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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- Oct 2017

B.Tech III Semester (CSE/IT)

COURSE CODE: 10B11CI311 MAX. MARKS: 25

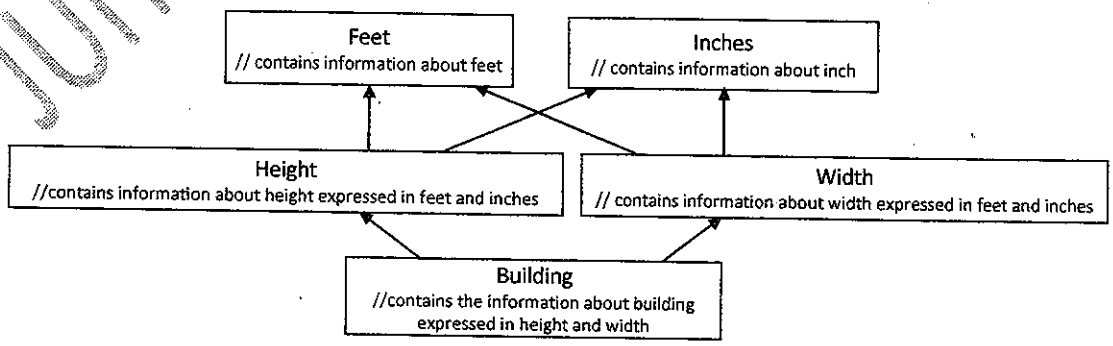
COURSE NAME: Object-Oriented Programming

COURSE CREDITS: 4 MAX. TIME: One Hour Thirty Minutes

Note: *All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.*

1. Define a class Distance with data members: kmeter and meter. Define conversion function to convert Distance object into distance in miles (float type). Also make use of constructor to convert distance in miles (float type) into object of Distance class. **[4 marks]**
2. Create a class named *InsurancePolicy* for a life insurance company. Data members include a *policy number*, *name of the policy holder*, *value of the policy,* and *annual premium.* The class includes member functions to enter and display the policy details. Use the concept of file handling to perform the following operations: **[6 marks]**
   a. Write multiple objects of the class *InsurancePolicy* into a file "*INS.txt*".
   b. Reads all the records from the file and display them on the screen.
   c. Delete the record of the policy holder from the file by searching his/her policy number.
3. Create a class template *Test* that holds an *object* of a class and the *number of data elements* in that object. For example, if an *Employee* class has two data members as *empid* and *salary*, then the class template holds the number 2 and an *Employee* object; if a *Student* class contains three data members, then the class template holds the number 3 and a *Student* object. Include a standard input member function *enter()* in the class *Test* that performs the following two operations:
   a. Displays a message on the screen – "You will be asked to enter *X* items from the class *T*"- where *X* is number of data elements in class *T*.
   b. Enters the values of data members of class *T*.

   Write a main() function that tests your template class with following two classes:
   class *Employee*{ int empid; float salary; } ;
   class *Student*{ int rollnumber; char name[20]; int age; }; **[6 marks]**
4. Implement the following class hierarchy in Java. Define appropriate data members and methods for each class or interface. **[6 marks]**



5. Define the following terms in Java (1-3 statements, only):
   Multithreading, super, and byte-code. **[3 marks]**