

## General Certificate of Education (Advanced Level) Support Seminar-2013

Sample paper:- Information & Communication Technology 1

Preparation: - Ministry of Education

Duration:- Two hours

Instruction	on ·
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- Answer all the questions.
- Use of calculators is not allowed.
- In each of the question 1 to 50, pick one of the alternatives from (1), (2), (3), (4), (5) which is correct or most appropriate.

1.	Who developed the first ,"Automatic Sequence Controlled Calculator".							
	(1) Howard Aiken	•	) Charles Babbage	(3)	Blaise Pascal			
	(4) Ada Augasta Lov	relace (5)	Gottfried Wilhelm V	<sup>7</sup> on				
2.	"technoword to fill in the ba		fourth generation com	nputers." Which	ch of the following	g is the most suitable		
	(1) Vacuum tube	(2	) Transistor	(3)	Integrated circuit			
	(4) VL-Transistor	(5	) Micro processor					
3.	<ul><li>(2) Data collecting,</li><li>(3) Data collecting,</li><li>(4) Data input, Data</li></ul>	Collecting, Data processing, I Data processing, I Data input, Data processing, Data s	et sequence of Data I rocessing,Data storin Data storing, Data inp rocessing,Data storin toring, Data processi collecting,Data storin	g ,Data Outpu ut, Data Outpu g, Data Outpu ng,Data Outp	ut. ut. ut. ut.			
4.	Consider the following	Consider the following memory types.						
	A. Read Only Memo	ory						
	B. Secondary Storage							
	C. Register Memory							
	D. Flash Memory							
	E. Random Access Memory							
	Which of the above (1) (A) and (B)	can be classified a (2) (A) and (C)	s a Volatile Memory. (3) (A)		(4) (C) and (E)	(5) (D) and (E)		
5.	351 <sub>16</sub> (hexa decimal	) is equals to						
	(1) 1521 <sub>8</sub>	(2) 849 <sub>8</sub>	(3) 1251 <sub>8</sub>	(4) 65	048	(5) 1D <sub>8</sub>		

6.	"GPRS" stands for	<ul><li>(2) Generation Packet</li><li>(4) General Packet Rad</li></ul>						
7.	Consider the following statements.  A. In data based management, large amount of data can be stored in organised manner.  B. Data management is more accurate in tradional methods.  C. Admission register of a school is an example of flat file system.  Which of the above statement/s is/are true.							
	<ul><li>(1) (A) only.</li><li>(4) (A) and (C) only.</li></ul>	<ul><li>(2) (B) only.</li><li>(5) All of the above.</li></ul>	(3) (C) only.					
8.	Given below are some of the advantage A. Electromagnetic waves do not inter B. High speed of transmission. C. Resistance to mechnaical shocks. D. Ability to wire with shrpe bents. E. Higher distance of data transmission. Which of the following consist of true (1) (A) and (B) only.	on. statements. (2) (B), (C) and (D) only.	opper wires in data communication.  (3) (A), (B), (C) and (E) only.					
	(4) (A), (B), (C) and (D) only.	(5) All of the above.						
9.	expected in a computer network.	issued to identify that which line ) IPConfig (4) Net	e, computer or router not functioning as a stat (5) Hostname					
10.	In system development a feasibility stu (1) Managers of an organization. (2) Intended users of the system. (3) System analysists upon instruction (4) Senior programmers upon instruct (5) Software engineers.	dy is conducted bys of managers of the organization.						
11.	<ul> <li>Which of the following is true about system testing.</li> <li>(1) Each component of a system is inspected at the implementation phase.</li> <li>(2) Unit testing is conducted by project manager.</li> <li>(3) Acceptance testing is used to inspect whether each tested module is combined accurately.</li> <li>(4) Acceptance test is conducted by software development team only.</li> <li>(5) Integrated testing is performed by software development team including software engineers and project managers.</li> </ul>							
12.	8 bit first compliment and second com (1) 1101111 and 10010000 (4) 10010000 and 01101111	pliment of decimal 111 is	(3) 10010001 and 10010000					
13.								
		(A) and (B) only. All of the above.	(3) (A) and (C) only.					

- 14. Which of the following is the equivalent boolian expression to  $A \oplus B \oplus C$ 
  - (1)  $A'BC + AB'C + \overline{ABC'}$

- (2) AB'C'+ A'BC'+ A'B'C
- (3) A'BC+ AB'C+ ABC'+ ABC
- (4) AB'C'+ A'BC'+ A'B'C+ ABC
- (5) AB' + A'B + AC' + A'B + BC' +B'C
- 15. A. In Full-duplex data communication always transmission takes place to both direction.
  - B. A student responds to teacher after a question is asked by the teacher in a class. This ia an example of half duplex communication.
  - C. Television broadcasting is an example of half duplex communication.

Which of the above statement/s is/are true about communication.

(1) (A) only.

- (2) (B) only.
- (3) (C) only.

- (4) (A) and (B) only.
- (5) (B) and (C) only.
- 16. A. The capacity of DVD (digital versatile disk) is higher than a CD (compact disk).
  - B. Data writing on a CD take place with pits and bumps.
  - C. Lazer rays are used to read data on CDs and DVDs.

Which of the above statement/s is are true about data storing in optical media.

(1) (A) only.

- (2) (A) and (B) only.
- (3) (A) and (C) only.

- (4) (B) and (C) only.
- (5) All of the above.
- 17. Which of the following operating system is suitable for a Aircraft Defense System.
  - (1) Real time

- (2) Multi Threading
- (3) Single user-Single tasking

- (4) Single user-Multi tasking
- (5) Multi user-Multi tasking
- 18. Study the following statements on waterfall modle of system development.
  - A. It is more suitable for daily used projects that user requirements are well identified.
  - B. It is not possible to follow this modle in data system projects always in real world.
  - C. This model is carried out step by step.

Which of the above statement/s is /are true.

(1) (A) only.

(2) (B) only.

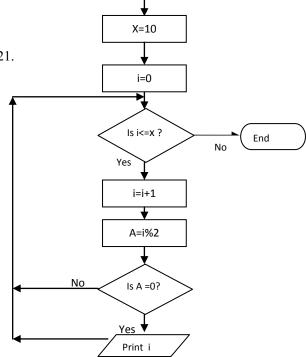
(3) (A) and (B) only.

Srart

- (4) (B) and (C) only.
- (5) All of the above.
- 19. Autonomous, Problem Solving computational entities capable of effective operation in dynamic and open environments are defined as......
  - (1) Evolutionary computating
  - (2) Agent Technology
  - (3) Ubiquitous computing
  - (4) Von-Neumann concept
  - (5) Quantum computing

Consider the given flow chart to answer question 20 and 21.

- 20. What are the control structures used in the Flow chart?
  - (1) Selection only.
  - (2) Selection and Sequence only.
  - (3) Sequence and Iteration only.
  - (4) Selection and Iteration only.
  - (5) Selection, Sequence and Iteration.
- 21. Which of the following is true about the flow chat.
  - (1) It stops when i equals 10.
  - (2) It stops when i equals 11.
  - (3) It displays 0, 2, 4, 6, 8,10.
  - (4) It displays integers from 1 to 10.
  - (5) It displays 2, 4, 6, 8 only.



22.		by using De morgan		, , ,		ring the following
	(1) 0	(2) 1	(3) A	(4) B	(5)	A.B
23.	Which of the follow (1) 6	ving is the output of (2) 9	python statement >>> (3) 11	(3+15)%4+3**2 (4) 25	(5) 4	19
24.	Which of the follow (1) Hub	ring is used to send of (2) Switch	data packets directly to (3) Bridge	its receiving device (4) Repeat		Iodem
25.	Study the following	statments about the	given data base table.			
	<ul><li>C. NAME, DOB a</li><li>D. Collection of da</li></ul>	can be used as prima are two attributes of ata in all attributes of statement/s is/are truy. (2)	table. f a certain student is na		nd (D) only.	
26.	Study the following A. Object oriented B. It can be used i C. It is also know	statements regardin computer languages n computer aided dra n as Extended Relati statement/s is/are tr	g object relational modes are used to develop a awing. ional Model .	data management	system.  and (B) only.	
27.	A. It is close to phy B. It creates a supp C. It is used by dat D. It is an abstracts E. It explains data Which of the above (1) (A), (B) and (C)	ysical storage. porting data structure abase designers and s of whole project. storing pattern. statements are true. only. (2)	g physical schema for called index. database administrator (A), (B) and (E) only. (C), (D) and (E) only.	rs. (:	of data manag  (B), (C) and	•
28.	<ul> <li>Which of the following statements clearly describes direct implementation in system development.</li> <li>(1) Introduction of new system with the existing system.</li> <li>(2) Execution of one segment and execute the other if the first segment is successful.</li> <li>(3) Introduction of new system after terminating of existing system.</li> <li>(4) Introduction of new system step by step.</li> <li>(5) Execution of both systems one after the other.</li> </ul>					
29.	<ul><li>A. The above HT</li><li>B. The browser k</li><li>C. The Alt attribut</li></ul>	og" alt = "Rose Flow ML tag renders the nows the size (widt te provide alternation statements are true.	rer" width = "300" heigimage named "Rose.jh and height) of the ir we information for an  (2) (A) and (C) or (5) (A), (C) and (C)	pg" by the brows mage, without wid image if a user for only.	dth and height.	can not view it.

- 30. In which of the followings the Ubiquitous technology is not used.
  - (1) Customizations of automobiles
- (2) Customizations of Domestic environments

(3) Controll of crimes

- (4) Location tracking
- (5) Design of combinational logic circuits
- 31. Which of the following HTML code segment can be used to display following table in a browser.

## **Contact Details:**

Guardian	Telephone		
Mr.Perera 07	18234567 0372211	111	
(1)		(2)	(3)
<html></html>		<html></html>	<html></html>
<body></body>		<body></body>	<body></body>
<h4>Contact Details</h4>	s:	<h4>Contact Details:</h4>	<h4>Contact Details:</h4>
Guardian		Guardian	Guardian
Te	elephone	Telephone	Telephone
Mr.Perera	>	Mr.Perera	Mr.Perera
0718234567 </td <td>td&gt;</td> <td>0718234567</td> <td>0718234567</td>	td>	0718234567	0718234567
0372211111 </td <td>td&gt;</td> <td>0372211111</td> <td>0372211111</td>	td>	0372211111	0372211111
		<html></html>	<html></html>

(4) (5)

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<html>
<body>
<h4> Contact Details : </h4>

Guardian
Guardian
Contact Details : </h4>
</h>

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Consider the given SQL statement to create "STUDENT" and "LENDING\_BOOK" tables. And answer question 32 and 33.

CREATE TABLE LENDING\_BOOK CREATE TABLE STUDENT NOTNULL, STUDENT\_ID NOTNULL, ACCT\_REG VARCHAR(10) CHAR(5) BOOK\_NAME NOTNULL, NOTNULL, VARCHAR(20) NAME VARCHAR(25) **AUTHOR** VARCHAR(25) NOTNULL, **BIRTHDAY** DATE NOTNULL, DESCRIPTION VARCHAR(75), ADDRESS VARCHAR(25) NOTNULL, ISSUED DATE DATE, **PROVINCE** CHAR(10), NOT NULL, PRIMARY KEY (STUDENT\_ID)); STUDENT\_ID CHAR(5) PRIMARY KEY (ACCT\_REG));

- 32. Consider the following statements.
  - A. "STUDENT ID field can be used to connect STUDENT and LENDING BOOK tables.
  - B. It is compalsory to input data in to **DATE** data type fields of both the tables.
  - C. A comma "," can be used instead of "; " in PRIMARY KEY(STUDENT\_ID)); D. It is compalsory to place a comma "," between two fields.

Which of the following statements are true.

(1) (A) and (B) only.

- (2) (A) and (C) only.
- (3) (A) and (D) only.

- (4) (A), (B) and (C) only.
- (5) All of the above.
- 33. Consider the following statements.
  - A. STUDENT ID is the FOREIGN KEY of LENDING BOOK table
  - B. It is not complasory to input data to the STUDENT ID field
  - C. CHAR data type can be included in BIRTHDAY field of STUDENT table.
  - D. It is compalsory to input data to PROVINCE field.

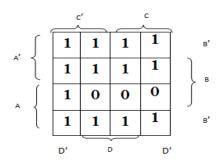
Which of the above statement/s is/are true.

(1) (A) only.

- (2) (B) and (C) only.
- (3) (C) and (D) only.

- (4) (A), (B) and (C) only.
- (5) (A), (B) and (D) only.
- Meaning of software piracy is .....
  - (1) Stealing of software at home.

- (2) Coping software.
- (3) Stealing of software from manufactuing company.
- (4) Coping from purchased software.
- (5) Making of illegal copies of software on which the user has no copy right.
- Consider the following Karnaugh map.



Which is the correct logic expression when you simplify it using given values.

(1) A' + AB' + C'D'

(2) A' + B' + AD'C'

(3) A' + B' + C'D'

- (4) C'D' + A'C' + A'C' + B'
- (5) B'C + B'C' + A'C + C'D'

- 36. Consider the following statements.
  - A. Operating systems are Utility software.
  - B. An operating system is needed to control hardware and to manage software.
  - C. Apple Macintosh is Free & Open source operating system.

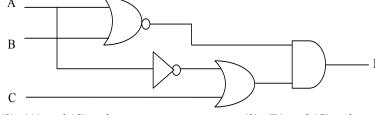
Which of the above statement/s is/are true.

(1) (A) only.

(2) (B) only.

(3) (C) only.

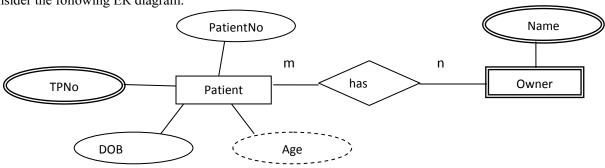
- (4) (A) and (B) only.
- (5) (B) and (C) only.
- 37. Which of the following is the correct Boolean expression that corresponds to output "F".
  - A.  $(\overline{A+B}) + (A.C)$
  - B.  $(\overline{A}, \overline{B}) \cdot (\overline{A} + C)$
  - C.  $(\overline{A+B})(A.C)$
  - D.  $\overline{(A+B)}$ . $\overline{(A+C)}$



- (1) (A) and (B) only.
- (2) (A) and (C) only.

(3) (B) and (C) only.

- (4) (B) and (D) only.
- (5) (A), (C) and (D) only.
- 38. Consider the following ER diagram.



Which of the following statement/s is /are true.

- A. Owner is an Weak entity.
- B. m: n is the cardinality coefficient of above relationship.
- C. DOB is a "stored attribute" while "Age" is a derived attribute.
- (1) (A) only.

(2) (A) and (B) only.

(3) (B) and (C) only.

- (4) (A) and (C) only.
- (5) All of the above.
- 39. Consider the following statements.
  - A. Fequent Refreshing take place in DRAM while SRAM has no such fequent refreshing.
  - B. Cache Memory belongs to the category of SRAM
  - C. Present day most of computers has SRAMS.

Which of the above statement/s is/are true.

(1) (A) only.

(2) (B) only.

(3) (C) only.

- (4) (A) and (B) only.
- (5) (B) and (C) only.

40.	Consider the following HTML tag. User name: <input name="username" type="text"/>								
	A. It defines a one line input field that a user can enter text.								
	B. It is the con								
		. It is the correct HTML tag for creating a text area.							
	Which of the ab (1) (B) only. (4) (A) and (C)	(2) (C) o	re true.			(A) and (	B) only.		
41.	Which of the followings is the correct statement regarding IP addresses and subnet masks.  (1) 192.156.6.3 is an example of class "B" IP address.  (2) 6(six) host computers can be connected to a network with a subnet mask of 255.255.255.148.  (3) IPV4 addresses contain 8 bits.  (4) 220.32.1.5 is an example of class "C" IP address.  (5) 255.255.0.0 is an example of class "C" IP address.								
42.	communication (1) Transport la	Which of the following layer of OSI reference model that is responsible for data transmission through a communication media.  (1) Transport layer (2) Session layer (3) Physical layer (4) Network layer (5) Data link layer							
43.	Which of the fo	llowing python st	tatement is sy	ntactically c	orrect to	display	multiplic	ation table?	
	(1) for j in[2,3,4,5]	]:	(2)for j in	[2,3,4,5]:			(3) for	j in[2,3,4,5]:	
	print(Multiplication	on of; j)		print('Multiplie	cation of: ',j	j)		print(Multiplication of:, j)	
	for k in range(1,12):  Print(j*K)  Print()			for k in range(1,12):  Print(j*K)			for k in range(1,12):  Print(j*K)		
							Print()		
	(4) for j in[2,3,4,5]	]:	(5) for	j in[2,3,4,5]:					
	print('1	Multiplication of: 'j)		print('Multiplication of : 'j)					
	for k in range(1,12	2):	for k in	for k in range(1,12):					
	Print(j*K)			Print j*K					
	Print()		Print()						
44.	Consider the following python statement.								
		DataList=[52,90,67,99] for i in DataList:     if i< 90:         print(i)     break print('end')	9]						
	Which of the following is the correct output.								
		(1) 52 end	(2) 52 90 67	(3)	52 90 67 end	(4)	52 90 67 90	(5) 52 end 90 end	

end

99

end

45. Consider the following python codes. >>> List1=[5,6,7,8] >>> List2=[9,10,11,12] >>> L=List1+List2 >>> Print(L) Which of the following is the output of it. (1) 5,6,7,8,9,10,11,12 (2) [5,6,7,8]+[9,10,11,12] (3) [5,6,7,8,9,10,11,12] (5) List1[5,6,7,8]+List2[9,10,11,12] (4) (5,6,7,8)+(9,10,11,12)46. Consider the following python codes. def fun(a): i, c=1,a[0] while i<len(a): if (a[i]) >c: c=a[i] return i print(fun([9,3,11,15,-1])) Which of the following is the output of it. (3) 5(4) 8 (5) 15(1) -1 (2) 347. Consider the following incomplete python code segment that is used to arrange data items of "marks" data structure in desending order. marks=[28,75,52,89,68] datacount=len (marks) fori in range(datacount-1): for k in range(i+1,datacount): if ...... marks[i],marks[k]=marks[k],marks[i] Which of the following is the suitable statement to fill in the blank. (1) marks[i]<marks[k]; (2) marks[i]>maks[k]; (3) marks[i]=marks[k]: (4) marks[i]<marks[k]: (5) marks[i]>marks[k]:

48. Consider the following python statement.

A=32.7 B={'Age':21,'Name':'Perera'} C=(28,95,'Kamal') D={5,10,15,'sarath'}

Which of the following contains relevant data types for A, B, C, and D respectively.

(1) float, tuple, list, dictionary

- (2) integer, dictionary, list, dictionary
- (3) float, dictionary, tuple, dictionary
- (4) float, tuple, dictionary, set

(5) float, dictionary, tuple, set

49. Consider the following python statement.

```
data=[25,28,30,40,85,92,100]

for i in data:

    if i>= 40:

    print(i, end=',')
```

Which of the following is the output.

- (1) 25, 28, 30
- (2) 25, 28, 30, 40
- (3) 85, 92, 100

- (4) 40, 85, 92, 100
- (5) 25, 38, 30, 37, 85, 92, 100
- 50. Consider the following python statement.

Contents of number.txt is given below.

```
2,5,10,12,15,20
```

Which of the following is the content of store.txt after execution of the program.

- (1) 2 5 10 12 15 20
- 2 5 12 15 20 (2) 10 2 5 10 12 15 20 2 5 10 12 15 20 2 5 12 10 15 20 2 5 10 12 15 20
- (3) 2d 5x 10b 12n 2d 5x 10b 12n 2d 5x 10b 12n 2d 5x 10b 12n 2d 5x 10b 12n
- (4) 2 2 10 5 5 101 10 1010 a 12 c 1100 15 f 1111 14 20 10100
- 5 2 10 12 15 20 (5) 2 5 c f 14 10 101 1010 1100 1111 10100