ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව
இலங்கை பரீட்சைத் திணைக்களம்
Department of Examinations, Sri Lanka

| 80 | E | I, II |

අධ්‍යයන පොදු සහතික පත්‍ර (සාමාන්‍ය පෙළ) විභාගය, 2021(2022)
கல்விப் பொதுத் தராதரப் பத்திர (சாதாரண தர)ப் பரீட்சை, 2021(2022)
General Certificate of Education (Ord. Level) Examination, 2021(2022)

තොරතුරු හා සන්නිවේදන තාක්ෂණය	**I, II**		පැය තුනයි
தகவல், தொடர்பாடல் தொழினுட்பவியல்	**I, II**		மூன்று மணித்தியாலங்கள்
Information & Communication Technology	**I, II**		***Three hours***

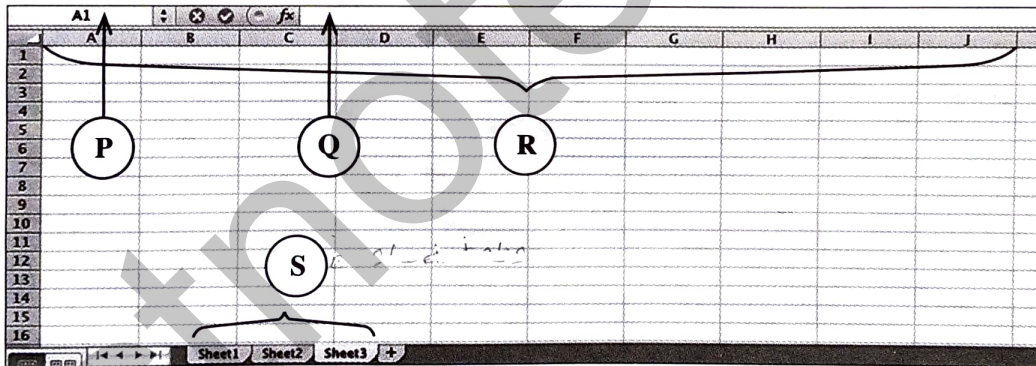| අමතර කියවීම් කාලය | - මිනිත්තු 10 යි | Use additional reading time to go through the question paper, |
| மேலதிக வாசிப்பு நேரம் | - 10 நிமிடங்கள் | select the questions and decide on the questions that you give |
| **Additional Reading Time** | - **10 minutes** | priority in answering. |

Information & Communication Technology I

Instructions:

❋ *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** (✗) **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.*

1. Which of the following is an example for a data processing task of a user?
   (1) Installing word processing software in a personal computer
   (2) Formatting the hard disk in a personal computer
   (3) Reading an online newspaper using a web browser
   (4) Calculating the average marks obtained by a student using a spreadsheet software

2. Which of the following group consists of only input devices?
   (1) Barcode Reader, CRT Monitor, Joystick
   (2) Barcode Reader, Plotter, Webcam
   (3) Keyboard, Mouse, Scanner
   (4) Multimedia Projector, Printer, Scanner

3. Which of the following **cannot** be used to permanently store data?
   (1) Hard disk   (2) Magnetic tape
   (3) Random Access Memory (RAM)   (4) USB Flash Drive

4. Which of the following correctly shows the given storage components of a particular computer system in **descending** order of their *storage capacity*?
   (1) Hard disk, Cache memory, Main memory
   (2) Hard disk, Main memory, Cache memory
   (3) Main memory, Cache memory, Hard disk
   (4) Main memory, Hard disk, Cache memory

5. In a .... network topology, each network component is physically connected to a central node such as a hub or a switch.
   (1) bus   (2) mesh   (3) ring   (4) star

6. Krishna accessed the official web portal of the government of Sri Lanka (http://www.gov.lk) to renew her vehicle revenue licence online. Which of the following services was obtained by her?
   (1) G2B   (2) G2C   (3) G2E   (4) G2G

7. If the character "A" is represented as 1000001_2 in ASCII coding scheme, what character will be represented by 1000100_2?

    (1) B   (2) C   (3) D   (4) E

8. Which of the following represents the given four numbers in the **descending** order?

    (1) 10011110_2, 157_{10}, $9C_{16}$, 233_8

    (2) 157_{10}, 10011110_2, $9C_{16}$, 233_8

    (3) 233_8, 10011110_2, 157_{10}, $9C_{16}$

    (4) $9C_{16}$, 233_8, 10011110_2, 157_{10}

9. Which of the following is the **first** software that must be installed on a computer after formatting its hard disk?

    (1) Office package

    (2) Operating system

    (3) Antivirus software

    (4) Web browser

10. Which of the following group consists of only language translators?

    (1) Assembler, Compiler, Interpreter

    (2) Interpreter, Compiler, Web browser

    (3) Assembler, Operating system, Compiler

    (4) Web browser, Operating system, Interpreter

11. What is the shortcut key combination to "Find and Replace" words in *Microsoft Word* or *LibreOffice Writer*?

    (1) Ctrl+A   (2) Ctrl+C   (3) Ctrl+H   (4) Ctrl+X

12. Consider the following spreadsheet segment with four components labelled as P, Q, R and S:

Which of the following represents the P, Q, R and S labels in the correct order?

    (1) Column Headings, Formula Bar, Name Box, Sheet Tabs

    (2) Name Box, Column Headings, Sheet Tabs, Formula Bar

    (3) Name Box, Formula Bar, Column Headings, Sheet Tabs

    (4) Sheet Tabs, Formula Bar, Column Headings, Name Box

● Consider the following segment of a marksheet entered into an electronic spreadsheet to answer questions **13** and **14**:

	A	B	C	D	E
	A7			fx	=COUNT(A1:D5)
1	Name	ICT	Maths	Religion	Total
2	Sahan	60	55	70	
3	Oshini	35	absent	60	
4	Raji	75	65	absent	
5	Pooja	55	45	75	
6					
7					

13. What is the correct formula to be entered in cell E2 to calculate the total marks obtained by Sahan?

  (1) $= B2 + C2 + D2$
  (2) $B2 + C2 + D2$
  (3) $E2 = B2 + C2 + D2$
  (4) $E2 -> B2 + C2 + D2$

14. What will be the value displayed in cell A7 if the formula =COUNT(A1:D5) is entered into it?

  (1) 10
  (2) 12
  (3) 16
  (4) 20

15. Which of the following actions can be used to move to the next slide in a slide show of an electronic presentation?

  A - Clicking the "Left" button of the mouse device
  B - Pressing the "Ctrl" key of the keyboard
  C - Pressing the "Right arrow" key of the keyboard

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

16. Which of the following statements are correct regarding relational databases?

  A - A *record* is a collection of fields.
  B - A *table* is a collection of records.
  C - A *relational database* is a collection of tables.

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

● Questions **17** to **19** are based on the following partly shown database tables that are used to store data about students, subjects and enrollment details in a school.

Student

Student_ID	Student_Name
1001	Saman
1002	Raj
1003	Sharaf
1004	Shane

Subject

Subject_ID	Subject_Name	Teacher_Name
S001	Chemistry	Perera
S002	Physics	Selvam
S003	Combined Maths	Nazwar
S004	Geography	Silva
S005	Political Science	Almeida

Enroll

Student_ID	Subject_ID	Date
1001	S002	04/01/2022
1005	S001	05/01/2022
1003	S002	09/01/2022
1001	S003	04/01/2022

17. What would be the primary key of the Enroll table?
  (1) Student_ID
  (2) Subject_ID
  (3) Subject_ID + Date
  (4) Student_ID + Subject_ID

18. What would be a foreign key in the database?
  (1) Subject_ID in the Subject table
  (2) Student_ID in the Student table
  (3) Date in the Enroll table
  (4) Subject_ID in the Enroll table

19. Shane dropped the "Geography" subject and enrolled for the "Political Science" subject. Which table/tables needs/need to be updated for this purpose?
    (1) Subject table
    (2) Subject table and Enroll table
    (3) Enroll table
    (4) Student table, Subject table and Enroll table

20. Which of the following is the correct HTML tag sequence for a web page?
    (1) HTML, Body, Title, Head
    (2) HTML, Head, Title, Body
    (3) HTML, Title, Head, Body
    (4) Head, Title, HTML, Body

21. Which of the following statements are correct?
    A - HTML tags determine how the web pages are displayed in a web browser.
    B - A URL uniquely identifies a web page on the World Wide Web (WWW).
    C - Hyperlinks allow to link web pages on the World Wide Web.
    (1) A and B only   (2) A and C only   (3) B and C only   (4) All A, B and C

22. What is the correct HTML statement for creating a hyperlink to the official web portal of the Government of Sri Lanka (http://www.gov.lk)?
    (1) Government of Sri Lanka Web Portal
    (2) <a> "http://www.gov.lk" Government of Sri Lanka Web Portal
    (3) <a> src="http://www.gov.lk" Government of Sri Lanka Web Portal
    (4) Government of Sri Lanka Web Portal

23. Consider the following HTML statements for creating a table:
    ```
    <html>
    <body>
    <table border=2>
      <tr> <th>Company Name </th> <th> Contact Number </th> </tr>
      <tr> <td rowspan=2> ABC Ltd </td> <td> 011-2222222 </td> </tr>
      <tr> <td> 011-9999999 </td> </tr>
      <tr> <td> XYZ & Sons </td> <td> 011-7777777 </td> </tr>
    </table>
    </body>
    </html>
    ```
    Which of the following is the correct table created by the above statements?

    (1)
Company Name	Contact Number
ABC Ltd	011-2222222
	011-9999999
XYZ & Sons	011-7777777

    (2)
Company Name	Contact Number
ABC Ltd	011-2222222
XYZ & Sons	011-7777777
	011-9999999

    (3)
Company Name	ABC Ltd	XYZ & Sons
Contact Number	011-2222222	011-7777777
		011-9999999

    (4)
Company Name	ABC Ltd	XYZ & Sons
Contact Number	011-2222222	011-7777777
	011-9999999	

24. Which of the following is a correct example for an Internet Protocol (IP) address?
    (1) 172.64.85   (2) 172.64.85.24   (3) 192.214.78.80.1   (4) 192.214.78.256

25. Which of the following is the commonly used folder that stores deleted messages in an email system?
    (1) Draft   (2) Inbox   (3) Spam   (4) Trash

26. Consider the following URL:

C

http://www.nie.lk/index.html

A   B

Which of the following correctly identifies the parts A, B and C of the above URL?
(1) A-domain name, B-protocol, C-top level domain
(2) A-domain name, B-top level domain, C-protocol
(3) A-protocol, B-domain name, C- top level domain
(4) A-protocol, B- top level domain, C-domain name

27. Which of the following combinations correctly shows an internet service and its corresponding protocol?

(1) Email, SMTP   (2) WWW, FTP   (3) Email, FTP   (4) File Transfer, SMTP

28. Which of the following best describes the [icon] icon in GIMP image manipulation software?
(1) blurs or sharpens an image
(2) copy one part of a graphic to another part
(3) lightens or darkens an image's shadows
(4) removes unnecessary colours and spots in an image

29. Consider the following statement with blanks labelled Ⓐ and Ⓑ:

The primary colours ......Ⓐ...... are used to create images on computer screens with each colour having ......Ⓑ...... colour variations, if represented with 8-bits.

Which of the following is suitable to fill in the blanks labelled Ⓐ and Ⓑ, respectively?

(1) Ⓐ: Red, Green, Blue   Ⓑ: 128   (2) Ⓐ: Red, Green, Blue   Ⓑ: 256
(3) Ⓐ: Yellow, Blue, Red   Ⓑ: 128   (4) Ⓐ: Yellow, Blue, Red   Ⓑ: 256

30. A .... spreads by inserting copies of itself into executable files in a computer.

(1) computer worm   (2) hijacker   (3) spyware   (4) trojan horse

31. Which of the following could arise due to the usage of ICT?
     A - e-waste problems
     B - security threats
     C - health hazards

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

32. Which of the following statements are true with regard to the pilot deployment of a new software system?
     A - The existing system is replaced by the new system as soon as its development is completed.
     B - Introduce the newly developed system to a selected set of users before making it available to all.
     C - The new system is deployed in stages and the success of each stage leads to the next stage.

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

33. Which of the following control structures can be used in an algorithm?
     A - Sequence
     B - Repetition
     C - Selection

(1) A and B only   (2) A and C only   (3) B and C only   (4) All A, B and C
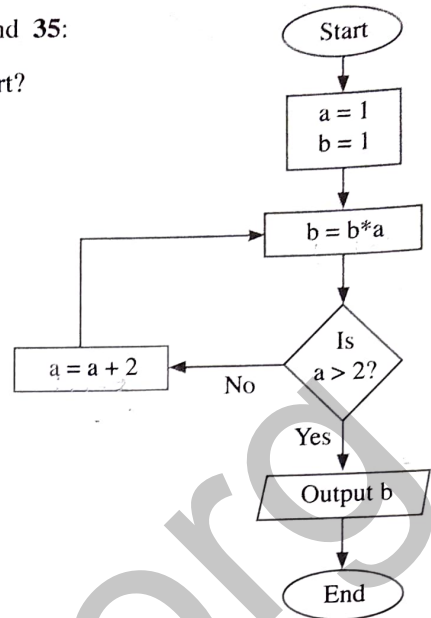
● Consider the given flowchart to answer the questions **34** and **35**:

34. What will be displayed as the output of the given flowchart?

   (1) 1 is displayed.

   (2) 3 is displayed.

   (3) 15 is displayed.

   (4) Nothing is displayed.

35. If the labels 'Yes' and 'No' are interchanged in the given flowchart, what will be displayed as its output?

   (1) 1 is displayed.

   (2) 3 is displayed.

   (3) 15 is displayed.

   (4) Nothing is displayed.

Flowchart:
Start → a = 1, b = 1 → b = b*a → Is a > 2? → No → a = a + 2 (loops back to b = b*a); Yes → Output b → End

36. How many times will the statement "count = count – 3" execute in the following code segment?

```
count=12
WHILE count >= 3
      count = count - 3
END WHILE
```

   (1) 3   (2) 4   (3) 5   (4) 6

● Consider the following "Books" array which is used to store prices of 8 books to answer questions **37** and **38**.

Books:	96	75	105	200	54	100	63	80

37. Which of the following correctly defines the "Books" array in a PASCAL program?

   (1) var Books = array[7];   (2) var Books : array[0-7];

   (3) var Books : array[0..7] of integer;   (4) var Books : array[0 to 7] of integer;

38. Which of the following represents the most expensive book?

   (1) Book[3]   (2) Books[3]   (3) Book[4]   (4) Books[4]

39. Consider the following logic gate:

(AND gate with inputs A, B and output Q)

When $B = 1$, then what would definitely be the output at Q?

   (1) A (2) $\bar{A}$ (3) $A + B$ (4) $\bar{A} + B$

40. Given below is the truth table for a logic gate with inputs **A, B** and output **Q**:

A	B	Q
0	0	1
0	1	1
1	0	1
1	1	0

What is the logic gate indicated by the above truth table?

   (1) AND   (2) NAND   (3) NOR   (4) OR