October 2017

IT Passport Examination

Questions must be answered in accordance with the following:

Question Nos.	**Q1 – Q100**
Question Selection	**All questions are compulsory.**
Examination Time	**9:30 – 11:30 (120 minutes)**

Instructions:

1. Use a pencil. If you need to change an answer, erase your previous answer completely and neatly. Wipe away any eraser debris.

2. Mark your examinee information and your answers in accordance with the instructions below. Your answer will not be graded if you do not mark properly. Do not mark nor write on the answer sheet outside of the prescribed places.

   (1) **Examinee Number**
   Write your examinee number in the space provided, and mark the appropriate space below each digit.

   (2) **Date of Birth**
   Write your date of birth (in numbers) exactly as it is printed on your examination admission card, and mark the appropriate space below each digit.

   (3) **Answers**
   Select one answer (a through d) for each question.
   Mark your answers as shown in the following sample question.

   [Sample Question]
   Q1. In which month is the fall IT Passport Examination conducted in 2017?

   a) August b) September c) October d) November

   Since the correct answer is "c)" (October), mark your answer sheet as follows:

   [Sample Answer]

Q1	ⓐ	ⓑ	●	ⓓ

Do not open the exam booklet until instructed to do so.
Inquiries about the exam questions will not be answered.

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Answer questions Q1 through Q45 concerning technology.

Q1. Japanese restaurants in London and Japanese restaurants in Paris are to be searched for together. Which of the following is the logical expression that represents the search condition?

a) (“London” AND “Paris”) AND “Japanese restaurant”
b) (“London” AND “Paris”) OR “Japanese restaurant”
c) (“London” OR “Paris”) AND “Japanese restaurant”
d) (“London” OR “Paris”) OR “Japanese restaurant”

Q2. When a sound is recorded in a computer file, it is to be stored as a series of 8-bit encoded data. When the same sound source is sampled at the same sampling frequency and then encoded as a series of 16-bit data in lieu of 8-bit data, which of the following is an appropriate explanation concerning this encoding?

a) The amplitude of the sound can be recorded more finely.
b) When the recording time is the same, the amount of data becomes smaller.
c) The CPU load required to process the recorded data decreases.
d) The upper limit of the frequency that can be recorded becomes higher.

Q3. Which of the following is the binary result of the multiplication of binary 1011 and binary 101?

a) 1111 b) 10000 c) 101111 d) 110111

Q4. There are five (5) lamps arranged in line. Each of them can be turned on and off independently. How many patterns are there where two (2) or more lamps are turned on? Here, the pattern where all lamps are turned on is counted as one (1) and the pattern where any one (1) of them is turned on is counted as five (5).

a) 4 b) 10 c) 26 d) 32

Q5. There is a standard that can represent data in a hierarchical structure by enclosing data that corresponds to attribute *N* with the tags <*N*>, which means the start, and </*N*>, which means the end, and then linking and nesting these tags. Company *A* decides to comply with this standard and create a paper by using the structural rules (1) through (3) below. Which of the following is the appropriate header of a paper named "New Document Management" that is created by Jack Smith of the Information Systems Department (IS Department) in accordance with this standard and the structural rules?

[Structural rules]

(1) A paper is composed of a header and a body text.
(2) The header is composed of a title and author information.
(3) Author information is composed of a name and a department.

a)
```
<header>
  <author info>
    <title>New Document Management
      <name>Jack Smith</name><dept>IS Department</dept>
    </title>
  </author info>
</header>
```

b)
```
<header>
  <title>New Document Management</title>
  <author info><name>Jack Smith</name></author info>
  <dept>IS Department</dept>
</header>
```

c)
```
<header>
  <title>New Document Management</title>
  <author info>
    <name>Jack Smith</name><dept>IS Department</dept>
  </author info>
</header>
```

d)
```
<header>
  <title>New Document Management</title>
  <name>Jack Smith
    <author info><dept>IS Department</dept></author info>
  </name>
</header>
```

Q6. Which of the following is an appropriate description concerning the usage of HTML (Hyper Text Markup Language) tags?

a) <LABEL> is used to define the title of a web page.
b) <BODY> is used to describe the text of a web page.
c) <BIG> is used to specify the size and style applied to each character in a web page.
d) <FORM> is used to divide a web page into multiple frames.

Q7. When a relation between objects is abstracted, the relation from X to Y (called an order relation) is represented as (X, Y) and illustrated as

. Which of the following is the diagram that illustrates three sets of order relations "(A, B), (A, C), (B, D)"?

a)

b)

c)

d)

Q8. Which of the following graphically represents a processing procedure of a program in a visual way?

a) Gantt chart
b) Data flow diagram
c) Flowchart
d) Radar chart

Q9. There is a data structure where data that is entered last is retrieved first (hereinafter, stack). By using this, a device that changes the order of data that is entered from the right side and sends its output to the left side as shown in the Figure is considered. There are three (3) cases of operations for this device.

(1) Data that is entered from the right side is sent to the left side as is.
(2) Data that is entered from the right side is added onto the top of the stack.
(3) Data on the top of the stack is retrieved and sent to the left side.

If the data *A*, *B*, *C*, and *D* is entered sequentially from the right side of the device, which of the following **cannot be an order of the output** to the left side with any combination of the operations (1) through (3)?

a) *B*, *A*, *D*, *C*
b) *B*, *D*, *C*, *A*
c) *C*, *B*, *D*, *A*
d) *C*, *D*, *A*, *B*

Q10. Which of the following is an appropriate explanation of HDMI?

a) It is an interface for an audio-visual device that handles the input and output of video, audio, and control signals through a single cable.
b) It is an interface that makes use of the infrared rays used for the exchange of information between cell phones.
c) It is a serial interface that connects a peripheral device, such as an external hard disk, through a cable.
d) It is a wireless interface that makes use of radio waves and can communicate even when there is a slight shielding.

Q11. Which of the following is an appropriate explanation of GPU?

a) It is an index that shows the throughput of a CPU in terms of how many billions of instructions it can execute per second.
b) It is a frequency signal that synchronizes the arithmetic processing of CPUs.
c) It is a storage unit that is placed between a CPU and a main memory, and has a higher reading and writing speed than the main storage unit.
d) It is an arithmetic logical unit that is used instead of a CPU to accelerate processing such as image processing for 3D graphics.

Q12. Which of the following is a port on a PC's motherboard for the installation of a memory module?

a) PC card slot
b) Flash memory
c) Memory interleave
d) Memory slot

Q13. In the description below concerning the connection between a PC and a peripheral device, which of the following is an appropriate combination of words to be inserted into blanks *A* and *B*?

The connection of a new peripheral device to a PC requires [*A*], but if a peripheral devices that supports [*B*] function is connected, the [*A*] is installed automatically and the device will be ready to use.

	A	*B*
a)	Device drivers	Plug and play
b)	Device drivers	Plugin
c)	Malware	Plug and play
d)	Malware	Plugin

Q14. Which of the following is an appropriate description concerning the hardware maintenance of a system?

a) The hardware device that has not failed for a certain period of time is excluded from scheduled maintenance.
b) It is safe to replace a failed hardware device with the latest model rather than the same model, because compatibility is guaranteed.
c) Scheduled maintenance is performed only for the hardware device that has failed before.
d) In preventive maintenance, measures are taken before a failure occurs.

Q15. Which of the following is the most appropriate explanation of TCO (Total Cost of Ownership) that represents the cost of a system?

a) The total cost of a company's initial investment in an information system
b) The total cost incurred in system development
c) The total cost including system implementation, operation, maintenance, and education
d) The total cost of system implementation

Q16. Which of the following includes all the appropriate measures to enable the normal execution of processing even in the event of a failure in part of a system?

(1) The configuration of HDDs with mirroring
(2) The minimization of the frequency of maintenance and inspections after stable operation of the system starts
(3) The grouping of multiple redundant network lines into a single high-speed line
(4) The redundancy of power supply with the use of UPS (Uninterrupted Power Supply) etc.

a) (1), (3) b) (1), (4) c) (2), (3) d) (2), (4)

Q17. When the log file on a web server is analyzed in daily system administration, which of the following can be found?

a) Web pages accessed by website visitors
b) The model name of a computer used by each visitor

c) The speed of a web browser on each visitor's computer
d) Personal information about individual website visitors

Q18. Which of the following is an appropriate explanation of plug-in software?

a) Plug-in software bridges differences between OSs, and provides more advanced and specific functions than the OSs.
b) Plug-in software does not work as a standalone program, but can be integrated into applications, such as a web browser, to enhance their functions.
c) Plug-in software is often included in applications such as a spreadsheet, and allows the users to record and replay the series of operations performed.
d) Plug-in software is provided to replace part of a program for the purpose of modifying functions or fixing bugs.

Q19. Which of the following is an appropriate description concerning OSs used for PCs?

a) Since the interface between an OS and application programs is standardized, the application programs can be developed without regard to the type of OS.
b) An OS allocates the computer resources, such as the CPU, memory, and auxiliary storage device, to application programs.
c) Since an OS has the function of automatically converting character sets in a file, application programs can access the file without regard to the type of character set.
d) The source code of an OS should be disclosed so that application programs can freely use the various functions of the OS.

Q20. Which of the following is an appropriate explanation of multitasking?

a) Several computers connected via a network work together to achieve a high-performance system.
b) Several processor cores composed of arithmetic circuits and other control circuits are implemented in a single CPU.
c) The CPU processing time is allocated to several processes in turn so that the processes can be executed simultaneously.
d) The same processing is performed for multiple data items by executing a single instruction.

Q21. As shown in the directory structure below, when D3 marked by an asterisk (*) is the current directory, which of the following the appropriate directory path that can designate file *A* under directory D4 marked by an arrow? Here, a file is designated as follows:

[Method of file designation]

(1) A file is referenced as "directory name\···\directory name\file name", where the directory names on the path are listed and separated with "\" in sequence, followed by the file name.
(2) The current directory is represented by a period ".".
(3) A directory that is one level higher is represented by two periods "..".
(4) When the path name string begins with a backslash "\", the root directory is omitted from the beginning of the string.
(5) When the path name string does not begin with "\", ".", or "..", it is assumed that " .\" for the current directory is omitted from the beginning of the string.

a) ..\..\D2\D4*A*
b) ..\D2\D4*A*
c) D1\D2\D4*A*
d) D2\D4*A*

Q22. Which of the following is an appropriate description concerning OSS (Open Source Software)?

a) Source code can be edited and then redistributed.
b) Source code is free of charge, but maintenance and support are charged.
c) Copyrights are waived, so it can be used without permission.
d) If the copyright is not waived, the operability must be warranted.

Q23. Which of the following is a computer that is used for activities such as global scale environmental simulations and DNA analysis, and was developed with the objective of processing large amount of calculations at ultra high speed?

a) Virtual computer
b) Super computer
c) General purpose computer
d) Microcomputer

Q24. Which of the following is an appropriate type of menu that enables users to make multiple selections on common GUIs as seen in PC operating systems?

a) Check box
b) Text box
c) Pull-down menu
d) Radio button

Q25. Which of the following is an appropriate description concerning the characteristics of video streaming?

a) It is mandatory to have the data on the server beforehand, and videos of events and sports cannot be distributed while they are being shot.
b) Deterioration in picture quality due to partial lack of reception data can be completely eliminated.
c) Preparation time is not required for starting playback of a video, and therefore, the viewer can immediately start watching the video.
d) Rather than waiting for the entire video data to be downloaded, playback starts as soon as some data has been read in.

Q26. The response time of an inventory management system that uses a relational database has recently become slow. An investigation reveals that when the system was initially created, there was no problem with response time, and after that, insertion and deletion of product data was repeatedly performed on the database. Which of the following is the most effective way to improve the response time of the database?

a) Upgrading the CPU of the database server
b) Extending the index area of the database
c) Defragmenting the database
d) Increasing the number of hard disks that store the database

Q27. Which of the following is a service that provides disk space on a server connected to the Internet for storing files and allows users to read and write data from anywhere inside or outside their homes?

a) Archive
b) Authoring
c) Online storage
d) Flash memory

Q28. In a system environment where several users have access to a database simultaneously, a new user tries to view a data record while another user is updating the same record. In order to assure data integrity in such circumstances, which of the following is an appropriate control method that should be used in the DBMS?

a) Interrupting the updating process to permit the new user to view the record
b) Permitting the new user to view the latest data during the updating process
c) Permitting the new user to view the record after completion of the updating process
d) Canceling the updating process to permit the new user to view the last record

Q29. Which of the following is an appropriate description concerning the primary key of a relational database?

a) NULL can be set only in one (1) record to a value of a field selected as a primary key.
b) Any values in a field selected as a primary key cannot be updated.
c) A field selected as a primary key cannot be referenced as the foreign key of another table.
d) A combination of multiple fields can be selected as a primary key.

Q30. Which of the following is an appropriate description concerning a cookie used in the web?

a) It is a standard that can be used for formatting the layout of an HTML document in detail.
b) It is a version of the HTTP protocol to which an encryption function is added for private communications over the Internet.
c) It is a mechanism where a web server interacts with external programs to create web pages dynamically.
d) It is a mechanism where information from a web server is temporarily saved in a browser that accesses the web server.

Q31. Which of the following is a communication network built in a limited area, such as the inside of a building?

a) IP-VPN b) LAN

c) WAN

d) Wide-area Ethernet

Q32. Which of the following is an appropriate explanation of an intranet?

a) It is an organization's internal network that is built with Internet technology.
b) It is a company's internal network that anyone outside a company can freely connect to.
c) It is a network that is built in order to perform commercial electronic transactions between multiple companies.
d) It is a network that is built without using wireless network, but with using wired network only.

Q33. When other networks such as the Internet are accessed from a network in an office or a household, which of the following fulfills the role of an entrance or an exit to the other networks?

a) Splitter
b) Default gateway
c) Hub
d) Repeater

Q34. Which of the following is the most appropriate explanation of a communication protocol?

a) It is a hub device for cables that are used to connect devices such as PCs and printers to a LAN.
b) It is a description of the location of information specified with a web browser and the method for accessing it.
c) It is a number that is used to identify a computer in Internet communication.
d) It is a set of conventions that are defined for communication over a network.

Q35. Which of the following is an appropriate explanation of spam mail?

a) E-mail that is indiscriminately sent to users without their consent
b) E-mail that is distributed to all participants registered previously for a specific purpose
c) E-mail that is sent or forwarded with the same content by its receivers to multiple destinations and causes the number of receivers to continue increasing

d) A message exchange system that provides a message posting function using e-mail or web page to enable information exchange with the general public

Q36. Which of the following is an appropriate explanation of the keylogger that is a threat to information security?

a) Stealing information by watching the keyboard input and the display screen from behind a PC user
b) Monitoring the keyboard input on a user's PC by running a mechanism that can record such input
c) Analyzing a password by using dictionary data of all the words that are likely to be used as passwords
d) Searching for a free access point by moving around a town with a PC that can detect the electromagnetic waves of a wireless LAN

Q37. The authentication technology is classified into three (3) types, namely authentication based on one's possession, authentication based on physical characteristics, and authentication based on one's memory. Which of the following is the appropriate classifications of the implementation examples (1) through (3)?

(1) Authentication using an IC card
(2) Authentication based on an ID and password
(3) Authentication based on fingerprint

	(1)	(2)	(3)
a)	Authentication based on one's possession	Authentication based on physical characteristics	Authentication based on one's memory
b)	Authentication based on one's possession	Authentication based on one's memory	Authentication based on physical characteristics
c)	Authentication based on one's memory	Authentication based on one's possession	Authentication based on physical characteristics
d)	Authentication based on one's memory	Authentication based on physical characteristics	Authentication based on one's possession

Q38. Which of the following is a form of direct damage to a server which is caused by a DoS attack?

a) The encrypted data is decrypted.
b) The administrator password is changed.
c) The server is infected by a virus.
d) The services of a server are interrupted.

Q39. Which of the following is the most appropriate explanation of the operation that spyware is meant to perform?

a) To destabilize the operation of the OS and software
b) To delete files from the file system without user consent
c) To hijack the browser and forcefully execute a particular operation
d) To collect personal and other information without being noticed by users

Q40. Which of the following is an appropriate information security measure against harmful software in a PC?

a) Using a 64-bit OS
b) Maintaining the latest version of the virus definition file at all times
c) Defragmenting the hard disk periodically
d) Saving files after compressing them

Q41. Which of the following is an appropriate description concerning a security patch that is used for the OS, middleware, applications, etc., on a PC that is used for work at a company?

a) It should be applied in order to prevent virus infection.
b) It should be applied when a PC is infected with a virus.
c) If the current functions are satisfactory, even if a security patch is released, it does not need to be applied.
d) Software for which support has ended and no more security patches are to be released can be used securely if all security patches released so far are applied.

Q42. Security risk treatment includes risk transfer, risk avoidance, risk acceptance, and risk mitigation. Which of the following is an example of risk mitigation?

a) A security measure was taken, which reduced the possibility of problems occurring.
b) The company took out insurance in case a problem should occur and cause damage.
c) The risk was confirmed to be small, and it was decided that damage would be borne by the company if a problem should occur.
d) The company withdrew from the services that carried high risk.

Q43. Which of the following shows the basic concept and approach in ISMS activities concerning the protection of information assets that are handled by a company?

a) BCP
b) ISMS requirements
c) PDCA
d) Information security policy

Q44. Which of the following is an appropriate example of a vulnerability that is discovered in a penetration test that is conducted via the Internet?

a) A backdoor for unauthorized intrusion to a public server from an external network
b) An exfiltration of confidential information with the use of storage media
c) A virus infection on a PC that is to be connected to the internal network
d) The route of unauthorized entry to a room with security protection

Q45. Which of the following descriptions concerning confidentiality, integrity, and availability in information security is an example of integrity not being maintained?

a) An encrypted e-mail is tapped by a third party when it is sent.
b) An operator makes a mistake in data input, and a contradiction occurs in a customer contact list.
c) A shopping site cannot be used temporarily because of a system failure.
d) Customer information that is managed in a database is leaked.

Answer questions Q46 through Q65 concerning management.

Q46. Which of the following is an appropriate explanation concerning software maintenance?

a) During system development, each program that has been created on the basis of the detailed design is verified, and also modified as appropriate if any significant error or inaccuracy is detected.
b) Programs are corrected or revised for the purpose of maintaining the stable system operations and also keeping pace with the development of information technology and changes in business strategy.
c) When a question is asked by a system user, the question is recorded and transferred to the appropriate department, and the final response is recorded.
d) From a wide range of perspectives, the system including software is investigated, and it is determined whether or not the system is contributing to the business operations.

Q47. A specification document of software is created as a result of software detailed design. Which of the following is the person who takes charge of the next process of development upon receipt of this result?

a) System auditor
b) System operator in-charge
c) System user
d) Programmer

Q48. In the process of system requirements definition, which of the following is an appropriate evaluation criteria for system requirements?

a) Consistency with results of system integration test
b) Consistency with needs of system users
c) Appropriateness of the design method used
d) Coverage of test cases

Q49. Which of the following is the most appropriate description concerning the installation of internally developed software to the production environment?

a) Regardless of the scale of developed software, a systems audit must always be performed after installation and an audit report must be created.
b) When software is to be installed, the organization such as the persons who implement the installation and persons with responsibility must be clarified.
c) Software installation takes less time than software development activities, so there is no need to prepare an installation procedure.
d) Software installation is performed by the systems department alone, so there is no need to document the results and convey this to the user department.

Q50. Software development models include the waterfall model, spiral model, prototyping model, and RAD, etc. Which of the following is the most appropriate explanation of the waterfall model?

a) After all activities that should be implemented in each development phase are complete, the project proceeds to the next phase.
b) The functions to be developed are divided, and each function is efficiently and swiftly developed with the use of development tools and parts.
c) At an early phase in system development, a prototype that enables users to visually confirm requirements is created.
d) The functions of a system are divided, and the system is gradually completed through repeated design and development for each function so that feedback from the user can be incorporated.

Q51. Among the following lists of descriptions *A* through *D*, which is the set that contains all appropriate descriptions concerning quality management in information systems?

A: Continuous initiatives according to the PDCA cycle are effective in improving quality.
B: The more functions a system has, the higher the quality.
C: The cost of preventing defects is generally less than the cost of correcting bugs when they occur.
D: Quality can be increased through appropriate design and implementation.

a) *A*, *B*, *D* b) *A*, *C* c) *A*, *C*, *D* d) *C*, *D*

Q52. Which of the following is a technique that represents, hierarchically as shown in the figure below, activities of the development project of the new sales office system ?

a) PERT (Program Evaluation and Review Technique)
b) WBS (Work Breakdown Structure)
c) Structured programming
d) FP (Function Point) method

Q53. The risk treatment planning of a project starting in April of year *X*, which is the next fiscal year, is being considered. When the four risks described in the table below are assumed, which of the following is the risk that is expected to have the highest priority for taking action? Here, the priority is determined by the multiplication of the probability of occurrence and the extent of impact of the risk, and if the priority is the same, the risk with the closer deadline is handled as soon as possible.

Risk	Expected time of risk occurrence	Probability of risk occurrence	Loss expected at the occurrence of a risk
Risk 1	April 1 of year *X*+1	0.6	600,000 dollars
Risk 2	July 1 of year *X*	0.4	900,000 dollars
Risk 3	July 1 of year *X*	0.1	100,000 dollars
Risk 4	March 1 of year *X*+1	0.5	700,000 dollars

a) Risk 1 b) Risk 2 c) Risk 3 d) Risk 4

Q54. In a system development project, the installation of PCs for development is delayed. However, a plan was created beforehand to use old PCs as an alternative in the case of a delay, so it is possible to start the development activities according to the plan. In this case, which of the following is implemented as project management?

a) Estimate for the critical path
b) Scope definition
c) Identification of stakeholders
d) Implementation of a risk response plan

Q55. When the test period for the three (3) subsystems *A*, *B*, and *C* and the number of staff members are as shown below, what is the number of staff members in the month that has the highest total number of staff members in the test period?

Subsystem	Test period	Number of staff members
A	April - June	One (1) full time
B	May - July	Two (2) full time
C	July - August	Three (3) full time

a) 3 b) 4 c) 5 d) 6

Q56. In order to achieve the objectives of a project, the deliverables that must be created in the project and the activities that are necessary to create the deliverables are decomposed. In which of the following knowledge areas of project management is this activity?

a) Project cost management
b) Project scope management
c) Project time management
d) Project risk management

Q57. When a project is launched, which of the following is created by the project manager to run the project?

a) Request for proposal
b) Project implementation report
c) Project management plan
d) Requirements definition

Q58. A part of a program was changed to add a new function to a system in operation. Which of the following is the most appropriate environment that is used for testing the changed program and determining whether or not it can be brought into system in operation?

a) Programming environment
b) Test environment for other systems
c) Production environment
d) Test environment equivalent to production

Q59. Among the management functions for service support, which of the following is the process of identifying all IT assets such as hardware and software, and creating and maintaining an up-to-date record of those IT assets including related documentation or such other information?

a) Configuration management
b) Incident management
c) Problem management
d) Release management

Q60. Which of the following is the framework that describes a collection of best practices of IT service management?

a) ISO 14001
b) ISO 27001
c) ITIL
d) PMBOK

Q61. For confidential information that is managed in an information system, which of the following is an appropriate measure that is performed from the facility management perspective against leakage?

a) Installation of antivirus software
b) Entrance and exit control for a building that has a computer room
c) ID and password management for information systems
d) Encryption of electronic documents

Q62. Which of the following is an appropriate description of internal control?

a) A process that is performed by all persons within a company in order to ensure the effectiveness and efficiency of business operations, reliability of financial reporting, compliance, and safeguarding of assets
b) A process where a manager who is entrusted with business management raises funds from a financial institution and buys shares from the shareholders of a parent company in order to obtain a controlling interest
c) An approach to both work and personal life outside of work where an attempt is made to sacrifice neither work nor personal life and to keep a good balance between both of them in a fulfilling way
d) A measure taken by an organization in order to achieve the target of organizational activities, and a method that aims for the optimization of business activities and systems

Q63. Which of the following is an activity that is performed by a service provider and is effective for the improvement of availability?

a) Measurement of response time
b) Monitoring of failure occurrence
c) Management of the server configuration used by the organization
d) Recording of the modification history of a program

Q64. Which of the following is the most appropriate explanation of IT governance?

a) It is the organizational abilities of a company to control the creation and execution of its IT strategy with the purpose of building competitive superiority, and to lead it in the ideal direction.
b) It is the implementation and management of a good quality IT service that meets business needs.
c) It is an activity that a third party that is not an involved party nor its management verifies that implementation and operation of risk control concerning information systems are appropriate.
d) It is the application of the knowledge, skills, tools, and techniques to project activities in order to meet the requirements of the project.

Q65. When an audit is classified as a business operations audit, systems audit, or information security audit, which of the following is an appropriate combination of the classifications of audit and descriptions *A* through *D* concerning the purpose of the audits?

A It evaluates whether financial statements accurately show information such as the assets and profit and loss of the organization.

B It evaluates whether controls for risks concerning information systems are implemented and operated appropriately on the basis of a risk assessment, including from the perspective of information security.

C It evaluates the status of implementation and operation of appropriate controls on the basis of a risk assessment so that risk management concerning information security is implemented effectively.

D It evaluates the implementation status of all operations except accounting operations, such as organization's manufacturing and sales.

	Business operations audit	Systems audit	Information security audit
a)	*A*	*C*	*B*
b)	*B*	*A*	*D*
c)	*C*	*D*	*A*
d)	*D*	*B*	*C*

Answer questions Q66 through Q100 concerning strategy.

Q66. Which of the following is the most appropriate example of what can be understood by means of the "C" phase in the PDCA cycle as one of the business management methodologies?

a) The medium- and long-term status that a company aims for
b) The technology elements that constitute a company's technology road map
c) The implementation status of a company's business plan
d) The results of an analysis of the external environment surrounding a company's business

Q67. Among the employee training methods, which of the following is classified as "off-the-job training" rather than "on-the-job training"?

a) Promoting the independence and autonomy of employees by granting authority to the employees who do the real work
b) Enabling the acquisition of knowledge and techniques through education and training implemented separately from work
c) Enabling the acquisition of necessary knowledge and techniques by coaching and training on a planned basis through actual tasks
d) Putting forward questions and simple advice to have employees work towards their goals for themselves

Q68. Which of the following is the list containing all the items that necessitate the decision of a stockholders' meeting?

A: Election of an auditor
B: Determination of corporate merger
C: Enforcement of an enterprise strategy
D: Election of directors

a) *A*, *B*, *D* b) *A*, *C* c) *B* d) *C*, *D*

Q69. Which of the following is an explanation of a functional organization?

a) It is an organization that is formed only for a fixed period of time by collecting only the functions necessary for resolving a problem, and is dissolved when the problem is resolved.
b) It is an organization in which business operations are divided into expert functions, and each function is configured as a unit.
c) It is an organization that is configured to bear the profit responsibility of the business with a product or region as a unit.
d) It is an organization that is formed to have a vertical and a horizontal structure by combining together units such as the products and functions.

Q70. In order to produce and sell a certain product, the fixed cost is 10,000 dollars and the variable cost for each product is 700 dollars. When this product is sold for 1,000 dollars each, at least how many products need to be sold in order to obtain a profit of 17,000 dollars or more?

a) 90 b) 270 c) 630 d) 900

Q71. Which of the following refers to a technique by which several persons come together and give their opinions freely with prioritizing quantity over quality of opinions without criticizing each other so as to create ideas?

a) Brainstorming b) Benchmarking
c) Role playing d) Work design

Q72. Which of the following is an international book code?

a) EAN b) ISBN c) ITF d) UPC

Q73. The entire inventory of Warehouse *A* and Warehouse *B* is to be sent to Warehouse *C* and Warehouse *D*. The inventory volume of Warehouse *A* and Warehouse *B* is 35 items and 15 items respectively, and the required volume for Store *C* and Store *D* is 20 items and 30 items respectively. The shipment cost for each item from warehouse to store is as shown in the table. Under these conditions, what is the minimum total shipment cost in 100 dollars?

Unit: 100 dollars/item

	Store *C*	Store *D*
Warehouse *A*	4	2
Warehouse *B*	2	1

a) 85 b) 100 c) 110 d) 125

Q74. Which of the following is the coding scheme that can encode a large amount of information into a small area and has an error correction function that enables the code to be read out correctly even when the code cannot be partially read out?

a) ISBN code
b) ITF code
c) QR code
d) Unicode

Q75. According to the ISO 9000 family, quality is defined as the "degree to which a set of inherent characteristics fulfills requirements." When products are evaluated on the basis of this definition, which of the following is most appropriate as a product with good quality?

a) A product having no customer complaints and a high level of customer satisfaction
b) A product that a company produces in-house without outsourcing
c) A product designed and manufactured using CAD and CAM
d) A product utilizing materials and components of high quality

Q76. Which of the following is an example of an NDA (Non-Disclosure Agreement)?

a) A contract specifying the service content to be provided, which is agreed between the service provider and the customer before the provision of the IT service
b) A contract specifying that the vendor of computer equipment bears the responsibility of transferring the property right, and that the buyer bears the responsibility of paying the price
c) A contract, specifying the obligation of the outsourcer and outsourcee to maintain confidentiality of the secret information of the other party that become known to the party during system development
d) A contract specifying that a person to whom the installation of a general-purpose package has been outsourced performs the task at his/her own discretion and responsibility, and receives payment upon the completion of the task

Q77. Which of the following is an academic organization in the USA that promotes standardization activities concerning Ethernet LAN and wireless LAN, etc.?

a) ICANN b) IEEE c) ISO d) W3C

Q78. Which of the following is the most appropriate as an example of an enhancement activity for compliance?

a) Expansion of a program to support the community service activities of employees
b) Education for employees concerning laws and rules that must be followed
c) Acquisition of another company's business for swift business deployment
d) Withdrawal from businesses where it is difficult to make profit

Q79. A series of procedures, from the application for a digital certificate to the implementation of electronic tendering, are performed according to steps (1) through (6). Which of the following is an appropriate procedure to be performed in step (4)?

a) Notifying the results of opening of tenders
b) Issuing an electronic certificate
c) Checking the effectiveness of the electronic certificate
d) Submitting a tender electronically

Q80. Which of the following is an appropriate explanation of opinion leaders who are thought to be important for market penetration of a new product?

a) The tier of people who purchase the product after making sure that many people are using it.
b) The tier of people who take a cautious approach and purchase the product after checking with the early buyers
c) The tier of people who purchase the product early based on their judgment and have an influence on other consumers who follow behind
d) The tier of people who are adventurous enough to take the initiative in purchasing the product

Q81. Cross licensing is a way of using a company's own patents effectively. Which of the following is an appropriate explanation of the right to execute the patent in cross licensing?

a) The company grants an exclusive license of a patent to an authorized party.
b) An authorized party, who is granted the right to execute the patent, grants it to a third party.
c) Two patent-holding companies mutually grant the right to execute their patents to each other.
d) Multiple companies centralize the management of their own patents at a single place and grant the licenses to the participating companies including those that do not own any patent.

Q82. Which of the following is the most appropriate as the underlying concept of CRM?

a) The source of profit is the entry into an area with little competition before competitors.
b) The source of profit is the construction and maintenance of a good relationship with the customer.
c) The source of profit is the reduction of the product life cycle.
d) The source of profit is the obtaining of a large share in a specific market.

Q83. Which of the following is an appropriate description concerning M&A?

a) The analysis of the flow of business and the chain of value for the production of value of products and services provided by a company
b) The increase in the independence of an enterprise strategy by dividing a company by business or region
c) The drastic reform of business processes, and using IT to increase business throughput and cost efficiency
d) The acceleration of business deployment by fulfilling the functions that the company is lacking from other companies through corporate acquisition, etc.

Q84. Company *A* performs analysis of its positioning with competitors. In order for Company *A* to obtain the best evaluation of all three (3) companies, what is the minimum number of points required in the brand evaluation item?

The minimum value of evaluation item is one (1) point and the maximum value is ten points, and each company is evaluated by using the total value of each weighted evaluation item.

Evaluation item	Weight	Company *A*	Company *B*	Company *C*
Selling power	1	10	9	6
Price	4	10	7	9
Quality	3	6	10	7
Brand	2		6	10

Note: The shaded part is not shown.

a) 6 b) 7 c) 8 d) 9

Q85. Which of the following is an explanation of a roadmap that is created in a technology development strategy?

a) On a matrix with the two (2) axes of technological competitiveness and technology life cycle, existing technology and new technology are plotted.
b) On coordinates with the two (2) axes of investment in research and development and results, a graph is created of the growth process of old and new technology to show the status of migration from old technology to new technology.
c) On a matrix with the two (2) axes of market prospects and technology prospects, research and development projects that are undertaken by a company are plotted.
d) Time is displayed on the horizontal axis, and market, product, technology, or another such factor is displayed on the vertical axis, and the path of element technology and required functions, etc., from research and development activities are shown on the time axis.

Q86. Which of the following is the situation where an improvement can be expected by installing an MRP (Material Requirements Planning) system?

a) Drawing information is managed on both electronic files and hard copies, so the history of design changes cannot be correctly understood.
b) Information about materials necessary for manufacturing and their required quantities is complicated, so order quantities are often miscalculated and production is adversely affected.
c) There are many design changes, so production efficiency is low.
d) High-mix, low-volume production is adopted, so the cost of installing production equipment is increasing.

Q87. Which of the following is an appropriate description in comparison of how to safeguard IC cards and magnetic cards against forgery?

a) An IC card is more robust against forgery than a magnetic card, because the IC card provides the features of storing and encrypting information in the IC chip.
b) An IC card is more robust against forgery than a magnetic card, because the IC card uses a two-dimensional code for information recording.
c) A magnetic card is more robust against forgery than an IC card, because the magnetic card stores information on a magnetic stripe and has a more complicated data protection mechanism.
d) A magnetic card is more robust against forgery than an IC card, because the magnetic card uses a bar code for information recording.

Q88. Which of the following is a form of e-commerce corresponding to an online bookstore or an online shopping mall that is constructed for individuals on the Internet?

a) B to B b) B to C c) C to B d) C to C

Q89. Which of the following is the most appropriate purpose of ERP?

a) Achieving the optimization of business resources and the improvement of management efficiency by managing all corporate activities in an integrated manner and linking business operations in a cross-organizational fashion from the viewpoint of making effective use of business resources.
b) Improving performance by reviewing the current business processes and reforming not only the work flows and methods but also the structure and management system of the organization.
c) Responding to customers more rapidly and building good relationships with them by storing information concerning customers into a database and making it to be shared by all the departments that contact customers.
d) Utilizing the employees' creativity, capacity to act, wisdom, and knowledge and information stored in a database as consolidated business resources, not as separate assets.

Q90. Which of the following is an appropriate explanation of the SEO, which is used on the Internet?

a) It is a mechanism of transmitting information on the Internet through encryption in order to secure personal information, such as the credit card numbers of customers.
b) It is a community-type service whose purpose is to enable the participants to introduce their friends and acquaintances to other participants, and establish a social connection on the Internet.
c) It is a management information system whose purpose is to secure and maintain the strategic superiority of an organization through differentiation and qualitative improvement of business.
d) It is a method with which, when a user performs a keyword search on the Internet, a specific website is displayed at higher position on the list.

Q91. When build-to-order production is compared to build-to-stock production, which of the following is an appropriate characteristic of build-to-order production?

a) Shipment is not possible immediately when an order is received, but there is no risk of an excessive number of products in the inventory.
b) It is required to increase the accuracy of order forecasts, and maintain the optimum inventory volume of products.
c) It brings the risk of the loss of order opportunities through insufficient product inventory.
d) Products are produced according to a production plan that is proposed on the basis of a product order forecast.

Q92. Which of the following is a business objective that becomes possible to achieve with "the introduction of a POS system"?

a) Improvement in the work productivity of salespersons and organizational strengthening of the sales department
b) Reduction in inventory volume of component parts and partly finished goods
c) Optimization of the series of processes from procurement to manufacturing, shipment, and sales
d) Improvement in the product lineup at each store and streamlining of ordering and inventory control work

Q93. Which of the following is an appropriate description concerning BPR?

a) It is a concept in which a business procedure is reviewed and radically redesigned.
b) It is a contract in which a service provider guarantees service quality as specific metrics to a user.
c) It is a bulletin board on a computer system on which participants are free to write.
d) It is a document that a user gives to a vendor when a system is to be installed, and it provides an overview of a system and the procurement requirements.

Q94. Which of the following represents the business process that is described below through a DFD?

[Business process]

1. In daily business activities, the person in charge of accounting files the vouchers that are issued in each department of the company in a voucher file.
2. When the settlement of accounts starts, the person in charge of settlement and the person in charge of verification aggregate the filed vouchers separately, and two results are compared.

a)

b)

c)

d)

Q95. Which of the following is the general name of software that has various functions such as e-mail and electronic bulletin board-based communication, information sharing, and electronic conferencing, and provides an environment for joint working?

a) Groupware
b) Shareware
c) Firmware
d) Freeware

Q96. SOA (Service Oriented Architecture) is a concept of constructing a system by combining some services. Which of the following is an appropriate merit of using SOA?

a) The processing speed of the system is improved.
b) The security of the system is strengthened.
c) The system users do not need education and training.
d) The flexible system can be achieved.

Q97. When the software life cycle is divided into the planning process, requirements definition process, development process, and operation process, which of the following is an appropriate activity in the requirements definition process?

a) Business process and system transition
b) Computerization planning
c) Software detailed design
d) Stakeholders' needs identification

Q98. In a software life cycle that proceeds in order of planning process, requirements definition process, development process, and maintenance process, which of the following is an appropriate activity to be performed at the stage of the planning process?

a) Defining the functional requirements and non-functional requirements
b) Checking the management-related needs and issues
c) Designing and evaluating the systems architecture
c) Designing and evaluating the software architecture

Q99. When Company *B* procures an information system according to the flow shown in the figure below, which of the following is the term to be inserted in blank *A*?

a) NDA b) RFI c) RFP d) SLA

Q100. When requirements to be defined are categorized into operational requirements and system requirements, which of the following is an operational requirement?

a) The availability of an online system must be 99% or higher.
b) In order to prevent information leakage, data that is received via a network is encrypted.
c) In order to improve operability, a web browser is used for the screen display.
d) In order to reduce the cost of logistics, automation of shipment activities are enhanced.