Jaypee University of Engineering & Technology, Guna

T-3 (Even Semester 2022)
18B11CI211 – OBJECT ORIENTED PROGRAMMING

Maximum Duration: 2 Hours
Maximum Marks: 35

Notes:
1. This question paper has 7 questions.
2. Write relevant answers only.
3. Do not write anything on question paper (Except your Er. No.).

		Marks

Q1. Write a C++ program to write the following two lines in a file 'MY_FILE1.txt': **[05]**

jaypee university of engineering and technology, guna.
department of computer science and engineering.

Read text from 'MY_FILE1.txt', then capitalize the first letter of each word and write the modified text in another file named 'MY_FILE2.txt'.
The 'MY_FILE2.txt' file should contain text as follows:

Jaypee University Of Engineering And Technology, Guna.
Department Of Computer Science And Engineering.

Q2. a. Write a C++ program to show the working of function template. **[03]**

b. Write a C++ program to show the use of virtual destructors. **[02]**

Q3. Write a C++ program to define a class called *Employee* with two data members: **[05]** name and employee_number. Derive *Manager*, *Scientist*, and *Laborer* classes from *Employee* class in public mode. The *Manager* class has two extra data members: title and salary. The *Scientist* class has an extra data member number_of_publications. The *Laborer* class has nothing extra. The classes have necessary functions for initializing and displaying the respective data members. Use inheritance and test your program by creating objects of type *Manager*, *Scientist*, and *Laborer*. Call the member functions suitably from each of the objects.

Q4. Explain various types of polymorphism. Differentiate between early binding and **[05]** late binding.

Q5. Elaborate the working of the try-catch block. Write a C++ program to demonstrate **[05]** the importance of exception handling.

Q6. What is the diamond problem? Write a C++ program to solve the diamond problem.

Q7. Write short notes on following:
a. Virtual function
b. ios::out
c. Copy constructor
d. Default arguments
e. Static data members