Kingdom of Saudi Arabia
Ministry of Education
College of computer
Department of Computer Science

Qassim University جامعة القصيم

المملكة العربية السعودية
وزارة التعليم
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Course: Concepts of Programming Languages (CS213)
Second semester 443

50/

Midterm exam
Duration: 2 hours
Date: 04/05/2023

13/25

Mark_____100/4=25%

Student Nam [redacted] **Student ID** [redacted]

Answer All Questions:

Instructor use only

Outcomes	1	2	3	4	5	6
Covered	✓	NA	NA	NA	NA	✓

Question	1	2	3	4	5	6
Covered Outcome	6	1	1	6	6	6
Allocated mark	10	18	15	20	20	17
Earned mark						

Total		
1	6	Exam
33	67	100

Answer all the following questions:

3

Question 1: You have the following Pascal for Loop : [/10 pts]

```
x=4;
Do
    i=x*3;
    x:=x+2;
    write(x*2, ' ');
while (x<64) or (i<=30)
```

1) You have given this code segment. Suppose that all variables are defined, list the output ?

6, 14, 34

2) Write only the values of x and i variables.

X : 6, 14, 34

I : 12, 36

Question 2: Language Criteria [/18 pts]

16

a) Give a three Programming language criteria you have seen in the course:

1) readibility 2) writibility 3) Reliability

b) Give four Programming language categories you have see in course:

1) Imperialtive 2) Logic

3) Functonal 4) markup

c) Give one language for each categories

Logic: C Markup: XSLT

Functional: Lisp

Question 3: Complete with a short sentence [/15 pts]

1. What was the primary application area of computers at the time FORTRAN was designed?
   ~~teach~~ security
2. Pascal developed in 1971 for the purpose of teach
3. SIMULA Designed primarily for simulation
4. Orthogonality: as an evaluation criterion means more than one way to solve Problem
5. LISP is the first language whose syntax was formally defined based on Backus-Naur form(BNF)

Question 4: Write the following required codes. **(20 pts)**

A) Write a Scheme function to find the factorial of an integer number N	Write a Pascal function to find the factorial of an integer number N
define (func(n) if (n ~~=~~ (kk<n) ~~(~~n-(~~*~~n)	

Question 5: write the output of each of the following Scheme statement: (20 pts)

a) (CAR '((A B) C D)) returns---A B
b) (CAR 'A) returns---error
c) (CAR '(A)) returns ---~~(~~A
d) (CDR '(A B C)) returns---B C
e) (CDR '((A B) C D)) returns---C D
f) (CDR 'A) returns---error
g) (CDR '(A)) returns---( )
h) (CDR '()) returns---( )
i) (+ 5 7 8) returns---20
j) (EQ? 'A '(A B)) returns---~~error~~ #t