



**Q2 2020**

## **IT Passport Examination**

**Questions must be answered in accordance with the following:**

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

### **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 was the fall IT Passport Examination conducted in 2019?

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

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

[Sample Answer]

Q1	<input type="radio"/> a	<input type="radio"/> b	<input checked="" type="radio"/> c	<input type="radio"/> d
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<p><b>Do not open the exam booklet until instructed to do so.</b></p> <p><b>Inquiries about the exam questions will not be answered.</b></p>
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Answer questions Q1 through Q45 concerning technology.

**Q1.** Which of the following is the binary number that is obtained by adding the binary numbers 01011010 and 01101011? Here, the binary numbers are expressed as positive 8-bit values.

- a) 00110001      b) 01111011      c) 10000100      d) 11000101

**Q2.** 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

**Q3.** Which of the following is the logical operation that is equivalent to the truth table below?

Input <i>A</i>	Input <i>B</i>	Output
0	0	0
0	1	0
1	0	0
1	1	1

- a) AND      b) NOT      c) OR      d) XOR

**Q4.** Which of the following is the result from the bit-wise logical product of an 8-bit binary data  $X$  and 00001111? Here, the left side of the data is the high-order, and the right side is the low-order.

- a) All of the low-order four (4) bits are 0, and the high-order four (4) bits are the same as those of  $X$ .
- b) All of the low-order four (4) bits are 1, and the high-order four (4) bits are the same as those of  $X$ .
- c) All of the high-order four (4) bits are 0, and the low-order four (4) bits are the same as those of  $X$ .
- d) All of the high-order four (4) bits are 1, and the low-order four (4) bits are the same as those of  $X$ .

**Q5.** As shown in Figure 1, there is a box that generates two (2) numerical values B1 and B2 when two (2) positive integers A1 and A2 are entered. B1 has the same value as A2, and B2 is the remainder of A1 divided by A2. As shown in Figure 2, when two (2) boxes are connected, and 49 is entered as A1 and 11 is entered as A2 in the left box, what is the value of B2 generated from the right box?

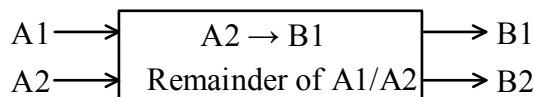


Figure 1

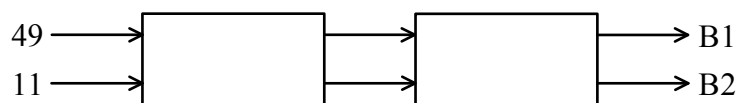


Figure 2

- a) 1
- b) 2
- c) 4
- d) 5

**Q6.** Which of the following is an appropriate description concerning machine language?

- a) A program that is written in Fortran or C is converted into machine language and then executed.
- b) Machine language is a high-level language.
- c) Machine language expresses a program with sequences of decimal numbers.
- d) Most of application software is still programmed in machine language.

**Q7.** Algorithms are important when a computer is used. Which of the following is an appropriate explanation of an algorithm?

- a) It refers to software for converting a program to a machine language that can be directly run by a computer.
- b) It refers to a processing procedure for enabling a computer to accomplish a particular purpose.
- c) It refers to a collective term for artificial languages used to give instructions for a series of operations to a computer.
- d) It refers to the designing of buildings and industrial products by using computers.

- Q8.** There is a series of numbered boxes stacked as shown in the figure below. The operations described in the table below are performed in the sequence of operations 1 through 4. When the operation 4 is completed, which of the following shows the status of the stacked boxes?

**Table**

Operation	Description
Operation 1	Take two boxes from the top, add the numbers on the boxes, write the sum on a new box, and then put it on the top.
Operation 2	Write the number 3 on a new box, and then put it on the top.
Operation 3	Take three boxes from the top, calculate the average, write the average value on a new box, and then put it on the top.
Operation 4	Take two boxes from the top, calculate the absolute value of the difference between the numbers on the boxes, write the absolute value on a new box, and then put it on the top.

**Fig.**

4
3
2
2
1

- a) 

0
---
- b) 

2
1
- c) 

4
2
1
- d) 

1
2
2
1

- Q9.** 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.

- Q10.** Which of the following storage units has the shortest access time?

- a) HDD
- b) SSD
- c) Cache memory
- d) Main memory

**Q11.** Which of the following lists all and only the appropriate descriptions about a 32-bit CPU and a 64-bit CPU?

- I When a 32-bit CPU and a 64-bit CPU are compared, a 64-bit CPU has a larger theoretical maximum memory space..
- II There is no 32-bit OS that runs on a PC with a 64-bit CPU.
- III In terms of the read and write speed of a USB memory, the speed of a PC with a 64-bit CPU is twice as fast as that of a PC with a 32-bit CPU.

- a) I                      b) I, II                      c) II, III                      d) III

**Q12.** Which of the following is an appropriate description of a dual-core processor?

- a) Two (2) types of OS are installed on a single PC, and the PC is configured so that either OS can be booted.
- b) Two (2) displays are connected to a single PC in order to have a single continuous wide display area across the two (2) displays.
- c) Two (2) strips of memory with the same standard and capacity are combined, and the effective speed of data transfer is increased by accessing each strip concurrently.
- d) The integrated circuits of two (2) processors are implemented on a single LSI package, and the two (2) processors can execute separate instructions concurrently.

**Q13.** Which of the following is required for an application program to use the peripheral equipment that is connected to a PC?

- a) Compiler                      b) Device driver
- c) Plug and play                      d) Hot plug

**Q14.** Among the methods I through III for logically handling multiple hard disks as one (1), which of the following lists all and only those methods that can recover data even if one of the constituent hard disks fails?

- I RAID5
- II Striping
- III Mirroring

- a) I, II                      b) I, II, III                      c) I, III                      d) II, III

**Q15.** There is a system where two units of the same device with availability of 0.9 are connected in series. When one (1) more unit of the same device is added so that three (3) units of the device are connected in series in the system, which of the following is the appropriate description of the availability of the entire system, when the system with two units of the device in series is a reference point?

- a) It increases by 10%.                      b) It remains unchanged.  
c) It decreases by 10%.                      d) It decreases by 30%.

**Q16.** Which of the following is the most appropriate explanation of TCO (Total Cost of Ownership) that is a major factor when any purchasing decision is made for a system?

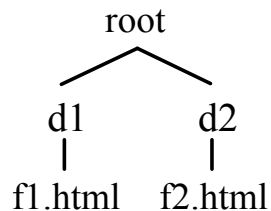
- a) It is the sum of the operation and management costs incurred after the installation of the system.
- b) It is the sum of the costs required to troubleshoot software and hardware faults that occur after the installation of the system.
- c) It is the sum of the costs incurred during the installation of the system and the operation and management costs incurred after the installation.
- d) It is the sum of the costs incurred during the installation of the system and the planning phase of the system.



**Q17.** When directories d1 and d2 are placed on a web server as shown in the figure, which of the following descriptions specifies the referencing of the webpage file f2.html on directory d2 from the webpage file f1.html on directory d1 (current directory)? Here, the reference method of files is as follows.

[Reference method]

- (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 a “ / ” and the file name.
- (2) The current directory is represented by “.”.
- (3) The directory one (1) level above is represented by “..”.
- (4) When a reference begins with a “ / ”, it is assumed that the root directory is omitted from the beginning of the reference.



- |                  |                  |
|------------------|------------------|
| a) ./d2/f2.html  | b) ./f2.html     |
| c) ../d2/f2.html | d) d2/../f2.html |

- Q18.** Sales data by month for each branch is evaluated. In the “Evaluation” field for each branch by month, if the amount of sales at the branch is below the average sales amount of branches *A* through *C* for the month, the symbol “X” is to be displayed, and if the amount is above or equal to the average, the symbol “O” is to be displayed. Which of the following is an appropriate expression to be entered in cell C3? Here, the expression that is entered in cell C3 is copied and used in cell D3, cell E3, cells C5 through E5, and cells C7 through E7.

Unit: million yen

	A	B	C	D	E
1	Month	Item	Branch A	Branch B	Branch C
2	July	Sales amount	1,500	1,000	3,000
3		Evaluation			
4	August	Sales amount	1,200	1,000	1,000
5		Evaluation			
6	September	Sales amount	1,700	1,500	1,300
7		Evaluation			

- a) IF(\$C2 < AVERAGE(C2 : E2) , 'O' , 'X')
  - b) IF(\$C2 < AVERAGE(C2 : E2) , 'X' , 'O')
  - c) IF(C2 < AVERAGE(\$C2 : \$E2) , 'O' , 'X')
  - d) IF(C2 < AVERAGE(\$C2 : \$E2) , 'X' , 'O')
- Q19.** Which of the following is an OS function that executes multiple application programs little by little in turn concurrently on a single PC, such as when a file is downloaded from a web site while data is processed with spreadsheet software?
- a) Virtual reality
  - b) Dual core
  - c) Dual system
  - d) Multitasking

**Q20.** When a record in a file is modified, which of the following is an appropriate way of identifying the modified contents?

- a) Logging the size and the modified date of a file
- b) Keeping a copy of a file and comparing it to the modified one later
- c) Logging the number of records into the file
- d) Keeping records sorted in ascending order of the key field

**Q21.** Which of the following is a term that means the validation of a software license by using the product ID and the user's hardware information, in order to prevent unauthorized use of the software?

- a) Activation
- b) Cloud computing
- c) Streaming
- d) Fragmentation

**Q22.** Which of the following Open Source Software (OSS) is a DBMS?

- a) Android
- b) Firefox
- c) MySQL
- d) Thunderbird

**Q23.** Which of the following is the description of a 3D printer?

- a) It prints an image with a 3D effect on a flat surface.
- b) It uses three-dimensional data to form a stereoscopic (three-dimensional) object.
- c) It prints an image on a curved surface of a stereoscopic (three-dimensional) object.
- d) It uses a laser to display a stereoscopic image in space.

**Q24.** Which of the following is the appropriate reason for using a style sheet in the creation of a website?

- a) The data between the web server and the web browser can be exchanged in a safe manner.
- b) The users can be notified of update to the website.
- c) The users of the website can be identified.
- d) The appearance of multiple web pages can be easily unified.

**Q25.** Which of the following is a technique that can be used to compress both video and audio data?

- a) BMP
- b) GIF
- c) JPEG
- d) MPEG

**Q26.** There is the “Employee” table and the “Department” table in a relational database. The “Employee” table and the “Department” table are linked, and employees who live in different prefectures from the prefectures that their departments are located in are extracted. How many employees are extracted?

Employee

Employee_ID	Name	Department_code	Prefecture
H001	Hanako Ito	G02	Kanagawa
H002	Shiro Takahashi	G01	Kanagawa
H003	Ichiro Suzuki	G03	Mie
H004	Haruko Tanaka	G04	Osaka
H005	Jiro Watanabe	G03	Aichi
H006	Saburo Sato	G02	Kanagawa

Department

Department_code	Department_name	Prefecture
G01	Administration Department	Tokyo
G02	Sales Department	Kanagawa
G03	Manufacturing Department	Aichi
G04	Development Department	Osaka

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

**Q27.** Which of the following is the appropriate purpose of conducting data normalization when a relational database is constructed?

- a) Providing redundancy to data in order to detect data errors
- b) Eliminating data inconsistencies and duplication in order to make it easy to maintain and manage the data
- c) Unifying the character code of data in order to improve data reliability and storage efficiency
- d) Losslessly compressing data in order to improve access efficiency

**Q28.** Which of the following is a language used for the operation of a relational database?

- a) FAQ
- b) SQL
- c) SSL
- d) UML

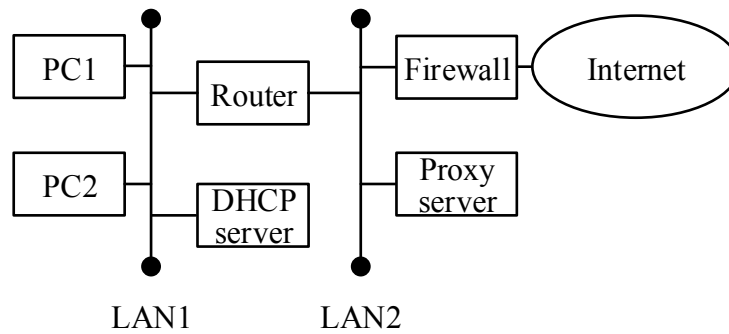
**Q29.** In a system environment where several users have access to a database simultaneously, a new user tries to view a data record while another user is updating the same record. In order to assure data integrity in such circumstances, which of the following is an appropriate control method that should 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

**Q30.** Which of the following is the appropriate description concerning the function of a DNS?

- a) It connects an IP address and a MAC address.
- b) It connects an IP address and a domain name.
- c) It uses the IP address and selects a packet transfer route.
- d) It converts analog signals and digital signals to each other.

**Q31.** When setting up PC1 for connecting it to the Internet, an IP address is set in “default gateway” that is one of the network settings of PC1. Which of the following devices has this IP address?



- a) Router
- b) Firewall
- c) DHCP server
- d) Proxy server

**Q32.** Which of the following is the appropriate combination of terms or phrases to be inserted into blanks *A* through *C* in the description below concerning networks?

A network of a relatively small area that is installed in the building, etc. is called A , and a network connecting A that are installed at geographically distant points is called B . Generally, for the IP addresses set in the devices that are connected to A , C can be used freely if A is a closed network within the organization, etc.

	<i>A</i>	<i>B</i>	<i>C</i>
a)	LAN(s)	WAN	global IP addresses
b)	LAN(s)	WAN	private IP addresses
c)	WAN(s)	LAN	global IP addresses
d)	WAN(s)	LAN	private IP addresses

**Q33.** Which of the following mobile communication systems not only offers higher communication speed than LTE, but also allows more devices to connect and has less communication delay?

- a) Block chain
- b) MVNO
- c) 8K
- d) 5G

**Q34.** A DHCP server has been installed in a LAN. When a PC that automatically acquires information from the DHCP server is to be connected to the LAN, which of the following will be set in the PC?

- a) IP address
- b) Latest virus definition file
- c) Address list of spam mail
- d) Mail addresses assigned by the Internet service provider

**Q35.** Which of the following is the most appropriate combination of the measures against password theft and brute force attack respectively on websites having a login function?

	Password theft	Brute force attack
a)	Sending password via encrypted communication	Using single sign-on
b)	Sending password via encrypted communication	Limiting the number of attempts at entering the password
c)	Setting a string that is difficult to guess as the password	Using single sign-on
d)	Setting a string that is difficult to guess as the password	Limiting the number of attempts at entering the password

**Q36.** Which of the following is the appropriate example of activities conducted in *A* (Act) in the organizations that operate ISMS on the basis of the PDCA model?

- a) Changing the server monitoring method as a corrective action that is based on the results of the audit of the business operations.
- b) Objectively evaluating the server administrator's work details by a third party.
- c) Identifying the information assets in the server room.
- d) Monitoring the operation of the server according to the defined operational procedure.

**Q37.** When the evaluation values of asset value, threat, and vulnerability of assets *A* through *D* are as shown in the table, which of the following assets will be evaluated as the asset where risk measures should be taken at the highest priority? Here, the risk value is calculated by multiplying each three evaluation values together in the table without weighting.

Asset name	Asset value	Threat	Vulnerability
Asset <i>A</i>	5	2	3
Asset <i>B</i>	6	1	2
Asset <i>C</i>	2	2	5
Asset <i>D</i>	1	5	3

- a) Asset *A*
- b) Asset *B*
- c) Asset *C*
- d) Asset *D*

**Q38.** It is reported that WEP suffers from the problem that ciphers are decoded in a short time. Which of the following is a wireless LAN encryption method for increasing the strength of encryption?

- a) ESSID
- b) HTTPS
- c) S/MIME
- d) WPA2

**Q39.** Mr. *A* sent an e-mail to Mr. *B* that was encrypted with Mr. *B*'s key by using the public key cryptosystem, and this e-mail contains details that Mr. *A* wants to send only to Mr. *B*. Which of the following keys is needed to decrypt this e-mail?

- a) Public key of Mr. *A*
- b) Private key of Mr. *A*
- c) Public key of Mr. *B*
- d) Private key of Mr. *B*



**Q40.** Among the descriptions from *A* through *C*, which of the following is the list that contains all appropriate features of VPN?

*A* Devices can communicate with each other by using a VPN wirelessly without passing through any access point.

*B* A VPN uses a public network, etc., but it can be used like a private network of one's own company.

*C* The security status of computers can be checked by connecting them to a VPN.

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

**Q41.** When an information security policy is composed of three (3) documents, namely, basic policy, standards, and procedures, which of the following is the appropriate explanation concerning these documents?

- a) The basic policy is created by employees according to the standards and procedures prepared by the management.
- b) The basic policy is a manual that describes the actions that the management should take when an information security incident occurs.
- c) The procedures describe what specific steps the person in charge should take in accordance with the rules in the standards.
- d) The standards define what should be described in the basic policy and the procedures, and it should be made known to the concerned parties.

**Q42.** When information security measures are classified into three (3) measures, namely, technology measures, personnel measures, and physical measures, which of the following is the appropriate example of physical measures?

- a) In order to prevent unauthorized use of computers, biometric authentication is used in the login authentication of computers.
- b) In order to prevent unauthorized intrusion to a server from an external network, a firewall is installed.
- c) In order to prevent and detect frauds and operational errors by a security administrator, multiple personnel are assigned to security administration and perform mutual checks on each other's work contents.
- d) In order to check for unauthorized entry, a security zone is established and locked, and

the use of keys is managed.

**Q43.** Which of the following is the appropriate description concerning virus infection?

- a) Infection may affect not only the OS and applications, but also the firmware embedded in a device.
- b) If only an external storage medium is used for exchanging data with other computers without connecting a computer to the network, the computer will not be infected.
- c) The computer where infection is detected should be kept connected to the network, and the OS and the security software should be immediately updated.
- d) If e-mail attachments are not opened, the computer will not be infected.

**Q44.** When a smartphone is used, which of the following is the appropriate preventive measure for shoulder surfing that is classified as social engineering?

- a) Always using the latest OS
- b) Turning off the position information function
- c) Affixing a privacy filter on the screen
- d) Attaching a strap to prevent fall and theft

**Q45.** Which of the following is an appropriate information security measures for PC against harmful software?

- 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

Answer questions Q46 through Q65 concerning management.

- Q46.** Which of the following is implemented between a system user and a developer in order to confirm if the description in the system design document satisfies the requirements of the user?
- a) Joint review
  - b) Integration test
  - c) Simulation
  - d) Progress meeting
- Q47.** Estimation methods for system development include the analogy-based method, the bottom-up method, and the FP (Function Point) method. Which of the following is an appropriate explanation of the FP method?
- a) It is a method for the estimation of person-hours for an overall system on the basis of an estimation of person-hours for each activity identified with WBS.
  - b) It is a method for the estimation of system scale by measurement of the number of functions on the basis of factors such as input screens and output ledgers that are processed by the system and the number of files used.
  - c) It is a method for the estimation of the total person-hours for development from the standard lines of code for one (1) person to develop per month after the estimation of a system's program lines of code.
  - d) It is a method for the estimation of the person-hours for system development that takes into account the differences with similar system developed so far.
- Q48.** Which of the following is an activity that is performed in software maintenance?
- a) Program modifications that are requested by an ordering party to a developer as a result of an acceptance test for software
  - b) Creation of additional code for the functions that are discovered to be lacking in the unit test of a program
  - c) Fixing of bugs that are discovered in the unit test of a program
  - d) Program modifications to handle a system failure that occurs in actual operation

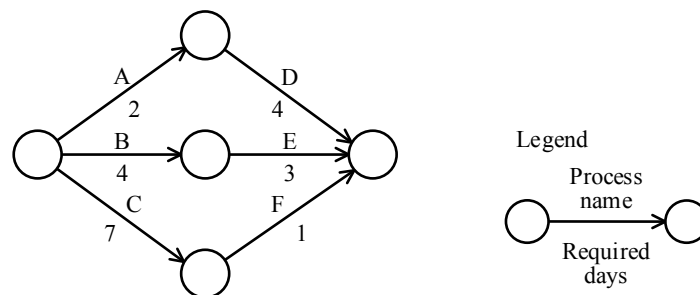
**Q49.** Which of the following is an activity that is performed in software maintenance?

- a) Issuing an initial password for a system user
- b) Investigating how to implement system requirements including the ease of maintenance during development of a new system
- c) Conducting an acceptance test for a new system for which development was outsourced to a vendor
- d) Modifying the program of a system that is in operation in order to make the system conform to law revisions

**Q50.** Which of the following is the appropriate characteristic of agile development?

- a) Suitable for development with a large project team
- b) Preparing detailed documents with focus on the design document
- c) Focusing on contract negotiation rather than cooperation in terms of relationship with customers
- d) Flexibly responding to changes in requests as compared with waterfall development

**Q51.** In an arrow diagram that shows system development, if processes *A* and *D* are delayed for three (3) days in total, what is the delay in the entire project?



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

**Q52.** Which of the following is an appropriate characteristic of a project?

- a) It achieves a specific goal for a limited period of time.
- b) It consists of a team of fixed members, and the team is in charge of all the processes.
- c) It starts without defining the end of the project, and the end of the project is determined according to the progress status.
- d) It is repeatedly performed as a routine task.

**Q53.** Which of the following is an appropriate metrics for program quality in a software development project?

- a) Budget at planning
- b) Return on investment
- c) Delivery date
- d) Number of identified bugs

**Q54.** Which of the following is a method to break down the required activities into a hierarchy structure in software development?

- a) CMM
- b) ITIL
- c) PERT
- d) WBS

**Q55.** Which of the following is appropriate to be prepared in order to select the delivering party for a product or service?

- a) A communication management plan
- b) Test cases
- c) Evaluation standards
- d) A project charter

**Q56.** Which of the following is the most appropriate case where project management methods are applied?

- a) Applied to routine operations of a computer system
- b) Applied as price setting standards when system development work is outsourced
- c) Applied as a framework when the roles in a systems development department are defined

d) Applied when a team is created to construct a system

**Q57.** 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) Execution of a risk response plan

**Q58.** Which of the following descriptions concerning the requirements of IT service management in an example of an SNS corresponds to confidentiality?

- a) Service usage is supported 24/7, throughout the year.
- b) Unauthorized users can access neither data nor services.
- c) Even if disasters such as earthquakes, etc. occur at the server installation location, it is possible to resume the service within one (1) hour.
- d) Users can have their posted photographs being processed and follow other users.

**Q59.** When a user enters a query in the input area on the web, which of the following is the most appropriate mechanism for a system to efficiently and promptly respond to the query in an interactive and automated manner?

- a) Recommendation
- b) Chatbot
- c) Escalation
- d) FAQs

**Q60.** When service desk, reliability, and data management are among the items of an SLA of an application hosting and operation service, which of the following is the appropriate combination of the specific indexes *A* through *C* of the service level, and the items of the SLA?

- A* The average time from the occurrence of a failure until the completion of repair
- B* The time period of query receiving activity
- C* The retention period of backup media

	<i>A</i>	<i>B</i>	<i>C</i>
a)	Service desk	Reliability	Data management
b)	Service desk	Data management	Reliability
c)	Reliability	Service desk	Data management
d)	Data management	Reliability	Service desk

**Q61.** In a certain IT service, four (4) priority levels are set for system changes: urgent, high, medium, and low. Among the proposed changes, which of the following is the change that should be classified as “urgent”? Here, system changes are released regularly at the end of each month.

Priority	Description
Urgent	Fixing problems that pose a risk to human life or greatly reduce the ability to provide important public services, and that call for immediate response
High	Fixing problems that have a severe impact on several important users, or have an impact on many users, and that call for prompt response
Medium	Fixing problems that do not have a severe impact, but cannot be postponed until the next regular release
Low	Items for which change is required, but for which waiting until the next regular release is possible

- a) System changes related to improving the function of supplementary lookup screens necessary for the launch of new services in two (2) weeks
- b) System changes related to countermeasures to address failures in an electronic conference system that has many corporate users
- c) System changes related to measures to address faults in a disaster information system that is used for making decisions on issuing local evacuation advisories
- d) Repair of program bugs that can be completed by the processing date in the coming month

**Q62.** When a contract is signed between a user organization and an IT service provider, which of the following is the document that describes the consensus between the two parties in order to define the quality and scope of services?

- a) Service catalog
- b) Service document
- c) Service level agreement
- d) Service level requirements



**Q63.** Which of the following is the most appropriate regulation for developing and implementing an information systems strategy for improving the competitiveness of a company?

- a) IT governance
- b) Compliance
- c) Systems audit
- d) Project management

**Q64.** Among the descriptions *A* through *D* concerning the concept of internal control, which of the following is the list that contains all appropriate descriptions?

- A* Complying with the laws concerning business activities, and promoting the business activities conforming to social norms is one of the objectives of internal control.
- B* While complying with the laws concerning business activities is one of the objectives of internal control, promotion of business activities conforming to social norms is not required.
- C* The concept of internal control is effective in non-listed companies too, and it is necessary to work on it.
- D* The concept of internal control is necessary only in listed companies.

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

**Q65.** The activities of a systems audit are divided into the processes of drafting of an audit plan, acquisition and evaluation of audit evidence, implementation of audit procedures, creation of an audit report, and followup. Which of the following processes gives guidance to auditee on the implementation of appropriate actions for improvement?

- a) Acquisition and evaluation of audit evidence
- b) Implementation of audit procedures
- c) Creation of an audit report
- d) Follow-up

Answer questions Q66 through Q100 concerning strategy.

**Q66.** If risk assessment is divided into three (3) processes, which of the following is the third process besides risk identification and risk evaluation?

- a) Risk transfer
- b) Risk avoidance
- c) Risk mitigation
- d) Risk analysis

**Q67.** The table below is a part of the ingredients table of a steamed meat dumplings lunch box. How many grams of meat is necessary to prepare 100 steamed meat dumplings lunch boxes? Here, the steamed meat dumplings lunch boxes do not contain any dish that uses meat other than the steamed meat dumplings, and there is no loss of ingredients in the preparing process.

Product	Quantity to be prepared	Unit of quantity to be prepared	Ingredients	Quantity of ingredients	Unit of quantity of ingredients
Steamed meat dumplings lunch box	1	unit	Steamed meat dumplings	5	units
			Rice	300	grams
			...		
Steamed meat dumplings	1	unit	Dumplings wrapper	1	sheet
			Dumplings stuffing	20	grams
			...		
Dumplings stuffing	100	grams	Meat	60	grams
			Onion	30	grams
			...		
...					

- a) 1,200
- b) 3,000
- c) 6,000
- d) 30,000



**Q68.** Which of the following is an explanation of a balance sheet?

- a) It displays the status of cash flow in a fixed period of time by activity category.
- b) It displays the management performance of a company by the income and cost generated in a fixed period of time.
- c) It displays the previous term-end balance, changes during the year, and the current term-end balance for each item of net assets of a company.
- d) It displays the financial condition of a company on the date of settlement on the basis of the categories of assets, liabilities, and net assets.

**Q69.** Which of the following is the most appropriate objective of improving the corporate brand?

- a) Providing customers with value that the competitors cannot provide on the basis of the unique skills and technologies of the company
- b) Bringing about competitive superiority by implicating the quality image of products and services from the company name, etc.
- c) Gaining stakeholders' empathy by announcing the basic concept of universal values of the company and corporate activities to the society by management executives and companies
- d) Selling unique brands of products with low-price that are developed and produced in association with manufacturers on the basis of the leadership of distributors

**Q70.** The operating profit when the sales quantity of a product is 700 units is as shown in the table below. When the unit sales price is reduced by 20% to expand sales, the sales quantity increases by 20%. How much, in yen, is the operating profit at this time? Here, the variable cost per one (1) unit of the product does not change.

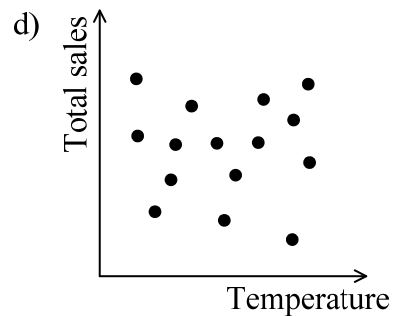
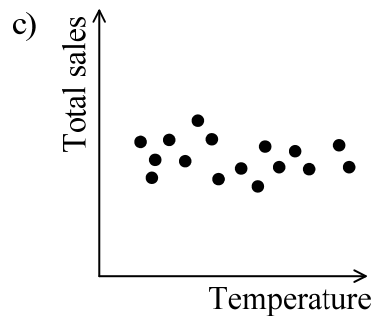
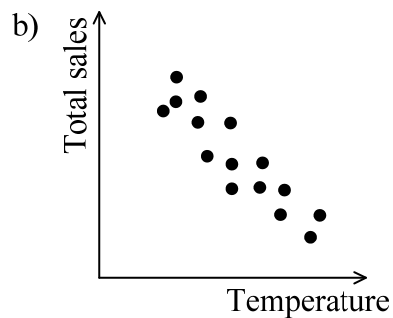
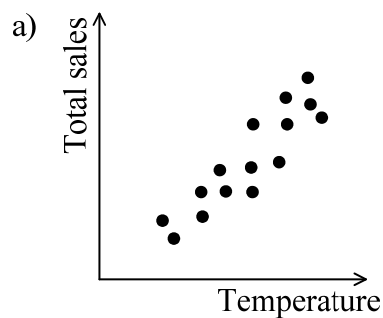
Unit: Yen	
Total sales	700,000
Cost	
Variable cost	140,000
Fixed cost	300,000
Operating profit	260,000

- a) 200,000      b) 204,000      c) 260,000      d) 320,000

**Q71.** Among rules for the organizational operation of a company, which of the following describe separation of job duties?

- a) Rules that define the management organization and ladder that are the foundation of the company
- b) Rules that define the work content, responsibilities, and authority of each department and each employee
- c) Rules that define employees' working conditions and other matters related to employment
- d) Rules that define proper conduct in terms of laws, regulations, and social norms

**Q72.** Which of the following has a negative correlation between temperature and total sales?



**Q73.** Mr. *X* stores the images taken by a digital camera in a storage medium, inserts the storage medium in a printer, and performs printing. It is possible to print the images without taking into consideration the manufacturer of the digital camera. Which of the following is the technical premise concerning image data that enables this?

- a) Commoditization
- b) Networking
- c) Standardization
- d) Ubiquity

**Q74.** Which of the following corporate activities is related to compliance promotion?

- a) A mechanism for sharing sales people's sales know-how, customer information, and negotiation information in the sales department is implemented to improve sales productivity.
- b) A mechanism for sharing customer information and purchasing history among all departments that come into contact with customers is implemented to increase customer satisfaction.
- c) Schedules, documents, messages, and meeting room reservation status are shared with groups such as departments and projects in order to prevent loss of communication.
- d) A code of conduct and a conduct manual that aim to follow the law are created on the basis of corporate ethics, and ethical education is implemented to ensure that employees understand them.

**Q75.** Which of the following is appropriate as an expected advantage of the adoption of ISO 9001 by companies?

- a) The companies' trade procedures will be standardized, leading to increased efficiency and the avoidance of non-tariff barriers.
- b) Technical specifications will be standardized in the industry, and increase in product quality and expansion of markets will move forward.
- c) Methods for handling information assets will be standardized and the quality of information security will increase.
- d) Business operations concerning quality management will be standardized, and the quality and efficiency of management will increase.

**Q76.** Which of the following is an appropriate example of an initiative based on the Green IT concept?

- a) Use of displays that reduce eye fatigue from blue LED light
- b) Installation of air shower at the server room entrance and exit
- c) Construction of backup systems in preparation for disasters
- d) Setting a policy of viewing materials on PC screens, limiting their printing on paper

**Q77.** Which of the following is the right that is owned by a purchaser of a PC software package provided by means of CD-ROM?

- a) Right to use the program stored in the CD-ROM
- b) Copyright of the program stored in the CD-ROM
- c) Design right of the CD-ROM storing the program
- d) Copyright of the CD-ROM storing the program

**Q78.** Which of the following is an appropriate description concerning the two-dimensional code symbol?

- a) Information is read in the horizontal direction only, in the same way as the one-dimensional bar code.
- b) Scanning errors can be detected in both horizontal and vertical directions, but cannot be corrected.
- c) When the area is equivalent in size to the one-dimensional bar code, more information can be recorded.
- d) Since a matrix code has information in both horizontal and vertical directions, its allowable reading angle is narrow.

**Q79.** Which of the following is the appropriate explanation of benchmarking used for corporate management?

- a) It refers to the promotion of continual improvement of business processes by applying the PDCA cycle.
- b) It refers to the best sample for comparison and analysis when improvements are to be made.
- c) It refers to the unique skills and technologies for securing superiority over competitors.
- d) It refers to the measurement of the products and services of one's company, and their comparison with other superior competitors.

**Q80.** As a method for a company to utilize the business resources of another company, there is a corporate acquisition and a corporate alliance. Which of the following lists all and only of the general demerits of a corporate alliance in comparison with a corporate acquisition?

- I It is required to reform the other company's organization or business process.
- II The participation in decision making of the other company regarding the utilization of business resources is limited.
- III The required investment is large and has an impact on the financial status.

- a) I                      b) I, II, III                      c) I, III                      d) II

**Q81.** Which of the following is a marketing technique that seeks to analyze the needs of each individual person and provide products and services that fulfill those needs?

- a) Social marketing                      b) Telemarketing
- c) Mass marketing                      d) One-to-one marketing



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

- a) The source of profit is the choice of an area with little competition and the entry into the area 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 time.
- d) The source of profit is the obtaining of a large share in a specific market.

**Q83.** In Company X, the experience and know-how of employees who have managed drainage treatment in the facility over a long period of time is documented and accumulated, and the accumulated experience and know-how is utilized on daily drainage treatment activities and design of new processing equipment. Which of the following is appropriate as a concept of this example?

- a) ERP
- b) SFA
- c) Supply chain management
- d) Knowledge management

**Q84.** Which of the following is a method for analyzing the behavior of a visitor to a Web site based on information such as the number of accesses and the browsing history within the Web site?

- a) Regression analysis
- b) Cluster analysis
- c) Access log analysis
- d) Value chain analysis

**Q85.** Among the descriptions I through III shown below, which of the following lists all and only the appropriate characteristics of a technology road map that is used in technology development on the basis of a technological strategy?

- I It is suitable for the short-term performance management of engineers.
- II It is easy to perform planning on the budget and the allocation of human resources for technological investment in consideration of the time axis.
- III It places emphasis on creativity, and it does not pay much consideration to the time axis.

- a) I                      b) I, II                      c) I, II, III                      d) II

**Q86.** Which of the following is the most appropriate example of crowdfunding?

- a) A company provides a service that enables use of virtual storage on the Internet.
- b) A company collects investments from a large number of persons over the Internet.
- c) A company provides monetary compensation for losses caused by cloudy and rainy weather.
- d) A company develops a technique for discovering desired information from within large volumes of information, with a high degree of accuracy.

**Q87.** The capability of Shogi (Japanese chess game) software is improved until it beats a professional player. Which of the following is the most appropriate technology that acts as the core for improvement of the capability of the Shogi software?

- a) VR                      b) ER                      c) EC                      d) AI

**Q88.** Which of the following is the most appropriate example of sales strategy that is based on long tail?

- a) Selectively stocking only the strong selling products, and advertising about such products on the website over a long duration
- b) Advertising on the website that buyers queue up for the product in long lines in several stores, and selling the product only for a limited period
- c) Asking celebrities to post product advertisements on their blogs under the condition of

returning them a part of sales revenue, and receiving orders from the blog subscribers over a long duration

- d) Enhancing the lineup of products with less sales opportunities, and posting about such products on the website for their sales

**Q89.** Which of the following is a general term for techniques or methods for trying to make the homepage of one's own company to be displayed at a higher rank in the search results of a search engine on the Internet?

- a) DNS                      b) RSS                      c) SEO                      d) SNS

**Q90.** Which of the following goal can be expected to be achieved by the introduction of Just In Time?

- a) Improving the productivity of the sales department
- b) Building a long-term relationship with customers
- c) Understanding the sales status for each individual product unit
- d) Reducing semi-manufactured goods and the number of components in inventory

**Q91.** Which of the following is appropriate as a characteristic of an ERP package?

- a) As it is a system that comprehensively supports business unique to an industry, it is used only for certain industry sectors such as the mobile phone business.
- b) As it is a system specific to the financial accounting process, the function of passing accounting data to the general accounting process must be developed or purchased separately.
- c) It is an integrated business system that processes various business-related applications, and is used in companies of various sizes in various industry sectors.
- d) It is a system that integrates sales, purchasing, and financial accounting, and is a system specialized for the use by small company such as individually-owned shops.

**Q92.** Which of the following is the system that is housed in home electric appliances, such as rice cookers and air conditioners, and is used to implement the specific functions of such appliances?

- a) Expert system
- b) Enterprise system
- c) Embedded system
- d) Simplex system

**Q93.** Which of the following is the most appropriate term for information in large quantities and in diverse forms that has real-timeness and is expected to help obtain knowledge useful for decision-making?

- a) Big data
- b) Diversity
- c) Core competence
- d) Crowdfunding

**Q94.** Which of the following analysis techniques used in Enterprise Architecture (EA) clarifies the issues by comparing the ideal situation with the current situation?

- a) Gap analysis
- b) Core competence analysis
- c) Value chain analysis
- d) Pareto analysis

**Q95.** Which of the following is the most appropriate activity that aims at implementing gamification by taking full advantage of the game elements such as points and badges?

- a) Deciding one's own strategy in a game according to the strategy of the opponent
- b) Providing motivation to help the customers and employees achieve their goals
- c) Collecting from users their evaluation information concerning new network games
- d) Analyzing large volume of data to detect useful facts and relationships

**Q96.** Which of the following is an appropriate description concerning groupware?

- a) It is software that has an animation or audio function and is useful when making presentations effective by incorporating the output of spreadsheet software or database software.
- b) It is software that has functions, such setting print layout or changing and editing texts, and is used for creating documents.
- c) It is software that has functions, such as communication via e-mail and electronic bulletin boards, data sharing, and schedule management, and supports collaborative

work.

- d) It is software that is used to enter data into cells of a worksheet, create tables, and tabulate data.

**Q97.** Which of the following is the appropriate combination of terms or phrases to be inserted into blanks *A* through *C* in the description below concerning a request for proposal?

A request for proposal concerning system development is a document by which generally

*A* presents to *B* the *C*, procurement conditions, etc.

	<i>A</i>	<i>B</i>	<i>C</i>
a)	an information system department	vendors	system requirements
b)	an information system department	user departments	system requirements
c)	a vendor	an information system department	system installation result
d)	a vendor	a user department	system installation result

**Q98.** Company *A* is conducting a project to build an internal system in the sales department to be used in daily sales activities by sales persons. In this project, the manager of the system development department is the project manager, and members are chosen from the system development department. Which of the following is an appropriate main procedure for the business requirements definition for this system?

- a) An ideal state of the system is depicted by the project members on the basis of the policy on sales activities, and is submitted to the person in charge of sales planning.
- b) Business needs are heard from the sales manager and sales persons, are organized and summarized by the project members, and are agreed by the sales manager.
- c) The current workflow of sales activities is documented by the project members as an business requirement and is reported to the sales persons.
- d) Business requirements are listed by the project members through brainstorming and are approved by the project manager.

**Q99.** In the development of a consolidated accounting system, functional requirements and non-functional requirements were classified as shown in the table below. Which of the following is the appropriate description to be inserted into blank *A*?

Functional requirements	Non-functional requirements
<ul style="list-style-type: none"> <li>Accounting can be performed in accordance with international accounting standards</li> <li>Confirmation of account closing results is performed by the accounting department manager</li> <li>Records are obtained of all account closing process</li> </ul>	<ul style="list-style-type: none"> <li>All batch processes are completed within 8 hours</li> <li><div style="border: 1px solid black; display: inline-block; padding: 2px 20px;">A</div></li> <li>All data to be kept is encrypted</li> </ul>

- a) Annual downtime as a result of failure, etc. totals 10 hours or less
- b) Slips with entry mistakes are corrected by using a correction slip
- c) Apart from legal forms, data for executives meetings can be automatically extracted
- d) Companies subject to consolidation can be changed every year

**Q100.** When an error message to be displayed by an application program is designed, which of the following is an appropriate item to be considered?

- a) Only the fact and details of the error, rather than the way of handling the error, should be displayed.
- b) Only the information that system developers need to identify the cause of the error should be displayed.
- c) The error message should be as short as possible, and the abbreviation and error code should be displayed as they are.
- d) The action to be taken by a user should be displayed briefly and precisely with the error message.