INTRODUCTION TO COBOL EXAM

Name: _____ Score: _____

Total Score: 60 points

Instructions:

- This exam consists of two sections:
  - Section A – Theory (6 questions, 5 points each)
  - Section B – Practice (2 questions, 15 points each)
- The exam is closed book. No course materials, compiler, or internet access allowed.
- Answer clearly in the space provided. For coding questions, write clean, indented COBOL code using proper formatting and comments where appropriate.

Section A: Theory

1. Explain why COBOL was developed and what type of applications it was originally intended for. (5 pts.)

2. Describe the purpose of the four main divisions in a COBOL program. (5 pts.)

3. What is the function of the PIC clause? Provide two examples and explain what each one means. (5 pts.)

4. How does COBOL handle looping structures? Describe with one keyword-based construct. (5 pts.)

5. Compare COBOL's approach to error handling with that of modern programming languages. (5 pts.)

6. Why is COBOL still relevant in today’s software industry? Mention at least two practical reasons. (5pts.)

Section B: Practical

7. Write a small COBOL program fragment that: (15 pts.)
   - Declares a numeric counter variable named COUNTER
   - Displays numbers from 1 to 5 using a PERFORM UNTIL loop

8. Complete the missing parts in the following COBOL snippet and answer the following questions:

```
IDENTIFICATION DIVISION.
_____.  SemesterFee.

DATA DIVISION.
WORKING-STORAGE SECTION.
01 STUDENT-NAME          PIC X(30).
01 STUDENT-ID            PIC __(__).      <* Student's ID number (8 digits)
01 NUM-COURSES           PIC 9(2).
01 CREDITS-PER-COURSE    PIC 9(2) VALUE 3.
01 PRICE-PER-CREDIT      PIC 9(4)V99 VALUE 120.00.
01 TOTAL-FEE             PIC 9(6)V99.

PROCEDURE DIVISION.
MAIN-PARA.
   <* Ask for student's name
   _____ "Enter student name:"
   _____ STUDENT-NAME

   <* Ask for student's ID
   _____ "Enter student ID:"
   _____ STUDENT-ID

   <* Ask for the number of courses
   _____ "Enter number of courses:"
   _____ NUM-COURSES

   COMPUTE TOTAL-FEE = NUM-COURSES * CREDITS-PER-COURSE * PRICE-PER-CREDIT

   <* Display all collected and computed information
   DISPLAY "STUDENT INFORMATION:"
   DISPLAY "Name: " STUDENT-NAME
   DISPLAY "ID: " STUDENT-ID
   DISPLAY "Total Semester Fee: $" _____

   <* End the program
   _____
```

(1 pt.)

(1 pt.)

(2 pts.)

(1 pt.)

(1 pt.)

- What should the name of the file be to follow COBOL file naming conventions for source files? (4 pts.)

- If the price per credit is increased to $135.50, what line in the program needs to be changed? Rewrite the exact line with the new value. (5 pts.)

(BONUS QUESTION +10 pts.)

- Identify and explain the purpose of the PIC 9(4)V99 clause used in the declaration of PRICE-PER-CREDIT. What kind of data does it allow and how is it formatted?