



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

Sample Paper :- Information & Communication Technology II

Preparation :- Ministry of Education

**Time Duration: 3 hours**

**Instructions:**

- ❖ Answer all the questions on this paper itself.

**Part A-Structured Essay**

(1).(a)

- (i) Provide a suitable definition for a system.

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- (ii) Using the definition suggested in (i) above, show that a refrigerator is a system.

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- (iii) State whether the refrigerator is an open system or a close system. Justify your answer.

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- (iv). State whether the following requirements of a motor car are functional.

Proper functionality of break system of a car.

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The car should not emit harmful gases to the environment.

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(b) Examples for B2B, B2C, and C2C in E- Commerce are mentioned below. State the type for each example

(i) Sama who lives in a foreign country orders a flower bouquet for her mother's birthday using web based service.

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(ii) Wholesale vehicle dealers order vehicles online.

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(iii) Saman orders a computer online from a computer manufacturing company.

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(iv) Sarath designed a website that consists of a collection of old stamps. Kamal is buying stamps from website.

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(c) Consider the following scenario.

ICT teachers selected from schools islandwide, work as members of the Hardware and Network Solution Pool established by the Ministry of Education for the purpose of proper maintenance of school computer laboratories .The ministry identified that conducting regular meetings to discuss technical difficulties and exchanging knowledge are time consuming .

(i) Suggest a suitable method to solve their hardware maintenance problems based on the Information Communication Technology from their school.

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(ii) Name three ICT devices that are needed for the method you suggested in (i) above.

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(2).

(a). (i) What are the basic components of data communication system?

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(ii) Name three (3) transmission impairments in data communication.

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(iii) What are the three modulation methods in analog signals in data communication?

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(iv) Explain one of the above modulation methods.

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(b). Given below is part of the output screen after executing “inconfig/all “command.

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Ethernet adapter Local Area Connection:
Connection-specific DNS Suffix . . . : 
Description . . . . . : Broadcom NetXtreme 57xx Gigabit Controller
Physical Address. . . . . : 00-23-AE-0C-2B-45
DHCP Enabled. . . . . : No
Autoconfiguration Enabled . . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::55e6:4ebe:221c:9c6%10(Preferred)
IPv4 Address. . . . . : 172.20.31.2(Preferred)
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 172.20.31.254
DHCPv6 IAID . . . . . : 234890158
DHCPv6 Client DUID. . . . . : 00-01-00-01-15-E6-E7-D5-00-23-AE-0C-2B-45

DNS Servers . . . . . : 172.20.100.100
                       172.20.100.101
NetBIOS over Tcpip. . . . . : Enabled
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Consider the above to answer the question given below.

- (i) Write down the MAC address.

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- (ii) What is the logical address?

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- (iii) What is the function of the DNS server?

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(3)

<i>Production</i>				
<b>Pro_No</b>	<b>Pro_Type</b>	<b>Pro_Name</b>	<b>Unit_Price</b>	<b>Sale_Price</b>
MLK02	Diary Milk	Anchor	330.00	325.00
MLK04	Diary Milk	Maliban	325.00	320.00
MLK03	Butter	Anchor	130.75	128.75
MLK06	Diary Milk	Lakspray	338.00	330.00
MLK07	Butter	Maliban	128.50	125.50

- (a) Construct a SQL statement to design a database table which contains attributes relevant to the table.

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- (b) What is the SQL statement which is used to add the following record to the table?  
MLK08 Butter Lakspray 125.00 128.00

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- (c) Write down the SQL statement to display Pro\_Type, Pro\_Name and Unit\_Price which products are not similar to “Lakspray” in the Pro\_Name field.

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- (c) UPDATE Production  
SET Unit\_Price=335.00  
WHERE Pro\_No='MLK04'  
What would be the output of this SQL statement ?

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- (d) SELECT Pro\_Name,Sale\_Price  
FROM Production  
WHERE Unit\_Price-Sale\_Price>3  
What would be the result of this SQL statement ?

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- (4) (a) (i) Describe how you would input 3 integer values and output the largest value.

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(ii) Develop a flow chart to represent an algorithm, based on the method suggested in (i) above, to output the largest value.

(iii) Convert the flow chart you have the above (ii) into a pseudo code.

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(b) Show how the computation of  $14+(-3)$  is done in 8 bit two's complement arithmetic. Explain how you deal with the carry generated in the most significant bit.

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