

| | | | | | | | |
|--|--|--|--|--|--|--|--|
| | | | | | | | |
|--|--|--|--|--|--|--|--|

BE Degree Examination November 2016

Third Semester

Common to ECE, EEE, EIE branches

14CST35 – OBJECT ORIENTED PROGRAMMING

(Regulations 2014)

Time: Three hours

Maximum: 100 marks

Answer all Questions

Part – A ($10 \times 2 = 20$ marks)

1. Recall the application of OOP.
2. Write a while loop that display the number from 100 to 110.
3. State the properties of static member function in C++.
4. How do you declare a Member function as constant?
5. Find the error in the following program. Justify.

```
#include<isotream.h>
class Room
{
    int width, height;
    void setValue(int w, int h)
    {
        width=2;
        height=h;
    };
};
void main()
{
    room objRoom;
    objRoom.width=12;}
```

6. List the characteristic of constructors.
7. What is meant by 'this' pointer?
8. What is dynamic initialization of object in C++?
9. Mention the advantages of streams in C++.
10. Write any two manipulators in C++.

Part – B ($5 \times 13 = 65$ marks)

11. a. Summarize the data types and operators used in C++. (13)

(OR)

- b. i) Compare and contrast call by reference and return by reference. (6)
- ii) Explain the concept of inline functions with an example program. (7)

12. a. i) Develop a C++ program to count the number of objects using static member functions. (6)

- ii) Outline the syntax of friend function with an example. (7)

(OR)

- b. i) Develop a C++ program to represent a class for a bank account which includes the following members: Name of the depositor, account number, type of account, balance amount. Member functions: To assign initial values, to deposit an amount, to withdraw an amount, to display name & balance. (7)
- ii) Explain Array of objects in C++ with a program to print 5 students information. (6)
13. a. Illustrate a C++ program for book details using constructors and destructors. (13)
- (OR)
- b. i) Develop a C++ program for copy constructor. (6)
- ii) Explain overloading unary and binary operators in C++. (7)
14. a. List all the types of inheritance and explain each of them with suitable examples. (13)
- (OR)
- b. i) Develop a C++ program to demonstrate abstract class. (6)
- ii) Explain pure virtual functions with an example. (7)
15. a. Assuming that a text file named FIRST.TXT contains some text written into it, write a function named copyupper(), that reads the file FIRST.TXT and creates a new file named SECOND.TXT contains all words from the file FIRST.TXT in uppercase. (13)
- (OR)
- b. Explain the unformatted I/O operations with suitable examples. (13)

Part – C (1 × 15 = 15 marks)

16. a. Write a function in C++ to count and display the number of lines not starting with alphabet 'A' present in a text file "STORY.TXT". (15)
- Example:
- If the file "STORY.TXT" contains the following lines,
- The rose is red.
- A girl is playing there.
- There is a playground.
- An aeroplane is in the sky.
- [The number of lines not starting with alphabet 'A' is =2].
- (OR)
- b. Write a C++ program to write a class worker and derived classes Daily worker and Salaried worker from it. Every worker has a name and salary rate. Write method ComPay(int hours) to compute the week pay of every worker. A Daily worker is paid on the basis of the number of days she works. The Salaried worker gets paid the wage for 40 hours a week no matter what the actual hours are. Test this program to calculate the pay of worker. You are expected to use the concept of Polymorphism to write this program. (15)