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Royal College - Colombo 07

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Grade 11 – Diagnostic Test – August 2022

අනාවරණ පරීක්ෂණය- 11 ශ්‍රේණිය - 2022 අගෝස්තු

කාලය : පැය 1
Time: 1 hour

INFORMATION AND COMMUNICATION TECHNOLOGY– I

Name: - ..... *class: -*..... *Index no: -* .....

Answer all the questions.

In each of the questions 1 to 40 , pick one of the alternatives i, ii, iii, and iv which you consider as correct or most appropriate.

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

1. Which of the following represents the correct order of evolution of the technology used in computer processor?

   Vacuum Tube – A
   Transistor - B
   Microprocessor – C
   Integrated circuit – D
   Ultra-large-scale Integration – E

   1. A, B, C, D, E
   2. A, B, D, C, E
   3. A, C, B, D, E
   4. A, D, B, C, E

2. Select the statement which can be consider as information
   1. Temperature
   2. Speed
   3. Price of a pen
   4. Class time table

3. What is the first digital electronic computer?
   1. EDVAC
   2. EDSAC
   3. ENIAC
   4. Univac

4. "Grade five exam result is not valid for job interview". Which of the following represent the quality of information is denoted by this statement.
   1. Accuracy
   2. Timeliness
   3. Relevancy
   4. Completeness

5. Which of the following is not a pointing input device?
   1. Light pen
   2. Mouse
   3. Trackball
   4. Fingerprint reader

6. The characteristics of computer-based distance learning are…
   A – Connect with a teacher online
   B – Easy to obtain teacher consultation
   C – Digital library facility
   D – Within a flexible time frame, provide the facility to learn
   1. A only
   2. A and C only
   3. A, B and C only
   4. All A, B, C and D

7. Which of the following represents an input device, an output device and a storage device respectively
   1. Mouse, Plotter, Flash Drive
   2. Plotter, Digitizer, Hard Disk
   3. DVD, Mouse, Zip Disk
   4. Scanner, Keyboard, Magnetic Tape

8. What is the equipment used to display the movement of the heart?
   1. Cardiac Screening Machine
   2. Electrocardiogram Machine
   3. Electro Encephalography
   4. Magnetic Resonance Imaging Machine

9. Select the service which is provided by e-government to the citizen of the country.
   1. Diplomatic and Visa information
   2. Constitution
   3. Gazette
   4. Business registration

10. Expensive and fastest data transmission guided medium which is used in modern telephone network
    1. Coaxial cable
    2. Infrared
    3. Fiber optic cable
    4. Unshielded twisted pair cable

11. Television broadcast, listening to radio and getting printouts are example of ..... data transmission.
    1. Half Duplex
    2. Point to point
    3. Simplex
    4. Duplex

12. Wireless data transmission medium used for WIFI and Bluetooth are,
    1. Microwave
    2. Radio Wave
    3. Infrared
    4. X-ray

13. Which of the following is not a network device.
    1. Router
    2. Modem
    3. Gateway
    4. Digitizer

14. Read the following statements and find out the correct respond given below.

    A – The data frequently used by are stored in cache memory
    B – RAM has both read write facility

    1. Both A and B are true
    2. A is true but B is false
    3. A is false but B is true
    4. Both A and B are false

15. Three main components of the modern Computer's Central processing unit are,
    1. System unit, Arithmetic unit, Logical unit
    2. Control unit, Arithmetic logical unit, Register memory
    3. Control unit, Register memory, Cache memory
    4. Power supply unit, Mother board, Random Access memory

16. Consider the following storage/ memory devices.
    A – Hard Disk
    B – Cache Memory
    C – Read Only Memory
    D – Compact Disk
    Which of the above are non - volatile?

    1. A only
    2. A, B only
    3. A, C and D only
    4. All A, B, C, and D

17. Which is the printer use the heat technology to print a document?
    1. Bubble jet printer
    2. Inkjet printer
    3. Dot matrix printer
    4. Thermal printer

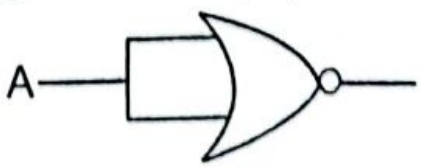
18. Which of the following is equivalent the decimal number 127_{10}?
    1. 1111111_2
    2. $A9_{16}$
    3. 571_8
    4. 1011111_2

19. Select the correct decimal equivalent value represented by the BCD Code : 100110011000,
    1. 989
    2. 898
    3. 998
    4. 1630

20. What is the equivalent number for the $A3_{16}$?
    1. 111010_2
    2. 10110011_2
    3. 1010001_2
    4. 10100011_2

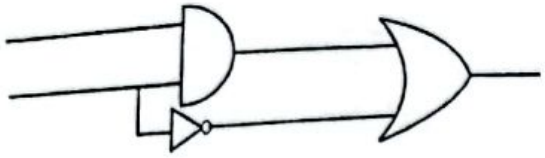
21. Which of the following represents the LSD and MSD of 0.0001250 respectively.
    1. 0, 0
    2. 1, 5
    3. 1, 0
    4. 5, 1

22. Which of the following is the output of the logic circuit when A is input?



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

23. Which of the following should not be the input for the output one (1) in the given logic circuit?



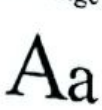
1. 0, 0
2. 0, 1
3. 1, 0
4. 1, 1

24. Which of the following tool of the word processing software is used to change the text direction?


1.


2.


3.



4.

25. The tool used to change line spacing of a document in word processing software is,



1.


2.


3.


4.

26. Which is not a main function of an Operating system,
    1. I/O Management
    2. Device Management
    3. Process Management
    4. Internal Management

27. Which of the following contains only Presentation Software
    1. Power point, fedora, Mint
    2. Power point, Impress, Apple Keynote
    3. Apple Keynote, Corel presentation, Fedora
    4. Power point, Paradox, FoxPro

- Use the following table to answer question 27 & 28.

Student Table

ADNO	StName	Class	HouseNumber
111	A.P Silva	11 – B	H1
222	K.D. Perera	11 – B	H3
333	S.D. Gamage	11 – B	H1

28. Which of the following field is suitable as primary key?
    1. House Number
    2. ADNO
    3. Class
    4. ADNO and House Number

29. Which of the following is an example of a foreign key in above database table?
    1. ADNO
    2. House Number
    3. Class
    4. Stname

30. Which of the following is not a service of internet
    1. E-mail
    2. www
    3. Remote Access
    4. Thesaurus

Past Papers Wiki

31. Which of the following is contains correct IP address?
    1. 168.10.10.25.63
    2. 168.132.255.0
    3. 255.255.255
    4. 172.292.10.10

32. Google chrome, fire fox and Internet explorer are example for,
    1. Web Browsers
    2. Operating Systems
    3. Search engines
    4. protocols

33. Which of the following shows the protocol part of, http://www.moe.lk ?
    1. moe
    2. moe.lk
    3. http
    4. .lk

34. Every computers on the internet has a unique address called the
    1. URL
    2. domain name
    3. web address
    4. IP address

Use the given spreadsheet to answer the questions.

	A	B	C	D
1	ABC Company			
2	**Monday**			
3	*Item*	*Unit Price*	*Qty*	*Price*
4	Book	100.00	10	1000
5	Pen	25.00	5	125
6	Pencil	20.00	2	40
7	**Tuesday**			
8	*Item*	*Unit Price*	*Qty*	*Price*
9	Book	100.00	8	800
10	Pen	25.00	10	250
11	Eraser	10.00	10	100

35. The formula to be written to find the maximum price obtain for Monday and Tuesday is;
    1. =Sum(D4:D7)
    2. =Max(D4:D6,D9:D11)
    3. =Max(D4, D10)
    4. =Maxi(D4:D6)

36. The formula that can be written in cell D4 to find the price of books is;

    A = B4*C4
    B = Product (B4, C4)
    C = Sum(B4:C4)
    D = Mul (B4, C4)

    1. A only
    2. B only
    3. A, B, C only
    4. A, B only

37. What is the output of the given pseudo code

```
Begin
A = 4
B = 8
C = 1
while C > 5
        A = A+ B
        C = A + C
End while
        B = A * B
        Display B
End
```

(1) 12
(2) 13
(3) 36
(4) 32

38. Which of the following is/ are the output of the Pascal code.

```
Program array_2022;
Var  n : array [0..3] of integer;
                I  : integer;
Begin
n[0]:=5;
n[1]:=2;
n[2]:=n[0] MOD n[1];
n[3]:=n[1] + 3;
For I : = 3 downto 0 do
   Write(n[I]);
End.
```

(1) 5 1 2 5
(2) 2 1 5 2
(3) 5 2 1 5
(4) 5 0 1 2

39. Which of the following is the result of 6 + 5 * 3 – (6 MOD 4/2)

1. 19
2. 20
3. 35
4. 92

40. How many times does the following pseudo code repeat?

```
x = 0
y = 10
while x <= 10
  x = x + 1
End while
```

(1) 5
(2) 10
(3) 9
(4) 11

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Grade 11 – Diagnostic Test – August 2022

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කාලය : පැය 2
Time: 2 hours

INFORMATION AND COMMUNICATION TECHNOLOGY– II

me: - ..... *class: -.....* *Index no: - .....*

Answer only 5 questions including first question and 4 of other
First question carries 20 marks and each of other selected question carries 10 marks

Explain the following terms in briefly
a. Variable
b. Constant

Write the disadvantages of online education.

i. Draw the logic circuit corresponding to the following Boolean expression.
$Q = \overline{(AB) + (A+B)+C}$

. Write BCD value of 169_{10}.

. Give one example for each of Simplex data transmission and Duplex data transmission.

i. Write two differences found in the copper cable and fiber optic cable.

ii. Who was the father of www?

iii. Write two examples of low-level programming languages.

x. Draw a flow chart to perform the following tasks.
a. Entering the radius of a circle.
b. Calculate the area (Area = 22/7 x Radius x Radius)
c. Displaying the area
d. Repeating the above process, a, b and c five times

. Following pseudo codes written to print the odd numbers from 1 to 100.

a. Begin
x = _____
For x = _____ to ____ step _____
Display x
Next x
End

b. Begin
x = _____
While x < _____
Display x
x = _____ + _____
End while
End

Complete above Pseudo code and rewrite in your answer sheet.

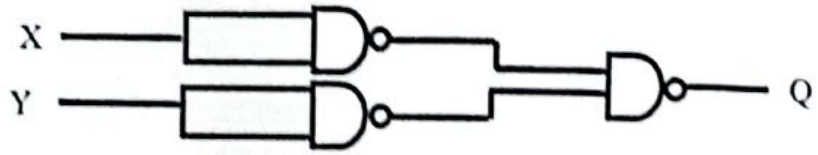
2.

i. Copy the following table below using conversions between number systems. Fill in the b cells using relevant conversions.

Decimal	Binary	Octal	Hexadecimal
	10101001		A9
		53	
100		144	
15	1111		F

ii. If character 'A' is equal to ASCII 1000001, then write the ASCII code for 'ZOOM'.

iii.



a. What is the correspondent Boolean expression for Q shown in above logic circuit?
b. Draw the truth table for the above expression.

iv. How many bits are in 0.25 GB?

v. Briefly explain the following operating systems and write an example for each.
a. Single user
b. Multi user

3. Give an example for each of the followings.
a. Cloud computing word processing software
b. Free and open-source word processing software
c. Presentation software
d. Free and open-source database management system software

i. Consider the following tools used in word processing software.



P Q R S

Write the relevant labels to fulfill the following tasks.

a. Increase the indent level of a paragraph.
b. Changing the font colour.
c. Create a large Capital letter at the beginning of the paragraph.
d. Capitalized first letter in each word.

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ii. What is mail merge?

iii. Write shortcut key combinations for the following tasks.
   a. Find a text
   b. Select entire document.
   c. Insert a hyperlink.
   d. Align text to both the left and right margins.

iv.
   a. Write two security functions of an Operating system.
   b. Write one difference between Windows Operating system and Disk Operating system.

4. The following spreadsheet shows the Sales of their branches of PQR and Sons pastry shop. They sold only three items of their four branches.

	A	B	C	D	E	F	G	H
1	Daily Sales Report -PQR and Sons Company							
2			Quantities of Branches					
3	Item code	Item	Colombo	Nugegoda	Kotte	Moratuwa	Total Items	Total price(Rs)
4	111	FishBun	200	300	130	55	685	82200
5	222	EggBun	120	45	70	70	305	30500
6	333	Cutlet	60	120	122	50	352	31680
7								
8		Branch Income	41400	51300	33580	18100	Total Incom	144380
9		Item prices						
10	Item	Unit Price(Rs)						
11	FishBun	120						
12	EggBun	100						
13	Cutlet	90						

i. Write a formula in cell G4, to calculate total items of fish buns.

ii. Write a formula using the relevant function in cell H4 to calculate the total price of fish buns.

iii. Write a formula in cell C8 to calculate Branch income of Colombo branch.

iv. How the formula would display in cell D8, when the formula in cell C8 is copied to cell D8.

v. Write the formula using Sum function in cell H8 to calculate total income in every branches.

PAST PAPERS WIKI

5 The details of the registered students of the ABC University are given in the following tables.

Student Table

NIC_No	Name	Address	Contact_No
926162454v	S.D.Perera	Colombo 03	0726823543
926424215v	D.Sandaru	Galle	0712850211
926423411v	D.V.Silva	Kandy	0713726118
931137247v	G.S.Gamage	Nugegoda	0774267784
922163423v	A.B.N.Alwis	Badulla	0772116524

Payment Table

NIC_No	Bill no	Date of Registered	Registration Fee(Rs)	Faculty
922163423v	111	01/01/2022	5000	Agri
926162454v	222	03/01/2022	4500	Art
926423411v	333	05/01/2022	6000	Bio
926424215v	444	06/01/2022	4500	Agri
931137247v	555	07/01/2022	4500	Art

i. List two primary keys with relevant table names.
ii. Mention an example for the foreign key with the table name.
iii. How many records and fields are there in payment table?
iv. What is the relationship between student table and payment table?
v. What is the object that used in database software to filter only student name and faculty as a new table?

6. The Internet is a large collection of networks around the world and Internet is the fastest way to share information.

i. Name two services provided by the Internet.
ii. What is video conferencing? State four requirements of Video conferencing.
iii. State three services provided by cloud computing and briefly explain one service.
iv. Write an example for each
   a. Search engine
   b. Web browser
   c. E-mail software
   d. Protocol
v. What is the difference between Internet and World Wide Web?

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7. (a) Write the outputs of the following Pascal programs

i.
```
Program RCpascal2022;
Begin
     Write('2022');
     Writeln('OL');
     Write('@Royal College');
End.
```

ii.
```
Program Rcpascal2022_2;
Var I : integer ;
Begin
       For I : = 1 to 5 do
          Writeln(I,'ICT');
       Write('OL STUDENTS');
End.
```

(b) Draw a flow chart for the following pseudo code.

```
Begin
    Input a number
    Total = 0
    While number > = 0
        Total = Total + number
        Input a number
    End while
    Display total
End.
```

(c) Consider the given array **numar.**

0	0	0	0	0
Numar[0]	Numar[1]	Numar[2]	Numar[3]	Numar[4]

Reorder the array after the given pseudo code has been executed on the array numar.

```
Begin
numar [0] = 25
     i = 1
     While i <= 4
     numar [i] = numar [0] + 3
     numar [0] = numar [0] – 5
     i = i + 1
     End while
End
```