

ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව
 இலங்கைப் பரீட்சைத் திணைக்களம்
 Department of Examinations, Sri Lanka
 80 E I, II

අධ්‍යයන පොදු සහතික පත්‍ර (සාමාන්‍ය පෙළ) විභාගය, 2018 දෙසැම්බර්
 கல்விப் பொதுத் தராதரப் பத்திர (சாதாரண தர)ப் பரீட்சை, 2018 டிசெம்பர்
 General Certificate of Education (Ord. Level) Examination, December 2018

තොරතුරු හා සන්නිවේදන තාක්ෂණය I, II
 தகவல் தொடர்பாடல் தொழினுட்பவியல் I, II
 Information & Communication Technology I, II

07.12.2018 / 0830 - 1140

පැය තුනයි
 மூன்று மணித்தியாலம்
 Three hours

අමතර කියවීමේ කාලය - මිනිත්තු 10 යි
 மேலதிக வாசிப்பு நேரம் - 10 நிமிடங்கள்
 Additional Reading Time - 10 minutes

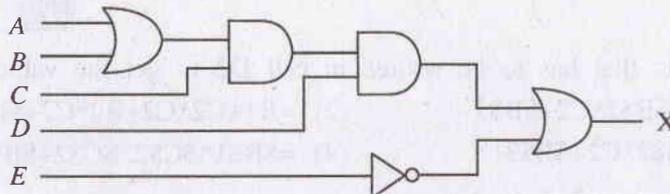
Use **additional reading time** to go through the question paper, select the questions and decide on the questions that you give priority in answering.

Information & Communication Technology I

Note :

- Answer *all* questions.
- In each of the questions 1 to 40, pick one of the alternatives (1), (2), (3), (4) which is *correct* or *most appropriate*.
- Mark a cross (X) on the number corresponding to your choice in the answer sheet provided.
- Further instructions are given on the back of the answer sheet. Follow them carefully.

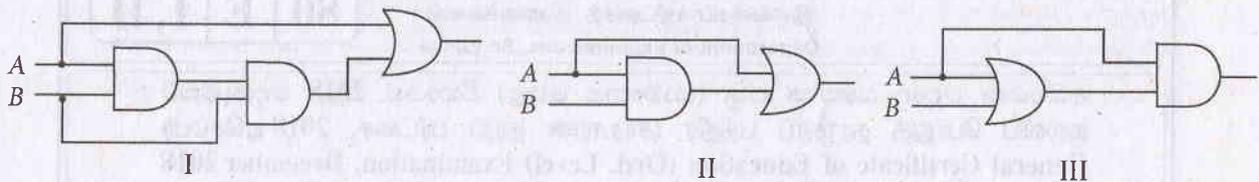
- In which form is data and instructions stored in a computer?
 (1) binary (2) decimal (3) hexadecimal (4) octal
- Which of the following is the octal equivalent of decimal 156_{10} ?
 (1) 121_8 (2) 234_8 (3) 574_8 (4) 770_8
- Which of the following is the binary equivalent of hexadecimal $2B_{16}$?
 (1) 00101011_2 (2) 01001001_2 (3) 10010100_2 (4) 10110011_2
- Which of the following lists 10011001_2 , 113_8 , 160_{10} and $1A_{16}$ in the ascending order?
 (1) 10011001_2 , 113_8 , 160_{10} , $1A_{16}$ (2) 160_{10} , $1A_{16}$, 10011001_2 , 113_8
 (3) 160_{10} , $1A_{16}$, 113_8 , 10011001_2 (4) $1A_{16}$, 113_8 , 10011001_2 , 160_{10}
- In which of the following number systems, is the number '800' a valid number?
 (1) decimal only (2) decimal and hexadecimal only
 (3) decimal and octal only (4) octal only
- Consider the following logic circuit.



Which of the following is equivalent to the above circuit?

- $X = (A+B).C.(D+\bar{E})$
- $X = (A+B).C.D+\bar{E}$
- $X = (A.B)+C+D.\bar{E}$
- $X = (A+B).(C+D)+E$

7. For given inputs, which of the following logic circuits provide the same output?



- (1) I and II only (2) I and III only (3) II and III only (4) all I, II and III

8. When a new printer is connected to a computer, installing a special software is usually required for the proper functioning of the printer. What is this special software called?

- (1) defragmenter (2) device driver (3) file manager (4) task manager

9. Which of the following is first activated, when a computer is switched on?

- (1) Basic Input Output System (BIOS) (2) disk partitioning tool
(3) operating system (4) task manager

10. Which of the following can be applied to a blank table in a word processed document?

- A - colouring cells of the table
B - merging adjoining cells in the table
C - inserting cells into the table

- (1) A and B only (2) A and C only (3) B and C only (4) all A, B and C

11. Which of the following tools can be used to find a given term in a word processed document?

- (1)  (2)  (3)  (4) 

12. Consider the following steps used in printing invitations to a list of invitees using the mail merge facility of a word processor software.

- A - Create the invitation letter as the[Ⓟ].....
B - Create and save the list of invitees with their addresses as the[Ⓞ].....
C - Use mail merge feature to insert details from the[Ⓞ]..... into the[Ⓟ]..... and print invitations

Which of the following is suitable to fill the blanks labelled [Ⓟ] and [Ⓞ] respectively?

- (1) data source, master document (2) master document, data source
(3) master document, thesaurus (4) thesaurus, master document

● Questions No. 13 and 14 are based on the spreadsheet segment shown below.

Values of y are to be calculated using the equation $y = px^2 + qx + r$ for given values of x . Values for p , q and r constants are given in cells B1, B2 and B3 respectively; values for x are given in the cell range C2:C6.

	A	B	C	D
1	p	2	x	y
2	q	3	-2	
3	r	5	-1	
4			0	
5			1	
6			2	
7				

13. What is the formula that has to be written in cell D2 to get the value of y when $x = -2$?

- (1) =B\$1*C2+B\$2*C2+B\$3 (2) =B1+C2*C2+B2*C2+B\$3
(3) =(B1*C2)^2+B\$2*C2+B\$3 (4) =B\$1*\$C\$2*\$C\$2+B\$2+C2+B\$3

14. Assume that you have copied the formula in D2 to cell range D3:D6 to get the other values of y . What is the formula to be written in cell D7 to get the highest value of y ?

- (1) =AVERAGE(D2:D6) (2) =COUNT(D2:D6)
(3) =MAX(D2:D6) (4) =MIN(D2:D6)

15. What would be displayed if the formula $=(6-2)^2+(5+4)/3$ is entered into a cell in a spreadsheet?
 (1) 5 (2) 8.33 (3) 19 (4) 22.3
16. Which keys in the set {Enter key, Esc key, Space bar} can be used to go to the next slide in the *slide show view* of a presentation?
 (1) Enter key and Space bar only (2) Space bar and Esc key only
 (3) Enter key and Esc key only (4) Enter key and Esc key and Space bar
17. A person inserts his Automatic Teller Machine (ATM) card into a bank ATM and enters the pin code. Then he enters the amount of money he wants to withdraw. After checking the available balance in the account, the ATM dispenses the money, updates the balance and displays the new balance.
 Which of the following, lists an *input*, a *process* and an *output* in the given scenario respectively?
 (1) amount of money to withdraw, new balance, money
 (2) amount of money to withdraw, updating the balance, new balance
 (3) new balance, pin code, amount of money to withdraw
 (4) updating the balance, pin code, new balance
18. Which of the following occurred during the evolution of computer technology from the first generation to the current?
 A - processing power of computers increased
 B - number of transistors per square centimeter in the CPU increased
 C - storage capacity of computers increased
 (1) A and B only (2) A and C only (3) B and C only (4) all A, B and C
19. Which of the following is suitable for durable storage of data in a computer?
 (1) cache memory (2) hard disk (3) RAM (4) video memory
20. Which of the following lists **only** input devices?
 (1) keyboard, barcode reader, CD ROM, flatbed scanner
 (2) keyboard, webcam, touch screen, flatbed scanner
 (3) mouse, keyboard, touch screen, flatbed scanner
 (4) mouse, webcam, touch screen, flatbed scanner
21. Which of the following can be used to measure the clock speed of the Central Processing Unit of a computer?
 (1) Gigabyte (GB) (2) Gigahertz (GHz)
 (3) Megabits per second (Mbps) (4) Revolutions per minute (RPM)

● Questions No. 22 and 23 are based on the following **Books table** used to keep records of books in a library:

Books Table

ISBN	BookID	BookName	PublisherID	Edition
9789556682015	2304	ICT for your life	6	2
9789556682015	2305	ICT for your life	6	2
9789556902015	2306	Database Systems	2	4

22. What is a suitable field for the primary key?
 (1) BookID (2) BookName (3) ISBN (4) PublisherID
23. What is a suitable field for the foreign key?
 (1) BookID (2) BookName (3) Edition (4) PublisherID



24. Consider the following two tables named **Marks** and **Subjects**:

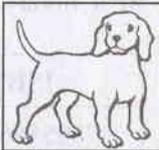
Marks Table

Admission_No	Subject_Code	Marks
1111	80	89
1112	33	69
1113	34	72
1111	33	78

Subjects Table

Subject_Code	Subject_Name
80	ICT
33	History
34	Science

Which of the following statements is **incorrect** regarding the **Marks** and **Subjects** tables?

- (1) *Admission_No* and *Subject_Code* in *Marks* table is a composite key.
 - (2) *Admission_No* is a primary key in *Marks* table.
 - (3) *Subject_Code* is a foreign key in *Marks* table.
 - (4) There is a one-to-many relationship between *Subjects* table and *Marks* table.
25. Which of the following is correct regarding a database?
- (1) A collection of fields makes a record; a collection of records makes a table, and a collection of tables makes a database
 - (2) A collection of fields makes a table; a collection of tables makes a record, and a collection of records makes a database
 - (3) A collection of records makes a field; a collection of fields makes a table, and a collection of tables makes a database
 - (4) A collection of tables makes a record; a collection of records makes a field, and a collection of fields makes a database
26. Which of the following lists, shows the most suitable media to transmit data with copper wire, reflection of light and radio waves respectively?
- (1) fiber optics, twisted pair, WiFi
 - (2) fiber optics, WiFi, twisted pair
 - (3) twisted pair, fiber optics, WiFi
 - (4) twisted pair, WiFi, fiber optics
27. If www.google.com website is at the IP address 172.217.27.4, which of the following is used by the web browser to find the IP address of the Google site to send the HTTP request?
- (1) DNS server
 - (2) Domain server
 - (3) Mail server
 - (4) Web server
28. If a person wants to send a 200 MB file to another person through the internet, which of the following methods are suitable?
- A - attach to an email and send it
 B - use FTP service to transfer the file
 C - use an online storage drive such as Google drive and send the link
- (1) A and B only
 - (2) A and C only
 - (3) B and C only
 - (4) All A, B and C
29. Which of the following tools can be used to colour the figure shown on the right in yellow using an image editing software?
- (1) 
 - (2) 
 - (3) 
 - (4) 
- 
30. Which of the following statements regarding the *waterfall model* relating to Systems Development Life Cycle (SDLC) is/are true?
- A - In this model, activities of each phase are completed before starting the work in the following phase.
 B - This model helps to develop an initial basic system which is developed into a full system in an iterative incremental fashion.
 C - In this model, usually the user sees the system at the initial phases of the system development life cycle.
- (1) A only
 - (2) A and B only
 - (3) A and C only
 - (4) B and C only

[see page five

31. The column on the left below shows four types of system deployment methods labeled (A) - (D) that can be used to make a new system operational. The right side column gives descriptions of four different methods of deployment indicated by labels (P) - (S).

(A) Direct deployment	(P) installs new system to a selected group of users in an organization
(B) Parallel deployment	(Q) installs a new system and makes it operational in a series of steps
(C) Pilot deployment	(R) installs new system, quickly makes the system operational and immediately turns off any overlapping systems
(D) Phased deployment	(S) operates the old and new systems together for a period of time

Which of the following correctly matches the deployment types (A)-(D) with the descriptions (P)-(S)?

- (1) (A) → (Q), (B) → (S), (C) → (P), (D) → (R) (2) (A) → (R), (B) → (P), (C) → (S), (D) → (Q)
 (3) (A) → (R), (B) → (S), (C) → (P), (D) → (Q) (4) (A) → (R), (B) → (S), (C) → (Q), (D) → (P)

32. What is the correct HTML statement for inserting an image?

- (1) (2)
 (3) <image src="image.gif" alt="MyImage"> (4) image.gif

33. Which of the following statements regarding image compression is/are true?

- A - With lossless compression, every single bit of data that was originally in the file remains after the file is uncompressed
 B - Lossy compression is used to reduce data size for storage, handling and transmission
 C - Lossy compression creates larger files size than lossless compression

- (1) A only (2) A and B only (3) A and C only (4) B and C only

34. Which of the following is **not** an example for an e-government service?

- (1) Accessing GCE O/L results from website of the Department of Examinations, Sri Lanka
 (2) Buying items from an online shop
 (3) Downloading National Identity Card application from the Department of Registration of Persons
 (4) Paying water bills online on the website of the National Water Supply and Drainage Board

35. Consider the following pseudocode segment:

```

Payment_option = 'False'
IF distance > 100 THEN
    Payment_option = 'True'
    IF vehicle_type = 'Bus' THEN
        Payment_option = 'False'
    ENDIF
ENDIF
    
```

Which of the following statements is correct according to the above pseudocode?

- (1) If distance = 99 and vehicle_type = 'Car' then Payment_option will be made 'True'.
 (2) If distance = 99 and vehicle_type = 'Bus' then Payment_option will be made 'True'.
 (3) If distance = 101 and vehicle_type = 'Bus' then Payment_option will be made 'False'.
 (4) If distance = 101 and vehicle_type = 'Car' then Payment_option will be made 'False'.

36. Marks obtained by 10 students for the ICT paper is given in the following array A, which has indexing starting at 0.

A:

76	49	54	88	61	68	72	93	37	70
----	----	----	----	----	----	----	----	----	----

Which of the following indexed items can be used to retrieve the highest mark?

- (1) A [0] (2) A [1] (3) A [7] (4) A [9]

025273

0204000780110273



37. How many times will the \$ mark be displayed after the execution of the following pseudocode?

```

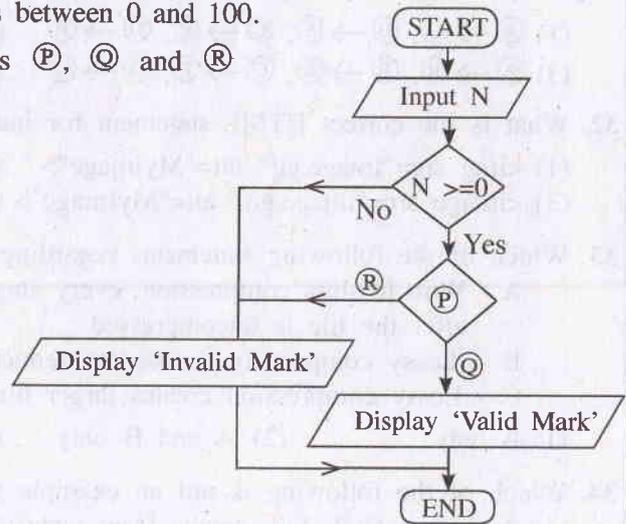
BEGIN
  P = 0
  REPEAT
    Q = P MOD 2
    IF Q = 1 THEN
      DISPLAY '$'
    ENDIF
    P = P + 1
  UNTIL P < 5
END
    
```

- (1) 1 (2) 2 (3) 3 (4) 4

38. Consider the flowchart on the right which inputs a number and displays the message 'Valid Mark' if the input number is between 0 and 100.

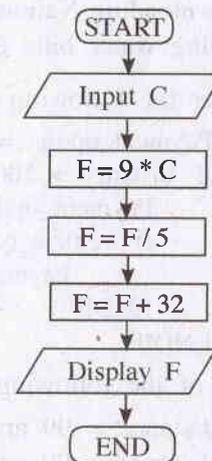
What should be the correct terms for labels (P), (Q) and (R) respectively?

- (1) $N \leq 100$, No, Yes
 (2) $N \leq 100$, Yes, No
 (3) $N = 100$, No, Yes
 (4) $N = 100$, Yes, No



39. Which of the pseudocodes is equivalent to the logic of the flowchart on the right?

- | | |
|---|---|
| <p>(1) BEGIN
 READ C
 F = 9 * C
 F = F + 32
 F = 5 * F
 SHOW F
 END</p> | <p>(2) BEGIN
 READ C
 3F = 9 * C / 5 + 32
 SHOW F
 END</p> |
| <p>(3) BEGIN
 READ C
 F = 9 * C / 5 + 32
 SHOW F
 END</p> | <p>(4) BEGIN
 READ C
 F = 9 * C
 F = C + 32
 F = 5 * C
 SHOW F
 END</p> |



40. Which of the following is/are correct regarding programming languages?

- A - Machine language uses binary digits (bits) based instructions which a computer can understand.
- B - Assembly is a low level machine dependent programming language which uses a symbolic representation of machine code.
- C - High level programming languages are machine independent.

- (1) A only (2) A and C only (3) B and C only (4) All A, B and C

**

[see page seven

ICT විෂයට අදාළ සියලුම ඉගෙනුම්
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