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

| | **80** | **E** | **I, II** |

අධ්‍යයන පොදු සහතික පත්‍ර (සාමාන්‍ය පෙළ) විභාගය, 2019 දෙසැම්බර්
கல்விப் பொதுத் தராதரப் பத்திர (சாதாரண தர)ப் பரீட்சை, 2019 டிசெம்பர்
General Certificate of Education (Ord. Level) Examination, December 2019

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

06.12.2019 / 0830 - 1140

පැය තුනයි
மூன்று மணித்தியாலம்
Three hours

අමතර කියවීම් 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.*

1. Which of the following devices have both *input* and *output* capabilities?
   (1) joystick   (2) OCR Device   (3) touch screen   (4) webcam

2. Which of the following can be a good practice to protect data and information from computer hard disk failures?
   (1) installing a firewall   (2) installing an antivirus software
   (3) taking periodic backups   (4) using a strong password

3. Which of the following is correct regarding the generations of computers?
   (1) Integrated Circuits (ICs) were introduced in 1st generation computers.
   (2) Vacuum tubes were introduced in 2nd generation computers.
   (3) Transistors were introduced in 3rd generation computers.
   (4) Very Large Scale Integrated Circuits (VLSI) were introduced in 4th generation computers.

4. Which of the following are related to G2C (Government to Citizen) services in Sri Lanka?

   A - viewing G.C.E. (O/L) results online
   B - ordering food items online
   C - renewing vehicle revenue licenses online

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

5. Which of the following is an example for *data processing*?
   (1) calculating the account balance using banking software after a cash withdrawal
   (2) copying a file from a USB drive to a hard disk of a computer
   (3) installing sound editing software in a personal computer
   (4) scanning a letter using a scanner

6. Select the most suitable computer type from a *super computer*, a *laptop computer* and a *tablet computer*, for the following applications:

    A - to process very large amounts of data that are continuously obtained through satellites

    B - for a writer to work on an essay during a vacation away from home

    C - for a travelling sales representative to enter item requests while visiting shops

  (1) A: laptop computer,   B: super computer,   C: tablet computer
  (2) A: laptop computer,   B: tablet computer,   C: super computer
  (3) A: super computer,   B: laptop computer,   C: tablet computer
  (4) A: tablet computer,   B: super computer,   C: laptop computer

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

When processing, the CPU uses its ………Ⓐ……… to temporarily store data that are brought from ………Ⓑ……… .

  Which of the following combinations is suitable to fill the blanks labelled Ⓐ and Ⓑ respectively?
  (1) primary memory, registers
  (2) registers, primary memory
  (3) secondary memory, primary memory
  (4) secondary memory, registers

8. Which of the following are correct regarding transmission media?

    A - Unshielded Twisted Pair (UTP) cables are suitable to transmit data for long distances over 200 m.

    B - Fiber optic cables transmit data faster than UTP cables.

    C - Infrared data transmission is used in wireless keyboards to communicate with computers.

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

9. Which of the following statements are true?

    A - Binary form is used to store data and instructions in computers.

    B - 945 is a valid number both in the octal and hexadecimal number systems.

    C - 412_8 is equivalent to 100001010_2.

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

10. Which of the following shows the given storage components in descending order of *access speed*?
  (1) cache memory, main memory, register, hard disk
  (2) hard disk, cache memory, register, main memory
  (3) register, cache memory, main memory, hard disk
  (4) register, main memory, hard disk, cache memory

11. If character 'E' is represented in the ASCII table as 69_{10}, what is the binary representation of character 'G' in the ASCII table?
  (1) 1000110   (2) 1000111   (3) 1001000   (4) 1001001

12. Which of the following contains only the tasks of an operating system?
  (1) payroll management, process management, file management
  (2) process management, database management, file management
  (3) process management, memory management, database management
  (4) process management, memory management, file management

13. Which of the following techniques can be used to increase the free space of a hard disk without deleting any existing files?
  (1) compression of existing files on the hard disk
  (2) copying some files in the hard disk to a flash drive
  (3) formatting of the hard disk
  (4) partitioning of the hard disk

[see page three

14. While editing a document using a word processing software, you decide to copy a selected part of the document to another document. Which of the following key combinations will enable you to carry out this task?

(1) Ctrl + C followed by Ctrl + V   (2) Ctrl + N followed by Ctrl + V

(3) Ctrl + P followed by Ctrl + V   (4) Ctrl + V followed by Ctrl + C

15. Consider the range of cells given as (A3:C4) in a spreadsheet. Which of the following cells are included in this range?

(1) A3 and C4 only   (2) A3, B3 and C3 only

(3) A3, A4, C3 and C4 only   (4) A3, B3, C3, A4, B4 and C4 only

16. Consider the following spreadsheet segment with the formula =B2 * B$5 written into cell C2:

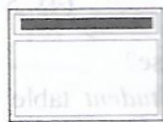|	A	B	C
1	Name	Sales (Rs)	Commission (Rs)
2	A. Dias	50000	5000
3	B. Sivarajah	60000	
4			
5	Percentage:	0.1	
6			

What would be displayed in the cell C3 if the formula in cell C2 was copied to cell C3?
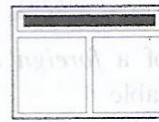
(1) 0   (2) 5000   (3) 6000   (4) 60000

17. You want to add a blank slide to an electronic presentation that you are editing. Which of the following key combinations can be used for this purpose?

(1) Ctrl+M   (2) Ctrl+N   (3) Shift+B   (4) Shift+V

18. Which of the following features of electronic presentation software can be used to change the content arrangement of a slide from *Arrangement 1* to *Arrangement 2*?

Arrangement 1   *Arrangement 2*

(1) Slide layout   (2) Slide show   (3) Slide sorter   (4) Slide view

19. Which of the following is **not** a common feature of both word processing and electronic presentation software?

(1) changing line space   (2) find and replace

(3) mail merge   (4) spell checker

20. Which of the following is suitable in order to improve the quality of an electronic presentation?

A - limiting the number of text lines on a slide to between 6 and 9

B - not having a large number of pictures and graphs on a single slide

C - using a lot of red colour on every slide

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

- Questions **21** to **24** are based on the following partly shown database tables that are used to store data about books, students, and books reserved by students in a school library.

Table: Book (Contains the details of books and whether each book is reserved or not.)

Book_ID	Title	Reserved
B0001	Effective Writing	TRUE
B0002	Classic Short Stories	TRUE
B0003	Poem Writing	FALSE
B0004	Vocal Theory	TRUE

Table: Student (Contains details of all students in school and whether each student is a library member or not.)

Student_Name	Student_ID	Grade	Library_Member
Piyal	1001	7	TRUE
Kumar	1002	9	TRUE
Ismail	1003	8	TRUE
Sunil	1004	10	FALSE
Sarath	1005	7	TRUE

Table: Reservation (Contains details about books reserved by students.)

Student_ID	Reserved_Date	Book_ID
1003	02/03/2019	B0002
1002	23/04/2019	B0001
1005	16/06/2019	B0004

21. How many *fields* are in the *Student* table?
    (1) 2   (2) 3   (3) 4   (4) 5

22. What would be an example of a *foreign key* in the database?
    (1) **Book_ID** in *Reservation* table   (2) **Grade** in *Student* table
    (3) **Reserved_Date** in *Reservation* table   (4) **Title** in *Book* table

23. What `is the title of the book reserved by Kumar?
    (1) Classic Short Stories   (2) Effective Writing
    (3) Poem Writing   (4) Vocal Theory

24. A student gets the library membership and reserves a book. What tables need to be updated for this purpose?
    (1) *Book* table and *Reservation* table
    (2) *Book* table and *Student* table
    (3) *Reservation* table and *Student* table
    (4) *Book* table, *Reservation* table and *Student* table

25. Which of the following shows the correct order of testing a software system?
    (1) acceptance testing, integration testing, unit testing, system testing
    (2) system testing, integration testing, acceptance testing, unit testing
    (3) unit testing, acceptance testing, system testing, integration testing
    (4) unit testing, integration testing, system testing, acceptance testing

26. Every web page on the World Wide Web (WWW) has a unique identifier called the
    (1) *email address.*   (2) *hyperlink.*   (3) *IP address.*   (4) *URL.*

27. Which of the following combinations contains only Internet related protocols?
    (1) FTP, HTML, HTTP, SMTP   (2) FTP, HTML, HTTP, TCP/IP
    (3) FTP, HTTP, SMTP, TCP/IP   (4) HTML, SMTP, TCP/IP, URL

[see page five

28. Which of the following combinations represents only the services of the Internet?
(1) email, file sharing, remote access, streaming of media
(2) email, file sharing, streaming of media, web browsers
(3) file sharing, HTML codes, remote access, search engines
(4) remote access, search engines, streaming of media, web browsers

29. Consider the following list rendered by a web browser:
- Science
- Maths
- English

Which of the following HTML tags are required to create the above list?
(1) <dl>,<dt>　　(2) <dl>,　　(3) ,　　(4) ,

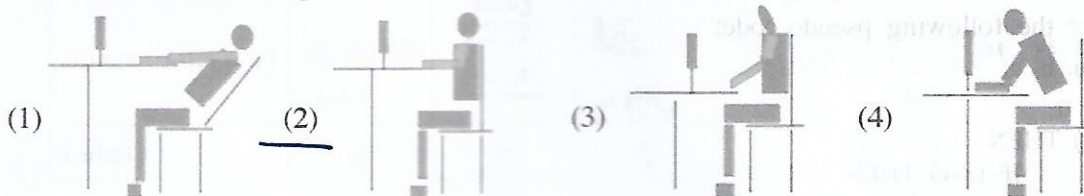30. Which of the following statements related to web page development are correct?
A - The content shown in dynamic web pages may vary according to user inputs or time.
B - Dynamic web pages are created only using HTML.
C - Web authoring tools can be used to create web pages.
(1) A and B only　　(2) A and C only　　(3) B and C only　　(4) all A, B and C

31. Which of the following tags can be used for HTML character formatting?
(1) <i>, <b>, <u>, <em>　　　　(2)
, <b>, <u>, <p>
(3) <p>, <li>, <u>, <em>　　　　(4) <i>, <b>, <li>, <em>

32. Which of the following is the correct posture to use when using a computer?

(1)　　　　(2)　　　　(3)　　　　(4)

33. How many bits per pixel (bpp) are required to represent 32 colours?
(1) 4　　(2) 5　　(3) 6　　(4) 7

34. What would happen to an image if its *resolution* is **decreased**?
(1) quality and the file size of the image increases
(2) quality and the file size of the image decreases
(3) quality increases while the file size of the image decreases
(4) quality decreases while the file size of the image increases

35. Which of the following statements are true?
A - Pascal is an example of a high-level programming language.
B - High-level language programs are easier for the programmers to understand than low-level language programs.
C - A compiler translates a high-level language program into machine language instructions.
(1) A and B only　　(2) A and C only　　(3) B and C only　　(4) all A, B and C
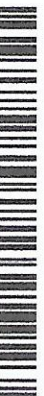
36. Consider the following pseudo-code segment:
```
BEGIN
    READ units
    IF units <=50  THEN
            amount=units*1
    ELSE
        IF  units>50 AND units <= 150 THEN
                amount=50 + (units – 50)*2
        ELSE
            amount = 250 + (units – 150)*5
        ENDIF
    ENDIF
    DISPLAY amount
END
```
What would be the output if the value 175 is input for the variable *units*?
(1) 175　　(2) 250　　(3) 300　　(4) 375

37. What would be the output if a user inputs the numbers 4, 5, 2, –1 one after the other for the following pseudo-code segment?

```
terminal = –1
x = 0
REPEAT
        DISPLAY "Enter number"
        GET num
                IF num > x THEN
                    x = num
                ENDIF
UNTIL num = terminal
DISPLAY x
```

(1) –1   (2) 0   (3) 4   (4) 5

38. Consider the following statements regarding *computer programs*:

    A - *Variables* can contain different values at different times.

    B - *Reserved words* of a programming language can be used as *variable names* in that language.

Which of the following is true with respect to the above?

(1) Only A is correct.   (2) Only B is correct.

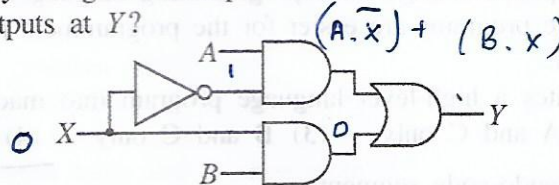(3) Both A and B are correct.   (4) Both A and B are incorrect.

39. Consider the following pseudo-code:

```
READ a, b, c

value = 0
IF (a>b) THEN
            IF (a>c) THEN
                    value = a
            ELSE
                    value = c
            ENDIF
ENDIF
DISPLAY value
```

If the values input for the variables *a*, *b* and *c* are 50, 30 and 70 respectively, what would be the displayed output?

(1) 0   (2) 30   (3) 50   (4) 70

40. If 0 and 1 respectively are given as inputs for *X* in the following logic circuit, what would be the two respective outputs at *Y*?

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

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