Staff members should be advised not to open e-mail attachments unless they:

know the sender and expect the attachment.

run a virus scan program on the email and attachment.

are using a secure network.

ask a supervisor for permission.

Explanation:

Staff members should be advised not to open an e-mail attachment unless they know the sender and expect the attachment. Even running a virus scan program is not sufficient because new viruses may be undetectable. The most common method for uploading malicious coding or viruses to a computer or network is to send them through e-mail as an attachment. For this reason, some organizations prohibit the use of e-mail or prohibit opening of any attachments.

125.

Which of the following is the study of the mind and the manner in which information is processed?

Communication science

Information science

Cognitive science

Social science

Explanation:

Cognitive science is the study of the mind and the manner in which information is processed. Cognitive science is an interdisciplinary field that includes psychology, neuroscience, computer science, and linguistics, and covers such concepts as memory, perception, and reasoning as well as computational models of cognitive functioning. Cognitive scientists attempt to understand how the brain and mind work and to replicate the functioning of the human brain using computers, a concept sometimes referred to as artificial intelligence.

126.

The process of acquiring knowledge through interpretation of sensory input is:

logic.

perception.

intuition.

rationalism.

Explanation:

Perception is the process of acquiring knowledge through interpretation of sensory input, such as sounds, smells, sights, and textures. Logic, from the perspective or reasoning, requires following strict criteria for validity. In computer science, logic is a set of principles regarding the structure of components and elements in an electronic device that allow it to perform tasks. Intuition is the process of acquiring knowledge through inference, deduction, observation, or experience. Rationalism is the idea that some knowledge is obtained through reason alone and that reason is essential to all acquisition of knowledge.

127.

In Cognitive Work Analysis (CWA), the specific type of analysis that identifies the different responsibilities of various users so HCI can support collaboration is:

strategies analysis.

social organizational analysis.

worker competencies analysis.

control task analysis.

Explanation:

In Cognitive Work Analysis (CWA), the specific type of analysis that identifies the different responsibilities of various users so human-computer interaction can support collaboration is social organizational analysis. CWA was designed for complex environments in which staff members need some degree of flexibility. Strategies analysis evaluates the manner in which work is actually carried out by users. Worker competencies analysis considers design restraints associated with the users. Control task analysis considers the control structure with which the

user must interact. Work domain analysis evaluates system functions and the information needed by users.

128.

The staff of one hospital unit has been very negative about the use of the EHR, resulting in high error rates, override rates, and use of free text. The best initial response to resolving this conflict is to:

discuss the problems with the staff.

retrain the staff.

recommend disciplinary action.

provide one-on-one mentoring.

Explanation:

If the staff on one hospital unit has been very negative about use of the EHR, resulting in high error rates, override rates, and use of free text, the best initial response in resolving this conflict is to discuss the problems with the staff. Because procedures and needs may vary widely from one unit to another, the staff may have valid concerns about the EHR that should be addressed. The high override rates and use of free text both suggest that the staff is trying to work around the system.

129.

The Health Information Technology for Economic and Clinical Health (HITECH) Act under the Enforcement Interim Rule provides:

criminal/civil penalties for violations of HIPAA rules.

funding for organizations to develop security protocols.

guidelines for organizations to develop security protocols.

guidelines for application of HIPAA privacy and security rules.

Explanation:

The Health Information Technology for Economic and Clinical Health (HITECH) Act under the Enforcement Interim Rule provides criminal/civil penalties for violations of HIPAA rules. HITECH outlines 4 levels of violations and corresponding penalties, which cannot exceed $1.5 million for all violations of the same provision. Lack of awareness of the rules and regulations is not considered a defense or protection from penalties. HITECH establishes the Health IT Policy Committee, which makes recommendations regarding implementation of a national health IT infrastructure.

130.

If a new EHR system requires 3 additional steps to document a medication, resulting in increased errors, the first step to reducing errors should be to:

provide more training for staff.

place printed lists of steps on each computer.

revert to the previous EHR system.

determine if steps can be reduced.

Explanation:

If a new EHR system requires 3 additional steps to document a medication, resulting in increased errors, the first step to reducing errors should be to determine if steps can be reduced because the greater the number of steps needed to carry out a process, the greater the chance of error. The number of steps as well as the number of different screens and hard stops should be carefully assessed. The system may also need to be modified in such a way as to more accurately predict and prevent errors.

131.

In which area of the hospital is adding auditory display to visual display likely to be most effective?

Emergency department

ICU

Operating rooms

Pediatrics

Explanation:

Auditory visual displays, which use sound to indicate changes in conditions, such as increased pulse or decreased blood pressure, can be distracting in areas that already have a fairly high volume of noise and/or alarms associated with displays, so the area of the hospital in which an auditory display is likely to be most effective is operating rooms. Operating rooms are usually reasonably quiet, and the auditory feedback may be especially useful to anesthesiologists.

132.

When developing a consumer website to provide information about diseases, treatment, and services, the best approach to ensure usability is probably to:

do a cognitive walkthrough.

conduct a heuristic evaluation.

utilize a format from an existing website.

survey consumers.

Explanation:

When developing a consumer website to provide information about diseases, treatment, and services, the best approach to ensure usability is probably to survey consumers, asking about their preferences regarding web design, including such elements as color, font, font size, illustration and photograph size, icons, and layout options. A focus group of consumers may be used initially. The cognitive walkthrough is usually done with a prototype. Heuristic evaluations are often done during development using experts to assess usability.

133.

A series of 6 sets of vital signs over a 2-hour period would be defined as:

information.

knowledge.

wisdom

data.

Explanation:

Information: organized, interpreted, or structured data, such as a series of 6 sets of vital signs over a 2-hour period. Data: discrete items that are not interpreted in any way, such as a pulse recording. Knowledge: information that is synthesized and understood based on experience, familiarity, and education. This includes recognizing abnormal laboratory results. Wisdom: ability to utilize information to solve problems, sometimes in new and creative manners.

134.

Which of the following interface terminologies is used for classification of nursing diagnoses?

NIC

NANDA-I

NOC

PNDS

Explanation:

NANDA-I (NANDA International): used for standardized classification of nursing diagnoses according to a multiaxial taxonomy of domains and classes. NIC (Nursing Intervention Classification): used for nursing interventions for all settings. NOC (Nursing Outcomes Classification): used for patient outcomes, presented in an alphabetical listing (abuse cessation to wound healing). PNDS (perioperative nursing data set): used for perioperative diagnoses, interventions, and outcomes.

135.

The primary purpose of a clinical decision support (CDS) system is to provide:

security.

recommendations.

referrals.

analysis.

Explanation:

The primary purpose of a clinical decision support (CDS) system is to provide recommendations. CDS systems are rule-based interactive software programs that analyze data to provide recommendations, which may be alerts (such as for drug-drug interactions) or suggestions for treatment (such as medications or other types of therapy), based on the diagnosis and other data. CDS systems may be standalone systems or may integrate with the EHR. Data must be continually uploaded into a CDS system to maintain currency because of how quickly new medical information becomes available.

136.

Which of the following skills indicates the skill level expected of an informatics nurse specialist?

Uses e-mails and conducts internet searches

Performs basic troubleshooting to solve computer problems

Determines probable impact on users when changing systems

Develops models for simulation

Explanation:

The four skill levels for nursing informatics includes:

- *Beginner: able to use e-mail and conduct internet searches, understands basic parts of computers systems and has some understanding of applications.*
- *Experienced: able to perform basic troubleshooting to solve computer problems and understand the impact of computer management on nursing, participates in selection and design of systems.*
- *Nurse Specialist: able to determine the probable impact on users when changing systems, implements and evaluates systems and training, understands human factors and ergonomics.*
- *Expert/Innovator: able to develop models for simulation, develops new methods, uses advanced analysis.*

137.

Which of the following is part of the ANA's Informatics Nurse Specialist Standards of Practice?

Identification of issues/problems

Performance appraisal

Resource utilization

Collaboration

Explanation:

The American Nurses Association (ANA) defined the role and scope of practice of the informatics nurse. Informatics Nurse Specialist Standards of Practice include (I), Identify the issue or problem, (II) identify alternative solutions, (III) choose and develop a solution, (IV) implement solutions, and (V) evaluate and adjust solution. The Standards of Professional Performance include (I) quality of practice, (II) performance appraisal, (III) education, (IV)

collegiality, (V) ethics, (VI) collaboration, (VII) research, (VIII) resource utilization, and (IX) communication.

138.

When faced with an ethical dilemma, the informatics nurse should begin to resolve the issue by:

comprehending and considering alternatives.

evaluating counter arguments.

hypothesizing ethical arguments.

examining the issue in detail.

Explanation:

When faced with an ethical dilemma, the informatics nurse should begin to resolve the issue by examining the issue in detail. This usually requires collecting as much information as possible and determining what the exact issue is that must be decided. Further steps include comprehending and considering possible alternatives, possibly by creating a list and by reviewing rules and regulations that may pertain. Then, the informatics nurse should hypothesize ethical arguments, compare the arguments, and choose one of the alternatives and act on it. The last step is to reflect and consider the outcomes of the chosen solution.

139.

Which of the following is the coding system used to code alternative medical treatments and unlicensed practice, such as yoga therapy?

CPT

ICD-10

ABC

HCPCS II

Explanation:

ABC (Alternative Billing Codes): used to code alternative medical treatments and unlicensed practice, such as yoga therapy, because these types of services, often provided by nonphysician or unlicensed practitioners, are usually not covered by CPT codes. CPT (Current Procedural Terminology): used to code traditional medical treatments, primarily provided by physicians or nurse practitioners. ICD-10 (International Classification of Disease): used to code for diseases, which are classified numerically by etiology and anatomic system. HCPCS II (Healthcare Common Procedure Coding System, level II): used to code for services and equipment often provided for outpatients, such as ambulance, chemotherapy, and durable medical equipment.

140.

According to the Foundation of Knowledge model, early in a career, a nurse focuses primarily on knowledge:

processing.

dissemination

generation.

acquisition.

Explanation:

According to the Foundation of Knowledge model (Mastrian), early in a career, a nurse focuses primarily on knowledge acquisition because the nurse has numerous pieces of information that have not yet coalesced into a whole. The new nurse is still dependent on others, such as supervisors or instructors, to generate and disseminate knowledge while the nurse begins to process the information gained. The nurse gains experience and confidence as information is processed. Because of the fast changes in information, all nurses must continue to acquire knowledge regardless of experience.

141.

A newly hired informatics nurse notes that staff in the hospital frequently access personal e-mails and download materials, including music, on work computers. This suggests that the informatics nurse should:

eliminate internet access.

recommend disciplinary action.

develop an acceptable use policy.

review security provisions.

Explanation:

If a newly hired informatics nurse notes that staff in the hospital frequently access personal e-mails and download materials, including music, on work computers, this suggests that the informatics nurse should develop an acceptable use policy that clearly outlines what uses of the computer are acceptable and what are not. Typically, downloads are forbidden because of the risk of downloading a virus or other malicious software, and personal e-mails (outside of work e-mails) should not be accessed during working hours on work computers.

142.

Passwords used to access patient data should be changed every:

7 to 14 days.

30 to 60 days.

90 to 120 days.

year.

Explanation:

Passwords used to access patient data should be changed every 30 to 60 days. More frequent changes make it hard for people to remember their passwords, so they are more likely to write them down, increasing the risk of security breaches. Strong passwords should be required because they are more difficult to break than dictionary words. Strong passwords include combinations of letters (capital and lower case), numbers, and symbols/signs, such as the ampersand (&).

143.

A primary security advantage of point-of-care documenting of the EHR as opposed to documenting in a central location (such as the nursing station) is:

fewer requests to view protected information.

more restricted access.

lower need for passwords.

less shoulder surfing.

Explanation:

A primary security advantage of point-of-care documenting of the EHR as opposed to documenting in a central location (such as the nursing station) is less shoulder surfing is likely to occur. Shoulder surfing (a common cause of confidentiality compromise) occurs when someone watches the computer screen while another person is accessing records. Computer screens should be positioned so that they cannot be viewed by unauthorized personnel, and healthcare providers should always be on the alert when documenting to ensure that no one is watching the screen.

144.

Oversight and decision-making regarding changes in the CDS system should primarily lie with:

clinicians.

administrators.

board of directors.

vendor.

Explanation:

Oversight and decision-making regarding changes in the clinical decision support system (CDSS) should primarily lie with clinicians, including physicians, nurses, and pharmacists, because they are in the position to understand the needs of the organization and the staff. Support from the board of directors and administration is essential in ensuring a culture of safety. Responsibilities should be clearly outlined and committee structures in place.

145.

When instituting a training program for staff members who will use an EHR system, the best modality for training is:

one-on-one.

group instruction.

hands-on instruction and practice.

a variety of different modalities.

Explanation:

When instituting a training program for staff members who will use an EHR system, the best modality for training is a variety of different modalities because people learn in different ways; for example, a lecture format may be difficult for those with a more visual or kinesthetic preference for learning. Repetition that involves presenting similar information in different ways also helps to reinforce learning. At some point, hands-on practice is essential for both training and evaluation.

146.

The Standards for Privacy of Individually Identifiable Health Information ("privacy rule") in support of HIPAA applies to:

healthcare providers only.

health plans and healthcare providers only.

healthcare providers, health plans, healthcare clearinghouses.

healthcare providers and healthcare clearinghouses only.