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Code No. : 22116TS O2

**VASAVI COLLEGE OF ENGINEERING (Autonomous), HYDERABAD**  
**B.E. (C.S.E.) II Year II-Semester Backlog Examinations, May-2017**

**Finishing School - II : Technical Skills**

Time: 1 ½ hours

Max. Marks: 35

*Note: Answer ALL questions in Part-A and any FIVE from Part-B*

**Part-A (5 × 2 = 10 Marks)**

1. class smart

```
{
    char x;
    int y;
    smart(char a, int b)
    {
        x=a;
        y=b;
    }
};
```

Derive a class SmartBut with z as a data member and define function display to display the data in SmartBut. Include the constructor for SmartBut.

2. Differentiate member functions and friend functions.
3. What do you mean by polymorphism? What are the different ways of implementing it?
4. Write a PHP program to print:-
  - a) the months of a year
  - b) the days of week
5. Write about error handling mechanism in PHP.

**Part-B (5 × 5 = 25 Marks)**

*(All bits carry equal marks)*

6. a) What are the various types of constructors that could be created for a class? Which are the situations in which a copy constructor is mandatorily required? Create a sample copy constructor and use it.  
b) The periodic table of chemical elements classifies and displays all chemical elements. Each chemical element has a unique symbol, name, atomic number and mass number. Write a C++ program to implement the periodic table. Implement different function to generate reports such as
  - To find and list the information of all elements which have mass number greater than x
  - To find and list the information of all elements that have symbol starting with character y
7. a) What is achieved through inheritance? What are the various types of inheritances? Is there any complication while implementing certain types of inheritances together? If so how can it be solved?  
b) Write an application to store the names and roll numbers of students in your class. The first name and last name of the student should be stored. There should not be any static allocation of memory for storing names as it does not use memory efficiently. Overload the operator >> to read the first name and last name in one line separated by space.

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8. a) What do you mean by virtual functions? What is the purpose of a virtual function? Give an example
- b) An application is to be implemented for selling airline tickets. The application should allow users to access simultaneously. But when multiple users try to access the same ticket, the ticket is to be booked by the user on a first come first serve basis. If a user tries to book a ticket when all tickets are booked the exception to be handled by throwing an exception of type 'BookingFull'. Assume a total of 500 tickets are available.
9. a) Write about the various control structures in PHP.
- b) Write a PHP program to print the diagonal elements of a matrix.
10. a) Differentiate between passing data by reference and passing data by value in PHP. How do you send an array to a function?
- b) Write a PHP script to count lines in a file and print the results in table format.
11. a) Explain about the advantages of Object Oriented Programming paradigm over structured programming paradigm with an example.
- b) Use function overriding to implement display function that prints two different messages "C++ is good" and "PHP is better" when invoked with two different types of objects.
12. Answer any *two* of the following:
  - a) What is a template? Give an example. What is achieved by writing template codes?
  - b) How do you create a web form in PHP and validate the data?
  - c) Explain about file handling in PHP.

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