Reg. No.

IANIPAL INSTITUTE OF TECHNOLOGY

ent Institution of Manipal University

V SEMESTER B.TECH.(BME) DEGREE END SEMESTER EXAMINATIONS NOV/DEC 2016 SUBJECT: OBJECT ORIENTED PROGRAMMING (BME 4006) (REVISED CREDIT SYSTEM)

Thursday, 1st December, 2016, 2 PM to 5 PM

TIME: 3 HOURS

MAX. MARKS: 100

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Instructions	to	Candidates:

- Answer all FIVE full questions. 1.
- Draw labeled diagram wherever necessary 2.
- Explain the concept of "data hiding" and discuss its benefit. 1. (a) **06** Explain the mechanism of accessing private, protected and public members (data member **(b)** 08 and member functions) of the class. Specify a class called "PATIENT" with the following details: 06 (c)
 - Private data member (name)
 - Public member functions namely: G_Name() and P_Name(), define them outside the class
 - Create two objects of the class "P1" and "P2".
- 2. Write two important characteristics of a constructor. When do you find the constructors 08 (a) overloaded. Give an example for a multiple constructor.
 - **(b)** Describe the characteristics of a static member.
 - What is 'operator overloading'? List two operators that cannot be overloaded. Design an 08 (c) operator function to overload unary operator "++".
- 3. Describe the syntax for declaration, definition and calling an "inline function". Mention (a) 06 its one advantage and one disadvantage.
 - **(b)** Normally "function overloading" is classified under static polymorphism. Why? Explain 08 the concept of function overloading in the case where the functions are to be written for adding "two integer values" and "two complex numbers".

- (c) Design a C++ function for finding the largest number in a group using "pass by reference" 06 style.
- 4. (a) Explain the general procedure to convert the given basic data type to a class type. Write a 06 function to convert the distance from meters to feet-inches.
 - (b) Explain the following with an appropriate syntax:
 - i. Multiple inheritance
 - ii. Multilevel inheritance
 - (c) Write a program using C++ for the following inheritance problem:



- 5. (a) Explain the opening of a file using the function open ("filename", mode) in the following 06 modes:
 - Mode1: Reading only
 - Mode2: Open fails, if the file does not exist
 - (b) Describe the actions of the following functions:
 - i. window (10,10,30,26);
 - ii. detectgraph(&gd,&gm);
 - iii. int x=fileout.tellp();
 - iv. object.seekg(-m, ios::cur);
 - (c) What are 'synchronous exceptions'? Describe the exception handling mechanism using 06 the following key words: *try*, *throw* and *catch*.

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