

# **20MCA132 – OBJECT ORIENTED PROGRAMMING LAB**

*Lab Report Submitted By*

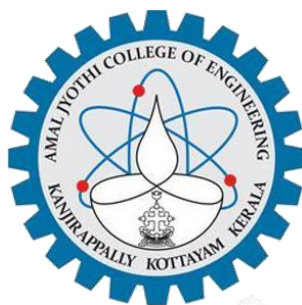
**VIJAY VISHNU P B**

**Reg. No.: AJC21MCA-2109**

*In Partial fulfillment for the Award of the Degree Of*

**MASTER OF COMPUTER APPLICATIONS (2 Year)  
(MCA)**

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**

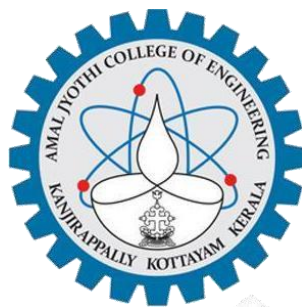


**AMAL JYOTHI COLLEGE OF ENGINEERING  
KANJIRAPPALLY**

[Affiliated to APJ Abdul Kalam Technological University, Kerala. Approved by AICTE, Accredited by NAAC with 'A' grade. Koovappally, Kanjirappally, Kottayam, Kerala – 686518]

**2021-2022**

**DEPARTMENT OF COMPUTER APPLICATIONS**  
**AMAL JYOTHI COLLEGE OF ENGINEERING**  
**KANJIRAPPALLY**



**CERTIFICATE**

This is to certify that the Lab report, “**20MCA132 OBJECT ORIENTED PROGRAMMING LAB**” is the bonafide work of **VIJAY VISHNU PB (Reg.No: AJC21MCA-2109)** in partial fulfillment of the requirements for the award of the Degree of Master of Computer Applications under APJ Abdul Kalam Technological University during the year 2021-22.

**Rev.Fr.Dr.Rubin Thottupuram Jose**

**Lab In-Charge**

**Head of the Department**

**Internal Examiner**

**External Examiner**

# CONTENT

Sl.No	Content	Date	Page No
1	Define a class product with data member pcode,pname and price .Create three objects using the class and find the product having lowest price.	26-03-2022	1
2	Read 2 matrices from the console and perform matrix addition.	6-04-2022	3
3	Add complex numbers	6-04-2022	6
4	Read a matrix from the console and check whether it is symmetric or not.	6-04-2022	8
5	Create CPU with attribute price create inner class processor(number of cores, manufacturer) and static nested class ram(memory, manufacturer). Create an object of CPU and print information of processor and ram.	6-04-2022	10
6	Program to sort strings	22-04-2022	12
7	Search an element in an array	22-04-2022	13
8	Perform string manipulations.	13/05/2022	15
9	Program to create a class for Employee having attributes eNo, eName eSalary. Read n employ information and Search for an employee given eNo, using the concept of Array of Objects	13/05/2022	19
10	Area of different shapes using overloaded functions	17/05/2022	22
11	Create a class 'Employee' with data members Empid, Name, Salary, Address and constructors to initialize the data members. Create another class 'Teacher' that inherit theproperties of class employee and contain its own data members department, Subjects taughtand constructors to	17/05/2022	25

	initialize these data members and also include display function to display all the data members. Use array of objects to display details of N teachers		
<b>12</b>	Create a class 'Person' with data members Name, Gender, Address, Age and a constructor to initialize the data members and another class 'Employee' that inherits the properties of class Person and also contains its own data members like Empid, Company_name, Qualification, Salary and its own constructor. Create another class 'Teacher' that inherits the properties of class Employee and contains its own data members like Subject, Department, Teacherid and also contain constructors and methods to display the data members. Use array of objects to display details of N teachers.	<b>18/05/2022</b>	<b>29</b>
<b>13</b>	Write a program has class Publisher, Book, Literature and Fiction. Read the information and print the details of books from either the category, using inheritance.	<b>18/05/2022</b>	<b>34</b>
<b>14</b>	Create classes Student and Sports. Create another class Result inherited from Student and Sports. Display the academic and sports score of a student.	<b>18/05/2022</b>	<b>39</b>
<b>15</b>	Create an interface having prototypes of functions area() and perimeter(). Create two classes Circle and Rectangle which implements the above interface. Create a menu driven program to find area and perimeter of objects	<b>24/05/2022</b>	<b>43</b>
<b>16</b>	Prepare bill with the given format using calculate method from interface.	<b>24/05/2022</b>	<b>47</b>
<b>17</b>	Create a Graphics package that has classes and interfaces for figures Rectangle, Triangle, Square and Circle. Test the package by finding the area of these figures.	<b>31/05/2022</b>	<b>50</b>
<b>18</b>	Write a user defined exception class to authenticate the user name and password	<b>31/05/2022</b>	<b>52</b>
<b>19</b>	Find the average of N positive integers, raising a user defined exception for each negative input.	<b>01/06/2022</b>	<b>54</b>

<b>20</b>	Define 2 classes; one for generating Fibonacci numbers and other for displaying even numbers in a given range. Implement using threads. (Runnable Interface).	<b>01/06/2022</b>	<b>56</b>
<b>21</b>	Program to create a generic stack and do the Push and Pop operations.	<b>01/06/2022</b>	<b>58</b>
<b>22</b>	Maintain a list of Strings using ArrayList from collection framework, perform built-in Operations	<b>07/06/2022</b>	<b>61</b>
<b>23</b>	Program to demonstrate the creation of queue object using the Priority Queue class.	<b>07/06/2022</b>	<b>62</b>
<b>24</b>	Program to demonstrate the addition and deletion of elements in deque.	<b>07/06/2022</b>	<b>64</b>
<b>25</b>	Write a Java program to compare two hash set.	<b>07/06/2022</b>	<b>65</b>
<b>26</b>	Program to demonstrate the working of Map interface by adding, changing and removing elements.	<b>07/06/2022</b>	<b>67</b>
<b>27</b>	Program to find maximum of three numbers using AWT.	<b>09/06/2022</b>	<b>71</b>
<b>28</b>	Implement a simple calculator using AWT components	<b>09/06/2022</b>	<b>73</b>
<b>29</b>	Develop a program to handle all mouse events and window events	<b>09/06/2022</b>	<b>76</b>
<b>30</b>	Develop a program to handle Key events	<b>09/06/2022</b>	<b>78</b>
<b>31</b>	Write a program to write to a file, then read from the file and display the contents on the console.	<b>31/05/2022</b>	<b>80</b>
<b>32</b>	Write a program to copy one file to another.	<b>31/05/2022</b>	<b>82</b>
<b>33</b>	Write a program that reads from a file having integers. Copy even numbers and odd numbers to separate files.	<b>31/05/2022</b>	<b>83</b>