Question Paper Code: 20366

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2018.

Fourth Semester

Electrical and Electronics Engineering

CS 6456 — OBJECT ORIENTED PROGRAMMING

(Common to Electronics and Instrumentation Engineering, Instrumentation and Control Engineering)

(Regulations 2013)

Time: Three hours

Maximum: 100 marks

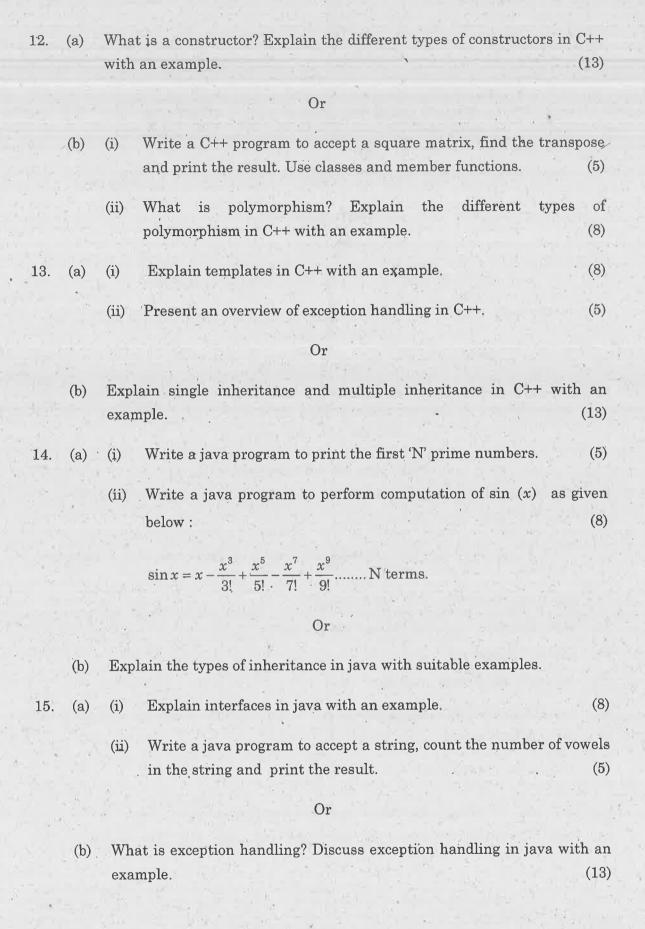
Answer ALL questions.

PART A — $(10 \times 2 = 20 \text{ marks})$

- 1. Define pointer. Give example.
- 2. What is an abstract data type? Give example.
- 3. Why do we need the preprocessor directive # include <iostream> in a C++ program?
- 4. What is data abstraction? Give example.
- 5. How do templates benefit a C++ developer?
- 6. Define inheritance.
- 7. What is java virtual machine?
- 8. List the logical operators in java.
- 9. What is package in java?
- 10. Define multithreading.

PART B — $(5 \times 13 = 65 \text{ marks})$

- 11. (a) Outline the features of the object oriented programming paradigm. (13)
 - (b) Write a C++ program to store 'n' names in an array name, sort the names in alphabetic order and print the result. Use classes and member functions. (13)



PART C - $(1 \times 15 = 15 \text{ marks})$

16. (a) Consider a book shop which sells both books and video-tapes. Create a class media that store the title and price of a publication. Create two derived classes, one for storing the number of pages in a book and another for storing the playing time of a tape. Write a function display () is used in all the classes to display the class contents.

Note: that the function display () has been declared virtual in media, the base class. Write a C++ program for the above. (15)

Or

- (b) (i) Write a java program to sort an array of 'N' numbers in ascending order. Use classes and methods. (8)
 - (ii) Write a java program to accept a string, reverse the string, check whether the string is a palindrome and print the result. Use classes and methods.

Note: An example for palindrome: consider the string 'MALAYALAM' when you reverse the string you get back the original string 'MALAYALAM' and hence the string "Malayalam" is a palindrome.

