

**නව නිර්දේශය/புதிய பாடத்திட்டம்/New Syllabus**

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

**80 E I, II**

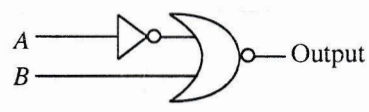
**අධ්‍යයන පොදු සහතික පත්‍ර (සාමාන්‍ය පෙළ) විභාගය, 2017 දෙසැම්බර්**  
**கல்விப் பொதுத் தராதரப் பத்திர (சாதாரண தர)ப் பரீட்சை, 2017 டிசெம்பர்**  
**General Certificate of Education (Ord. Level) Examination, December 2017**

තොරතුරු හා සන්නිවේදන තාක්ෂණය <b>I, II</b> தகவல் தொடர்பாடல் தொழினுட்பவியல் <b>I, II</b> <b>Information &amp; Communication Technology I, II</b>	පැය තුනයි மூன்று மணித்தியாலம் <b>Three hours</b>
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**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 is **correct or most appropriate**.
  - (iii) **Mark a cross (X) 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. Which of the following decimal numbers is equivalent to the binary number  $01011_2$ ?  
 (1) 11                                      (2) 35                                      (3) 15                                      (4) 10
2. Which of the following octal numbers is equivalent to the binary number  $111110110010_2$ ?  
 (1)  $7552_8$                                       (2)  $2667_8$                                       (3)  $2557_8$                                       (4)  $7662_8$
3. The hexadecimal equivalent of  $11101011000111010_2$  is:  
 (1)  $DD63A_{16}$                                       (2)  $1D63A_{16}$                                       (3)  $1D33A_{16}$                                       (4)  $1D631_{16}$
4. Consider the following statements:  
 A -  $2B_{16}$  is equivalent to  $53_8$   
 B -  $43_{10}$  is equivalent to  $101011_2$   
 C -  $101011_2$  is equivalent to  $53_8$   
 Which of the above statements are true?  
 (1) A and B only                                      (2) A and C only                                      (3) B and C only                                      (4) All A, B and C
5. Which of the following communication media uses the reflection of light to transmit data?  
 (1) Unshielded Twisted Pair (UTP)                                      (2) Optical Fiber  
 (3) Coaxial cable                                      (4) Shielded Twisted Pair (STP)
6. Some devices serve as either input or output devices only while others serve as both input and output devices. Which of the following serve as output devices only?  
 (1) Touch screen display and scanner                                      (2) Printer and webcam  
 (3) Printer and speaker                                      (4) Touch screen display and barcode reader
7. Which of the following truth tables is equivalent to the logic circuit given below?



A	B	Output
0	0	1
0	1	1
1	0	1
1	1	0

(1)

A	B	Output
0	0	0
0	1	0
1	0	1
1	1	0

(2)

A	B	Output
0	0	0
0	1	1
1	0	0
1	1	0

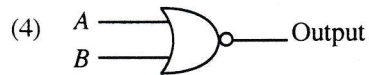
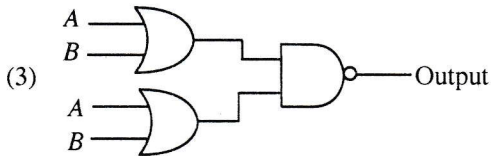
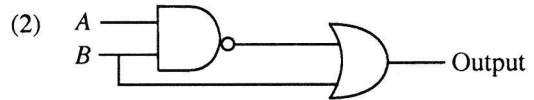
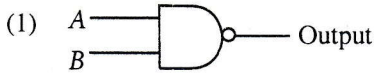
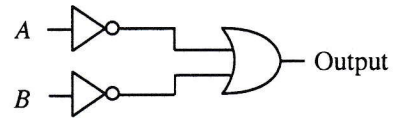
(3)

A	B	Output
0	0	0
0	1	1
1	0	1
1	1	0

(4)

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8. Which of the following logic circuits has a truth table equivalent to the truth table of the logic circuit shown on the right hand side?



9. Consider the following statements:

- A - Managing the hardware
- B - Providing User Interface
- C - Providing Spreadsheet and Word Processing facilities

Which of the above are key services of an operating system?

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

10. Consider the following statements:

- A - Register memory in a computer has a smaller capacity than that of a hard disk.
- B - Data access speed of register memory is slower than the speed of a hard disk.
- C - Per bit cost to store data in register memory is higher than the per bit cost to store data in a hard disk.

Which of the above statements are true?

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

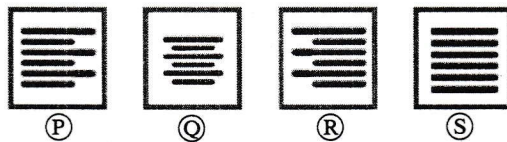
11. Consider the following statements:

- A - Logging into a computer using a stolen user ID and password of another person
- B - Downloading and installing a free and open source software without paying for a license
- C - The manager of an online shop, selling a list of email addresses of his customers to a marketing company without the consent from the customers

Which of the above examples create ethical issues?

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

12. The following four icons labelled as P, Q, R and S are commonly used in word processing software to align text in a document.



Consider the following statements:

- A - P aligns text to left and R aligns text to right
- B - P aligns text to left and S aligns text only to right
- C - Q aligns text to centre and S justifies text

Which of the above statements are true?

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

13. Consider the following statements regarding tasks carried out on a spreadsheet file in a folder by a right handed user:

- A - Place the mouse pointer on the file and single click the right button of the mouse
- B - Place the mouse pointer on the file and double-click the right button of the mouse
- C - Place the mouse pointer on the file and double-click the left button of the mouse

Which of the above result/s in opening the spreadsheet file?

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

14. Consider the following statements related to the use of short-cut keys in commonly used word processing softwares:

A - Ctrl + C is used to copy text/objects

B - Ctrl + A is used to select all text/objects in a document

C - Ctrl + V is used to paste text/objects already copied

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

15. What would be the number displayed, if formula  $=2^3+(5-3)*6/4$  is entered in a cell of a spreadsheet?

- (1) 5      (2) 8.5      (3) 11      (4) -1.25

● Questions 16 and 17 are based on the given spreadsheet and information given below.

\* Circumference of a circle can be calculated with the formula  $2\pi r$ , where  $r$  is the radius of the circle.

\* Assume that the value of  $\pi$  is given in cell C2.

	A	B	C
1	Radius	Circumference	$\pi$
2	20	125.6637061	3.14159
3	21	131.9468915	
4	25	157.0796327	
5	22	138.2300768	
6			

16. What formula should be entered into cell B2 to calculate the circumference of the circle?

- (1)  $=2*\$C\$2*A2$       (2)  $=2*\$C2^{\$A2}$       (3)  $=2*C2^A2$       (4)  $=2^{\wedge}C2^A2$

17. Which of the following will appear in cell A6 if the formula  $=SUM(A2:A5)/COUNT(A2:A5)$  is entered in cell A6?

- (1) 1      (2) 17.6      (3) 22      (4) 88

18. Consider the following statements relating to a slide with multiple objects, created using a presentation software:

A - The *animation effects* can be applied to multiple objects on a given slide

B - The *slide transition* can be applied to the whole slide only

C - The *slide transition effect* appears when slides change from one to the next during the *slide show view*

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

● Questions 19 to 22 are based on the following database tables that are used to store student subject marks.

Student Table

DoB	Name	Student_No	Class
20/11/95	Sarath	1001	1A
17/12/95	Kolitha	1002	1A
21/10/95	Kapila	1003	1A
18/12/95	Nalin	1004	1B

Subject Table

Sub_Code	Subject
01	Sinhala
02	Art
03	English

Marks Table

Sub_Code	Student_No	Marks
01	1001	85
02	1001	80
01	1002	65
03	1003	70

19. How many fields are in the Subjects table?

- (1) 2      (2) 3      (3) 4      (4) 6

20. What would be the most suitable field as the primary key for the Student Table?

- (1) Student\_No      (2) DoB      (3) Name      (4) Class

21. What would be an example for a foreign key in the database?

- (1) Sub\_Code in Subject Table      (2) Sub\_Code in Marks Table  
(3) Marks in Marks Table      (4) DoB in Student Table

22. How many marks did Kapila obtain for English?

- (1) 65      (2) 70      (3) 80      (4) 85

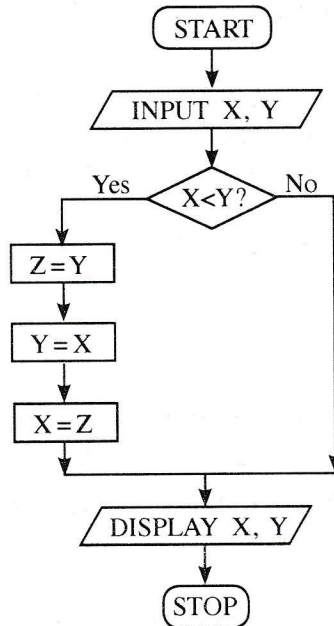
23. Consider the following statements related to database software:

- A - A collection of fields related to one object is called a record
- B - A collection of related tables is called a database
- C - A Foreign key of one table is the primary key of another table

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

24. Consider the algorithm in the following flowchart:



What values will be displayed for X and Y respectively, if the inputs are X = 10 and Y = 20 for the given flowchart?

- (1) 10, 10      (2) 10, 20      (3) 20, 10      (4) 20, 20

25. Consider the following pseudocode with label  $\textcircled{P}$  to find the product of numbers from 1 to 10.

```

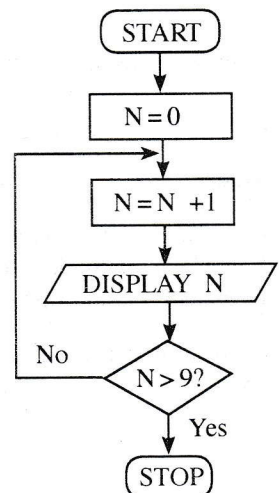
product = 1
number = 0
repeat
    number = number + 1
    product = product * number
until  $\textcircled{P}$ 
    
```

Which of the following expressions is correct for label  $\textcircled{P}$ ?

- (1)  $number > 10$       (2)  $number < 10$       (3)  $number \geq 10$       (4)  $number \leq 10$

26. Which of the following pseudocode segments is equivalent to the logic of the algorithm given in the flowchart?

- (1)  $N=1$   
while  $N \leq 10$   
 $N=N+1$   
display N  
end while
- (2) for  $N=0$  to 10 do  
display N
- (3)  $N=0$   
while  $N \leq 10$   
display N  
 $N=N+1$   
end while
- (4) for  $N=1$  to 10 do  
display N



27. Consider the following pseudocode:

```
X = 0
do
  display '*'
  X = X + 2
while X < 5
```

As the output of the above pseudocode, how many times the '\*' will be displayed?

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

28. Consider the following pseudocode:

```
if average > 70 then
  if Sport_colour = 'True' then
    Allrounder_award = 'True'
  end if
end if
```

Which of the following is equivalent to the logic of the above pseudocode?

- (1) if average > 70 AND Sport\_colour = 'True' then Allrounder\_award = 'True'  
 (2) if average > 70 OR Sport\_colour = 'True' then Allrounder\_award = 'True'  
 (3) if average > 70 then Allrounder\_award = 'True'  
 (4) if Sport\_colour = 'True' then Allrounder\_award = 'True'

● Use the following paragraph to answer questions 29 and 30.

Currently users of a school library can reserve a book by filling a form. The library informs the user by sending a letter when the book is available. Sometimes, the library informs the wrong users by mistake. The librarian is planning to introduce a new information system to replace the current manual system. With the new system a user can reserve a book online. The system sends an email to the user when the book reserved is available to borrow. The librarian suggested that both manual system and the new system to operate till they make sure that the new system works without any problem.

29. Consider the following statements related to the librarian's proposal:

A - The new system will improve efficiency of the reservation process

B - The new system will improve accuracy of the reservation process

C - The new system will have a negative impact on users who cannot get access to the Internet

Which of the above statements are valid?

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

30. Which of the following is the proposed deployment approach for the above Information System?

- (1) Parallel              (2) Phased              (3) Direct              (4) Both parallel and direct

31. Consider the URL "http://www.doenets.lk/exam/". The "doenets.lk" is called,

- (1) Domain Name.                      (2) Hypertext Transfer Protocol.  
 (3) Path where the resource is located.              (4) Resource.

32. Which of the following can be used to find a piece of information on a website when the relevant URL is not known?

- (1) Search engine                      (2) File Transfer Protocol (FTP)  
 (3) Email server                      (4) Domain Name Server

33. Consider the following segment of an email sent to Ajith and three others:

To	ajith@doe.lk
CC	rizvi@nie.lk, kumar@school.net
BCC	frank@nie.lk
Subject	Examination Results

If you send the email to ajith@doe.lk as given above, who are the recipients that Ajith will see as having received this email?

- (1) only ajith@doe.lk  
 (2) only ajith@doe.lk, rizvi@nie.lk and kumar@school.net  
 (3) ajith@doe.lk, rizvi@nie.lk, kumar@school.net and frank@nie.lk  
 (4) only ajith@doe.lk and frank@nie.lk
34. Which of the following in HTML, can be used to provide substitute information for an image if a user cannot view the image due to slow internet connection?  
 (1) src (2) href (3) alt (4) img
35. What is the correct HTML code segment for creating the hyperlink, 'Ministry of Education' for <http://www.moe.gov.lk>?  
 (1) `<a>http:// www.moe.gov.lk</a>`  
 (2) `<a href="http:// www.moe.gov.lk"> Ministry of Education</a>`  
 (3) `<a name="http:// www.moe.gov.lk"> Ministry of Education </a>`  
 (4) `<a url="http:// www.moe.gov.lk"> Ministry of Education </a>`
36. Which of the following HTML tags can be used to make a numbered list in HTML?  
 (1) `<ul>` (2) `<dl>` (3) `<ol>` (4) `<list>`
37. Consider the following scenarios:  
 A - Obtaining a copy of an original birth certificate online  
 B - Paying water bills online using the website of the National Water Supply and Drainage Board  
 C - Obtaining the revenue license for a vehicle online  
 Which of the above are e-government related services?  
 (1) A and B only (2) A and C only (3) B and C only (4) All A, B and C
38. Consider the following statements:  
 A - Uninterrupted power supply (UPS)  
 B - Software firewall  
 C - Use of user name and password to log into a computer  
 Which of the above are examples for logical security?  
 (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 is/are (an) example/s of safe use of Internet?  
 A - Hiding personal information such as telephone numbers and addresses on social media  
 B - Clicking on links in emails that come from unknown persons  
 C - Communication with strangers on social media  
 (1) A only (2) B only (3) C only (4) A and C only
40. Consider the following statements:  
 A - Careless disposal of electronic waste into the environment.  
 B - Handing over unusable Compact Fluorescent Light (CFL) bulbs and other electronic devices to recycling centres  
 C - Sell or donate working electronic devices to others without discarding them  
 Which of the above are examples for safe e-waste disposal?  
 (1) A and B only (2) A and C only (3) B and C only (4) All A, B and C

\* \*

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