

[19]

SARDAR PATEL UNIVERSITY

M.Sc. (Bioinformatics)

Semester – I (CBCS) External Examination

PS01CMBI04 (Biocomputing Fundamentals)

7th December, 2012, Friday

Time: 10:30 am to 01:30 pm

Max Marks: 70

Q1. Choose the most appropriate option for each question.

[8]

- a. The JVM accepts _____ as an input.
(A) Source code (B) Machine code (C) ByteCode (D) None of these
- b. Which of the following data structure supports First In First Out mode of operation?
(A) Stack (B) Queue (C) Linked List (D) Tree
- c. Which of the following is not a valid access specifier in Java?
(A) protected (B) private (C) public (D) global
- d. The final keyword is used to prevent _____ of a class.
(A) encapsulation (B) abstraction (C) inheritance (D) None of these
- e. What is the pointer called which is used to indicate the last node inserted in the queue?
(A) rear (B) bottom (C) front (D) top
- f. If anything you are typing in vi editor is treated as a text then you are in which mode of operation?
(A) Last line mode (B) Command mode (C) Insert mode (D) None of these
- g. Which of the following Linux command is used to display the running processes?
(A) ps (B) who (C) ls (D) None of these
- h. Which of the following is **not** the search engine?
(A) Google (B) gmail (C) yahoo (D) AskMe

Q2. Answer the following questions (Any Seven):

[14]

- a. Discuss the use of *who* and *who am i* commands in Linux.
- b. Explain the use of *man* and *apropos* commands in Linux.
- c. What is the operation performed by *head* and *tail* commands in Linux?
- d. Discuss any one hashing function with example.
- e. What is the difference between simple queue and a circular queue?
- f. Define terminal node and branch node of a tree.
- g. Differentiate between primitive and non primitive data structures.
- h. What is search engine? List any four search engines.
- i. Represent the following arithmetical expression in form of a binary tree.

$$v1 + v2 * v3 - (v4 / v5)$$

Q3. Answer the following questions:

a. Discuss the history of Java. Also discuss the main features of object oriented programming language. [6]

b. Write a note on inheritance in Java. [6]

OR

b. Write a note on string handling in Java. [6]

Q4. Answer the following questions:

a. Define Exception. Explain the concept of exception handling in detail. [6]

b. Explain the use of final and super keywords in Java. [6]

OR

b. Explain interfaces in details. [6]

Q5. Answer the following questions:

a. Write a note on history of Unix operating system. Discuss the features of Unix in detail. [6]

b. Explain the hierarchical file structure of Linux in detail. Also explain different types of files available in Linux. [6]

OR

b. Write a note on a stack data structure in detail. Also write an algorithm for any of the operation that can be performed on it. [6]

Q6. Answer the following questions:

a. What is the traversal of a binary tree? Explain different traversal techniques in detail by taking example. [6]

b. What is an electronic mail? Write a note on architecture and services of an e-mail. [6]

OR

b. What is www? Explain its working in detail. Also discuss about the URL and domain names. [6]

○○○