**INDIAN INSTITUTE OF SPACE SCIENCE AND TECHNOLOGY**
**THIRUVANANTHAPURAM 695 547**

**First Year B. Tech. - Assignment Sheet**
**MA122-Computer Programming and Applications**

**17.04.2017**          **Maximum Marks: 10**          **Assignment Sheet 14**

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a. Write a base class `shape` and derived classes `square`, `triangle`, `rectangle`, `circle`, `cube`, `cylinder` and `sphere`.

  (a) Use base class to set the parameters of the shapes, such as side, height, radius etc.

  (b) Find the area of the shapes using the methods in the derived classes.

  (c) Find the surface area of the shapes by overloading the operator + and using the area of shapes already implemented, wherever it is possible.

**Program submission:**

Name the programs as XXXA14Y.cpp, where XXX is the last three digits of your student id and Y is program number. For example, if the student id is 'sc17b150' and your program number is 'a' then the file name should be 150A14a.cpp. Submit the programs using ftp to the server: 172.20.2.200