

Sri Lanka Institute of Information Technology

B.Sc. Degree in Information Technology

Mid-Term Examination Year 1, Semester 1 (2014)

Computer Programming Techniques and Practices (N101)

Duration: 1 Hour

Instruction to Candidates:

- ♦ This paper contains 7 questions on 5 pages without the cover page.
- ◆ Answer all questions on this paper itself.
- ◆ Read all questions before start answering.
- ◆ The total marks obtainable for this examination is 100.
- ♦ This is a closed book examination.

200	The state of the s	1 2 3 6 6 7	The state of the s	77.74.530 4 7.8
Generation 1 st	reserve altrogra	muuuta kingasiac	Level	
2 nd				
3 rd				
4 th				
g th				
5 th				
	est.			(6
Explain wha	at are 5 ^m generat	ion languages by	y giving an example	. (6 ma
,				
				•
What are the	main tasks of a	compiler?		(6 ma
What are the	main tasks of a	compiler?		(6 ma
What are the	main tasks of a			(6 ma
What are the				(6 ma
What are the				
What are the				
What are the				
What are the				
What are the				

(6 marks	

5) Following table lists the phases of Software Development Life cycle (SDLC). Give the key job role and a document associated with each phase. The first phase is done for you as an example.

(16 marks)

Phiseologias (Page 1922)	Keynobrole maken with const	A Moeument : Sing 2 Table 1
Define the problem	Systems Analyst	Software Requirements
		Specification (SRS)
Design the solution		
Implementation (Code)		
T:		
Testing		
Maintenance		
Maintenance		

6) Read the following problem scenario and answer the questions a), b) and c).

A program is required to prompt the user for the year, accept it as an integer and decide whether it is a leap year or not. Then, the program will display a message indicating whether it is a leap year or not. (A year will be a leap year if it is divisible by 4 but not by 100. If a year is divisible by 4 and also by 100, it is not a leap year unless it is also divisible by 400)

a)	Draw the defining diagram for the above scenario.	(10 marks)	
ſ			
_			
) —	Write the solution algorithm for the above scenario.	(17 marks)	

c) Desk check the solution algorithm for the following two test cases.

(12 marks)

	Test case 1	Test case 2
year	2000	2002
message	Leap year	Not a Leap year

7) A novel programmer has written the following algorithm in order to print the square numbers starting from 1 to 25 (1, 4, 9, 16, 25).

```
Square_Numbers
Integer a, b
a=1
b=3
While (a <= 36) Do
Display a
A=a+b
B=b+1
End While
End
```

Desk check the above algorithm and decide whether the algorithm gives the expected result. (12 marks)