2019

B.Sc. (Hons)

4th Semester Examination

COMPUTER SCIENCE

Paper - SEC2T

Full Marks : 25

Time : 2 Hours

The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.

HTML Programming

1. Answer any *three* questions :　　　　3×2=6

(a) What is HTML ?

(b) How do you insert a comment in HTML ?

(c) What are tags ?

(d) How do you create multicolored text in a webpage ?

(e) What is marquee ?

[Turn Over]

2. Answer any *two* of the following :   2×5=10

  (a) How do you insert a picture into a background image of a web page ?

  (b) What is the difference between the directory and menu lists and the unordered lists ?   2+3=5

  (c) What is CSS and how do we use it in HTML?

  (d) What are the limits of the text field size ?

      Do <th> tags always need to come at the start of a row or column ?   3+2

3. Answer any *one* question :   1×9=9
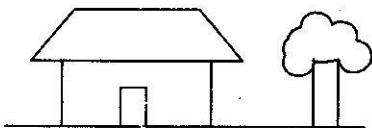
  (a) (i)   When is it appropriate to use frames ?

     (ii)   What are style sheets ?

     (iii)   Why are there both numerical and named character entity values ?

     (iv) What is an image map ?   2+2+3+2=9

  (b) Develop a page which will show a figure.

After clicking on a link in this page a new page will open and this page also shows exactly the same image.   9

XML Programming

1. Answer any *three* questions :   3×2=6

   (a) What is a document Type Definition (DTD) ?

   (b) How do browsers read XML ?

   (c) What are XML namespaces ?

   (d) What is SGML ?

   (e) What is XML tag ? Give an example.

2. Answer any *two* of the following :   2×5=10

   (a) How does XML improve hyperlinking ?

   (b) Write about the style sheet of XML ?

   (c) (i) What are the special characters used in XML ?

       (ii) What is the disadvantages of XML?   3+2

[Turn Over]

3. Answer any *one* questions : 1×9=9

  (a) (i) What is XML encoding ?

      (ii) Can you replace HTML with XML ?

      (iii) Why XML editor is needed instead of notepad ?

      (iv) What are the benefits of XML ? 2+2+2+3

  (b) Write short note on : 4½+4½

      (i) XML Canonicalization.

      (ii) XML Encryption.

Oracle (SQL/PL-SQL)

1. Answer any *three* questions : 3×2=6

  (a) Define Primary Key & Super Key?

  (b) What is a constraint ? Define view.

  (c) What do you mean by data integrity ?

  (d) What is the default ordering of data using ORDER BY clause ? How could it be changed?

  (e) When do we use triggers ?

2. Answer any *two* of the following :   2×5=10

   (a) What are aggregate and scalar functions ? How to fetch alternate records from a table ?   3+2

   (b) What are the PL/SQL blocks ? Give example and explain.

   (c) Discuss   COMMIT,   ROLLBACK   and SAVEPOINT with examples.

3. Answer any *one* question :   1×9=9

   (a) (i) How can you create an empty table from an existing table.   2

       (ii) What is the difference between functions and procedures ?   2

       (iii) Define implicit and explicit Cursor.   2

       (iv) Explain three basic parts of a trigger ?   3

   (b) Write a PL/SQL script that shows the usage of WHILE loop to calculate the average of user entered numbers and entry of more numbers are stopped by entering numbers 0 ?   9

[Turn Over]

Linux Programming

1. Answer any *three* questions : 3×2=6

   (a) Define Remote Access and Remote login.

   (b) Define term kernel in context of Unix.

   (c) Distinguish between absolute and relative pathnames with respect to UNIX operating System.

   (d) What is the significance of the HOME directory?

   (e) What is piping ? Explain with example.

2. Answer any *two* of the following : 2×5=10

   (a) Explain 'ftp' and its importance in LINUX.

   (b) What are the difference between fork and exec?
   2+2+1

   (i) Define shell & Kernel.

   (ii) What is the use the tree command ?

   (c) Different ways of changing the file permissions.

3. Answer any *one* question : 1×9=9

   (a) Write a Linux shell script that will convert all numeric digits present in a text file into '*'. The path of the text file would be given by the user.

9

(b) (i) Draw and explain the typical architecture of Unix. 4

(ii) Discuss internal and external commands with suitable examples. 5

R Programming

1. Answer any *three* questions : 3×2=6

(a) What is R ?

(b) What are the data structures in R that is used to perform statistical analysis and create graphs?

(c) How can you generate a sequence of integers from 1 to 10 using for loop ?

(d) In R programming, how missing values are represented ?

(e) Create a simple matrix with 3×3 site in R.

2. Answer any *two* of the following : 2×5=10

(a) What is a vector in R ? Explain operations on vectors ?

[Turn Over]

(b) What is the difference between matrix and dataframe ? What are with( ) and by( ) function used for ?   3+2

(c) Explain the data import process in R language.

3. Answer any *one* questions :   1×9=9

(a) What is the use of Subset( ) and sample( ) function in R ? What are the advantages of R ? How many data structures R has ? What is the workspace in R ?   3+3+2+1

(b) (i) How to create new variable in R programming ?

(ii) Explain how data is aggregated in R.

(iii) What is the function which is used for merging of data frames vertically in R ?

(iv) What is the function used for adding datasets in R ?   2+3+2+2

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