

Software must not only work correctly it must also be easy to use – a quality sometimes called user-friendliness.  a. Mention THREE features which make a program user-friendly.  b. What is on-line help, and what are its advantages?  c. Why is a Graphical User Interface (GUI) generally considered more user-friendly than a Command Line Interface (CLI)?  d. Mention FOUR things which make a program hard to use, and which therefore to be avoided when you are writing a program.  e. Describe how modern input/output devices can make computers easied use for disabled people.	d more which are
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### **SEC'95-PAPER 1-Q8** 2 All computers require an Operating System in order to function. What do you understand by the term **Operating System**? **[4]** i. What is **Batch Processing**? b. [2] Mention one application of batch processing. ii. [2] What is a **real-time Operating System**? i. c. [2] ii. Describe briefly **one** situation where a real-time operating system is required

[1]

## 3 SEC'96-PAPER 1-Q1 Briefly describe what the following parts of a GRAPHICAL USER INTER-FACE (GUI) are used for: a. An ICON\_\_\_\_\_ [2] b. A Window FRAME\_\_\_\_\_ [2] c. A SCROLL BAR\_\_\_\_\_ [2] d. A DIALOG BOX\_

[2]

SEC'96-1	PAPER 2A-Q2	(CONSULT C	H 4)			
(a) A nev	w diskette must	be formatted be	fore it can be	used to store dat	ta.	
i.	What type of s	oftware is used	for formatting	g a disc?		[1]
ii.	Briefly explain	what happens	when a disc is	s formatted.		[3]
iii	. What is the fur	nction of the dir	rectory which	is created on di	sc?	[3]
(b) The (	OS of a multi-us	er system inclu	des security fe	eatures to protect	t users'	
data.						
Menti	ion <b>three</b> such fe	eatures and brie	fly explain ho	w each attempts	to secure	
data.						[6]

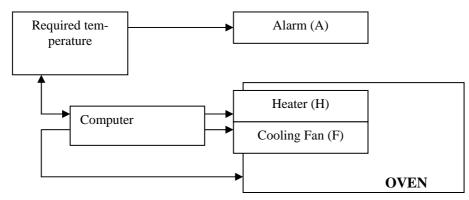
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SEC '97-PAPER 1-Q2 (CONSULT CH 9)	
Mention TWO advantages of linking computers together to form a network	
:	
i	
ii	
What is meant by LOGGING ON to a network	
What is inealit by Lodon to a network	
What is meant by SPOOLING printer output?	
What is meant by SPOOLING printer output?	
What is meant by SPOOLING printer output?	

#### SEC'97-PAPER 1-Q8

Use TEN of the following terms to complete the passage below:										
Scroll bar	icon	font	item	language						
Diskette	copying	mouse	software	menu						
Pointer	keyboard	windows	clicking	clipboard						
In a Graphical User interface (GUI), the user uses a to										
move a around the screen. Programs can be executed										
by, and										
selections can be made easily from a by highlighting										
the desired		Sim	nilarly,		can be					
resized and moved around and a can be used to scroll										
to the desired	portion of a do	ocument. A _		is	usually pro-					
vided to enable	e	(	of items betw	ween application	ons.	[5]				

#### 7 SEC'97-PAPER 2A-Q1 (CONSULT CH 2)



Feedback temperature

An industrial oven is equipped with a dedicated computer which controls the operation of the oven's heating and cooling system to maintain a steady temperature.

The required temperature **RT** is set by the operator.

The feedback temperature **FT** is the current oven temperature.

A heater  $\mathbf{H}$  is used to heat up the oven whilst a cooling fan  $\mathbf{F}$  is used to lower the temperature in the oven.

a. Distinguish between a dedicated computer and a general-purpose computer
b. What type of processing is required by this system? Give reasons for your answer.
c. What are the three possible states of the oven?
d. Write the algorithm which the processor continuously executes in order to maintain a steady temperature in the oven.
e. An alarm A connected to the system is activated if the temperature varies by 10° or more from RT. Modify the algorithm you wrote in part d to include this circumstance.

Writing Space for Previous Question	

#### **8** SEC'98-PAPER 1-Q9

The following are three types of **computer systems:** 

On-line system real-time system batch processing system

For each of the following computerized applications, select the most appropriate computer system from the three above.

Application	Computer System
Printing mailing labels	
Travel-agents booking system	
Air-traffic control system	
Banking ATM system	
Controlling robots	
Producing payslips	

**[6]** 

9	SEC'S	99-PAPER 2A-Q4	
	i.	Differentiate between a <i>multi-user</i> system and a <i>multiprogramming</i> system.	[2]
	::		. [2
	ii.	Briefly explain how multiprogramming may be achieved on a computer	[2]
		having a single CPU.	
	iii.	In a multi-user system, several users share a single printer. This is	[2]
		achieved by <i>spooling</i> . What is meant by spooling?	

10	SEC'9	9-P2A	-Q6B													
	b.	With	reference	to	the	storage	of	files	on	a	disk,	what	is	meant	by	<b>[4]</b>

D.	with reference to the storage of files on a disk, what is meant by	<u>[</u> 4
	hierarchical directory structure.	
	<del>_</del>	

#### 11 SEC '00-PAPER 1-Q7

Wit	h reference to <b>OPERATING SYSTEMS</b> , briefly explain each of the following:	
a.	Batch processing	
		[1]
b.	User Interface	
		[1]
c.	Print Spooling	
		[1]
d.	Resource sharing	
		[1]

SEC	'00-PAPER 2A-Q7
(a)	What is an Operating System?
(b)	The operating system is usually held on disk and has to be loaded in main
	memory once the computer is switched on, before any other programs can
	be run. What is this process called?
(c)	Explain what is meant by window-based user interface.
(d)	Name ONE advantage and ONE disadvantage of such an interface.
	Batch processing and real-time processing are two types of operating system modes.
(e)	Differentiate between the two types of operating modes. Identify a suitable application for each.
	An airline booking system allows more than one user to access the system at the same time.
(f)	What term best describes the system that allows several users to access it simultaneously?
(g)	Explain how this is achieved on a single processor.
(h)	Identify THREE features in which such an operating system would differ
	from a single-operating system.

Writing Space for Previous Question					

13	SEC '	SEC '00-PAPER 2B-Q8 (CONSULT CHs 9, 5, 12 & 13) Write short notes on the following:					
	Write						
	(i)	Process control	[3]				
	(ii)	Computer ethics	[3]				
	(iii)	LAN operating systems	[4]				
	(iv)	Numeric overflow	[4]				
	(v)	Flowcharts	[3]				

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SEC	<b>'01-P2A</b>	A-Q3 (CONSULT CHs 4 & 7)						
(i)	Differ	rentiate between primary and secondary storage. Give an example and a						
	typical use of each.							
(ii)	The disk filing system is an important part of a computer's operating system							
	which organizes data stored on disk.							
	(a)	Describe, with the aid of a diagram, the hierarchical directory structure						
		as a means of organizing files.	[3]					
	(b)	Briefly describe how the computer keeps track of where each file is	[3]					
		stored.	[0]					
	(c)	State TWO other pieces of file information that typically would be re-						
		corded. [	[2]					
	(d)	What technique is often used in order to pack more data in a given	[1]					
		storage medium such as a floppy diskette?						
	(e)	Name another advantage of using the technique identified in part (d).	[2]					

Writing Space for Previous Question					

15	SEC '01-PAPER 2B-Q8 (CONSULT CH 9)	
	Most operating systems support	
	Multi-user	
	Multi-programming	
	LAN networks	
	(a) Explain each term above	[6]
	(b) Mention THREE advantages of having a LAN over standalone personal computers	[5]
	Most home computer users have <i>INTERNET</i> access. This is done by having a basic personal computer system with a <i>modem</i> connected to a telephone line, a <i>browser</i> installed and a monthly subscription payable to an <i>INTERNET Service Provider</i> . INTERNET access is allowed after entering a valid <i>password</i> .	
	(c) Write short notes of each term in italics.	[6]

Writing Space for Previous Question					

# SEC '02-PAPER 2A-Q5 A,B 16 What is an operating system? [1] Three types of operating systems are real-time, batch and time-sharing. Identify one application for each type. Justify its suitability. **[6]**

17	SEC '03-PAPER 2A Q1						
	(a) Mention two types of interface which an operating system can use.	[2]					
	(b) From the two interfaces mentioned above distinguish one which allows users to share data easily between applications.						
	(c) Describe how the clipboard is used to exchange text and graphics data between applications.	[2]					
	(d) Why is there the need of having more than one type of operating system available?						
	<ul> <li>(e) Highlight the difference between the following pairs of Operating Systems</li> <li>i. single-user vs multi-user</li> <li>ii. single programming vs multi programming</li> </ul>	[4]					
	(f) Three types of operating systems are real time, batch and time-sharing. Identify one application for each type and justify its suitability.	[6]					

Writing Space for Previous Question					

#### 18 SEC '04-PAPER 1 Q8

a.	List	t <b>FIV</b>	V <b>E</b> fea	atures	found	in any	GUI.						
•••		••••	•••••	•••••	•••••	• • • • • • •	•••••	• • • • • •		••••	• • • • • • •	•••••	
•••	••••		•••••	•••••	•••••	• • • • • • • •	•••••	• • • • • • •		•••••			
•••	••••	••••	• • • • • •	•••••	••••	• • • • • • • •	• • • • • • •	• • • • • • •		••••			[5]
					advant	U							
• • •	• • • • •	••••	• • • • • •	• • • • • •	•••••	• • • • • • •	• • • • • •	• • • • • •	• • • • • •	• • • • • • •			[2]

8. Most computers have a Graphical User Interface (GUI).

#### 19 SEC '04-PAPER 2A Q8 (CONSULT CH 6)

Computers may be used for process control.

- (a) Briefly describe an example of a process which is computer controlled.
- (b) Mention **TWO** advantages and **TWO** disadvantages of introducing computers to control processes in industry.
- (c) A farmer uses a water pump to pump up water from an underground reservoir to an elevated tank, as shown in the diagram.

L=0 if water level in TANK is above mark \*.

L=1 if water level in TANK is below mark \*.

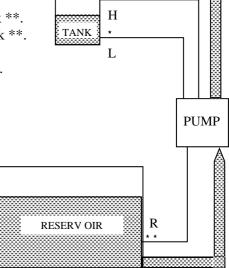
R=0 if water level in RESERVOIR is below mark \*\*.

R=1 :if water level in RESERVOIR is above mark \*\*.

H=0:if water level in TANK is below mark \*\*\*.

H=1: if water level in TANK is reaches mark \*\*\*.

When the water in TANK falls below level '\*' (sensor L=1) and there is water in RESERVOIR above level marked '\*\*' (sensor R=1), the pump is switched on (P=1). The water pump stops pumping up water (P=0) from RESERVOIR to TANK when the level of water in TANK reaches level '\*\*\*' (sensor H=1).



(i) Complete the truth table below for controlling this water pump.

[3]

[1] [2]

[8]

L	R	Н	P (pump on)
0	0	0	0
0	0	1	0
0	1	0	
0	1	1	
1			
1			
1			
1			

(ii) Draw the logic circuit which controls this pump.

$\Gamma \gamma \gamma$
1.31
L

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·		

[1]
[4]
[2]
[2]
[2]
[2]
[2]
[1] [1]

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