**Assignment 1  
Subject: Basics of C  
Professor: Dr. D. S. Patnaik**

**Part 1: Theory Questions (8 × 3 = 24 Marks)**

1. **What is a variable? Explain with an example.**
2. **List and explain the rules for naming variables in C.**
3. **What is a constant? How does it differ from a variable?**
4. **Explain the types of constants in C with examples.**
5. **What are keywords in C? List any 10 keywords.**
6. **What is the basic structure of a C program?**
7. **What are comments in C? Explain the types of comments with examples.**
8. **What are library functions? Give an example.**

**Part 2: Programming Questions (4 × 4 = 16 Marks)**

1. **Write a C program to calculate the area of a rectangle.**
   * **(a) Using hardcoded values**
2. **Write a program to calculate the area of a circle.**
   * **Modify the program to also calculate the volume of a cylinder when given radius and height as input.**
3. **Write a program to convert a temperature given in Celsius (Centigrade) to Fahrenheit.**
4. **Write a program to calculate simple interest.**
   * **The program should take principal, number of years, and rate of interest as inputs and calculate the simple interest using the formula:**

**Submission Guidelines**

* **Write your answers in a notebook, then scan and convert them into a PDF.**
* **Upload the PDF to Google Drive and share the link.**
* **Submit the Google Drive link in the Google Form provided.**

**Deadline**

* **Submit by: April 2, 2025, before 5 PM**
* **In-time Submission Bonus: 10 Marks**
* **Total Marks: 50**
* **Late Submissions: Accepted until 10 PM on April 2, 2025 (No bonus marks)**

**Best of Luck!**