Final Exam
10 December, 1990, 6:00-8:30 pm

Closed book section
40 points

Name: _____

This is the closed book section of the exam. After you turn in this section of the exam you may use your notes and books to work on the open book section of the exam.

When you are asked which of several alternatives satisfy a particular criterion as in question 8, circle your choices.

Each of the eight questions on this page counts two points.

1. What is an assignment statement in Pascal? Give an example.

2. Why is BNF called a meta-language?

3. Convert the following into Pascal decimal notation:

   1.99E4
   25E-1
   10.5

4. What is written to the terminal by the following statement:

   WRITELN(OUTPUT, 3.1416 : 4:2);

5. What is Pascal's compound statement?

6. What are Pascal's two classes of subprograms?

7. What are Pascal's two classes of subprogram parameters?

8. Define **TenSet** to be the base type consisting of Pascal sets whose elements are drawn from the integers 0 to 10?

Each of the eight questions on this page counts three points.

9. Which of the following could be valid array indices in Pascal?

TRUE
-5
1.0

10. Which of the following could be valid field names in Pascal?

TRUE
1776
NAME

11. Which of the following evaluate to 0 (the integer zero)?

5 * 4-20
5 DIV 7
5 <> 5

12. Which of the following expressions are valid **real** values in Pascal?

3 DIV 5
3/5
3/5.0

13. Which of the following expressions evaluate to **TRUE**.

(5 = 6) AND NOT (5 <> 6)
TRUE > FALSE
[0] < [1]

14. Under what circumstances could the following be a valid type definition?

ObsType = ARRAY[1..N] OF REAL ;

15. Which of the following are valid set operators in Pascal?

+
*****
AND

16. If **I** has been declared to be an integer and **PI**, to be a pointer to integers, which of the following are valid?

I := PI^ ;
PI := ^I ;
NEW(I) ;