80	E	I, II

අධ්‍යයන පොදු සහතික පත්‍ර (සාමාන්‍ය පෙළ) විභාගය, 2014 දෙසැම්බර්
கல்விப் பொதுத் தராதரப் பத்திர (சாதாரண தர)ப் பரீட்சை, 2014 டிசெம்பர்
General Certificate of Education (Ord. Level) Examination, December 2014

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

පැය තුනයි
மூன்று மணித்தியாலம்
Three hours

Information & Communication Technology I

Note :

   (i) *Answer **all** questions.*

   (ii) *In each of the questions 1 to 40, pick one of the alternatives (1), (2), (3), (4) which you consider as **correct** or **most appropriate.***

   (iii) ***Mark a cross** (✕) **on the number corresponding to your choice in the answer sheet provided.***

   (iv) *Further instructions are given on the back of the answer sheet. Follow them carefully.*

1. In the evolution of computers, the vacuum tube was replaced by the transistor and the transistor was later replaced by the integrated circuit (IC). In this process, the ......Ⓐ...... of the computer increased while the ......Ⓑ...... decreased.
   The suitable terms for Ⓐ and Ⓑ are respectively
   (1) efficiency, physical size
   (2) efficiency, reliability
   (3) physical size, efficiency
   (4) physical size, cost

2. Consider the following devices:
      A - Digital camera, B - Speaker, C - Hard disk
   Which of the above is/are usually used as an output device/devices of a computer?
   (1) A only   (2) B only   (3) A and B only   (4) B and C only

3. Which of the following is correct during program execution on the CPU?
   (1) Instructions and data are brought from the main memory.
   (2) Instructions are brought from the main memory and data are brought from the secondary storage.
   (3) Instructions are brought from the secondary storage and data are brought from the main memory.
   (4) Instructions and data are brought from the secondary storage.

4. Kasun who lives in Kandy has created a digital art as an image file on his computer. He wants to share it with his four friends living in Colombo, Jaffna, India and Japan. Which of the following method/s is/are suitable for Kasun to share the image file with his friends?
     A - using file transfer software over a LAN to send the file to his friends' computers
     B - using email
     C - copying the file to four USB flash drives and sending them by post to his friends
   (1) A only   (2) B only   (3) A and B only   (4) A and C only

5. Which of the following is equivalent to the decimal value 131_{10}?
   (1) 10110011_2 (2) 10000011_2 (3) 47_{16} (4) 76_8

6. What is the decimal equivalent of binary 101011_2?
   (1) 27   (2) 35   (3) 43   (4) 75

7. Which of the following has the least value?
   (1) 11001001_2 (2) 145_{10} (3) 77_8 (4) 49_{16}

8. Which of the following has the highest file size?
   (1) .doc file of 1 Mega Byte
   (2) .gif file of 912 Kilo Bytes
   (3) .txt file of 700 Bytes
   (4) .jpg file of 1024 Bytes

9. If the character 'E' is represented as 1000101_2 in ASCII coding scheme, what is the ASCII code for character 'B'?

(1) 1000001_2 (2) 1000010_2 (3) 1000011_2 (4) 1100101_2

10. Which of the following tools is used to hide or display non printing characters in a word processed document?

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

11. The sentence A below has been formatted to appear as shown in B by using a word processing software:

A - The new curricula for Grades 6 and 10 will be effective from 2015.

B - *The new curricula for Grades 6 and 10 will be effective from 2015.*

Which of the following tools have been used to obtain B from A?

(1) and   (2) and   (3) and   (4) and

12. Consider the sentences and their text alignments within the box given below:

```
(A) ICT is an optional subject for the GCE (OL) examination.
           (B) ICT is an optional subject for the GCE (OL) examination.
     (C) ICT is an optional subject for the GCE (OL) examination.
```

The text alignment used in each of the above sentences A, B and C respectively is

(1) right, left and center.   (2) left, right and center.
(3) left, center and right.   (4) right, center and left.

- Questions **13** and **14** are based on the following spreadsheet fragment.

13. The cell A4 contains the formula =A2+A3
Which of the following values will be displayed if this formula is copied to the cell A5?

(1) 2   (2) 4

(3) 6   (4) 8

14. The formula =sum(A2:B2) is written in the cell C2.
Which of the following will be written in cell C3, if the formula in C2 is copied to cell C3?

(1) =sum(A2:A3)   (2) =sum(B2:B3)
(3) =sum(A2:B2)   (4) =sum(A3:B3)

15. Consider the following statements related to electronic presentation software:

A - The shortcut key combination Ctrl + M can be used to insert a new slide to a presentation.
B - The shortcut key combination Ctrl + N can be used to create a new presentation.
Of the above statements

(1) only A is correct.   (2) only B is correct.
(3) both A and B are correct.   (4) both A and B are incorrect.

16. A database table contains data about sports items available for sale in a shop. Available sports items are cricket bats, tennis balls, volley balls, net balls and badminton rackets. Data about one sports item in the table is a

(1) field.   (2) foreign key.   (3) form.   (4) record.

17. A shop that sells clothes has many suppliers. Each supplier can supply several clothing items. Which of the following is most suitable as the primary key in a database table that contains data about clothing items available for sale in this shop?

(1) item_code   (2) price   (3) quantity   (4) supplier_code

18. Which of the following is correct about relationships in a relational database?
    (1) A relationship is an association between two rows in a table.
    (2) A relationship is an association between two columns in a table.
    (3) A relationship is an association between two tables.
    (4) A relationship is an association between two databases.

19. Which of the following statements is **incorrect** regarding files in a computer?
    (1) Files are used to store data in a computer.
    (2) A file name can be changed.
    (3) It is possible to create folders inside a file.
    (4) A file name can have an extension such as .doc or .txt.

20. The four stages of solving a problem using a computer are given below. However, these stages are **not** in the correct order.
    A - Writing a computer program
    B - Analysing the problem in terms of input, process and output
    C - Testing the computer program
    D - Developing an algorithm for the problem
    The correct order of the above four stages are
    (1) A, D, B, C   (2) B, A, C, D   (3) B, D, A, C   (4) D, A, B, C

21. Consider the following statements:
    • The step by step process for solving a problem is known as ....Ⓐ.........
    • A pseudo code does not depend on ....Ⓑ......... of a programming language.
    • Graphical representation of the sequence of operations in a program is called ....Ⓒ.........

    The correct terms to fill the blanks Ⓐ, Ⓑ and Ⓒ in the above three statements are respectively,
    (1) an algorithm, a flowchart, the syntax.   (2) the syntax, an algorithm, a flowchart.
    (3) an algorithm, the syntax, a flowchart.   (4) a flowchart, an algorithm, the syntax.

22. The following pseudo code is used to select candidates based on Age, Height and Weight to call for an interview for a certain job.
    If (Age >= 21 AND Age <= 40) AND (Height >= 155 OR Weight >= 55)
    Then output 'Qualified for Interview'
    Else output 'Not Qualified for Interview'
    Two candidates Sumith and Raju have the following values for Age, Height and Weight.

Name	Age	Height (cm)	Weight (kg)
Sumith	26	157	52
Raju	33	154	54

    Who will be qualified for the interview?
    (1) Sumith only   (2) Raju only
    (3) Both Sumith and Raju   (4) None of them

23. Consider the given logic circuit:
    If A = 1 and D = 0, then which of the following is correct?
    (1) B = 0 and C = 0
    (2) B = 0 and C = 1
    (3) B = 1 and C = 1
    (4) B = 1 and C = 0
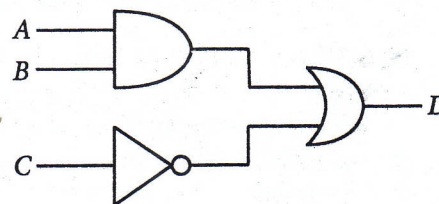
24. Consider the Boolean expression $D = A \cdot B + \overline{C}$.
    Which of the following is correct?
    (1) if $A = 0$ and $B = 1$ then $D = 1$ irrespective of what C is
    (2) if $A = 1$, then $D = 1$ irrespective of what B and C are
    (3) if $B = 0$, then $D = 0$ irrespective of what A and C are
    (4) if $C = 0$, then $D = 1$ irrespective of what A and B are

● Questions **25** to **27** are based on the following pseudo code algorithm segment which calculates the sum of odd numbers between 0 and 10.

$$sum = 0$$
$$num = 1$$
$$while \ num < 10$$
$$sum = sum + num$$
$$num = num + 2$$
$$end \ while$$

25. How many times will the while loop be executed?

    (1) 5   (2) 6   (3) 10   (4) 11

26. What is the value of *num* after the execution of this pseudo code?

    (1) 3   (2) 7   (3) 9   (4) 11

27. Which of the following is required to replace the statement in line 2 of the above pseudo code to calculate the sum of even numbers in the same range?

    (1) num = −1   (2) num = 2   (3) sum = 1   (4) sum = 2

28. Consider the following two control structures, A and B:

    A - *Do Until <condition>*   B - *Do*
           Statement 1   *Statement 2*
       Loop   *Loop Until <condition>*

    Which of the following is true regarding the control structures A and B above?

    (1) Both *Statement 1* and *Statement 2* are executed at least once.
    (2) *Statement 1* is executed at least once but *Statement 2* is executed depending on the condition.
    (3) *Statement 2* is executed at least once but *Statement 1* is executed depending on the condition.
    (4) Both *Statement 1* and *Statement 2* are executed for a fixed number of cycles.

29. Every computer on the Internet has a unique address called the

    (1) IP address.   (2) Email address.   (3) URL.   (4) Domain name.

30. Which of the following shows the protocol part of http://moodle.scnet.lk/local/index.html?

    (1) index.html   (2) .html   (3) http   (4) moodle.scnet.lk

31. Consider the following incomplete sentence:

    .... is **one** of the **main stages** in the System Development Life Cycle (SDLC).
    Which of the following is most suitable to fill the blank in the above statement?

    (1) Conducting interviews   (2) Code testing and debugging
    (3) Collecting test data   (4) Writing the user manual

32. After automating the existing manual student administration system of your school office, a direct implementation instead of a parallel implementation has been proposed. Which one of the following is correct about direct implementation?

    (1) A higher cost is involved in direct implementation than in parallel implementation.
    (2) More man power is required in direct implementation than in parallel implementation.
    (3) It is difficult to go back to the manual system when problems are encountered in the automated system.
    (4) Direct implementation needs more physical space in the school office than parallel implementation.

33. Your school decides to automate the activities of the school library. You are in a team which has been assigned to gather the requirements of the new system. One of your team members proposes the following techniques for this purpose:

    A - Conducting interviews
    B - Distributing a questionnaire
    C - Observing documents

    Which of the above techniques are appropriate to gather this information?

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

34. Consider the following statements regarding multimedia animation:
    A - Flash is a software used for animation.
    B - You can draw and edit an object on one layer without affecting objects on another layer.
    C - In the Timeline, you work with frames and key frames to maintain the order of appearance of objects.
    Which of the above statement(s) is/are correct?
    (1) A only   (2) A and C only   (3) B and C only   (4) All A, B and C

35. Consider the following statements regarding the world wide web (www):
    A - Web pages are written in HTML.
    B - www is a system of interlinked hypertext documents accessed through the Internet.
    C - A website consists of a collection of web pages.
    Which of the above statements are correct?
    (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 HTML segment:

                    <html>
                    <body>
                        <H2> Three Subjects </H2>
                        <OL TYPE =1>
                            <LI> Mathematics
                            <LI> Science
                            <LI> English
                        </OL>
                    </body>
                    </html>

    The output of the above HTML code segment would be:

    (1) **Three Subjects**   (2) Three Subjects   (3) **Three Subjects**   (4) Three Subjects
        • Mathematics   • Mathematics   1. Mathematics   1. Mathematics
        • Science   • Science   2. Science   2. Science
        • English   • English   3. English   3. English

37. Which of the following statement(s) is/are true regarding Telemedicine?
    A - The Internet or other network systems are used to maintain the connection between the doctor and the patient.
    B - Patients in local medical institutions with network connections could be remotely examined by specialist doctors residing in distant locations.
    C - Telemedicine could be used to improve the efficiency of clinical, medical, health education, administrative and research activities.
    (1) A only   (2) A and B only   (3) A and C only   (4) All, A, B and C

38. Which of the following can be considered as transactions that can be performed using the Internet?
    A - Placing an order to send gift items to friends
    B - Requesting to reserve accommodation for a holiday
    C - Placing an order for a preferred dress after a fit-on
    (1) A and B only   (2) A and C only   (3) B and C only   (4) All A, B and C

39. Which of the following can be potential sources of computer viruses?
    A - Pirated software
    B - Scanner
    C - Shared flash drive
    (1) A and B only   (2) A and C only   (3) B and C only   (4) All A, B and C

40. Which of the following help(s) to bridge the Digital Divide?
    A - Providing computer laboratory facilities to schools which do not have computing facilities.
    B - Establishing community centres with Internet connectivity for rural communities.
    C - Motivating students to select the ICT subject for their Ordinary Level examination.
    (1) A only   (2) A and C only   (3) B and C only   (4) All, A, B and C

* *