MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Institution of Manipal University

V SEMESTER B.TECH. (INFORMATION TECHNOLOGY)

MAKEUP EXAMINATIONS, DEC 2017/JAN 2018

SUBJECT: INTERNET TOOLS AND TECHNOLOGY [ICT 3103]

REVISED CREDIT SYSTEM

(23 / 12 /2017)

Time: 3 Hours   MAX. MARKS: 50

Instructions to Candidates:

❖ Answer ALL the questions.

❖ Missing data, if any, may be suitably assumed.

1A.	Develop an application, where a database is populated with following details: Student name, Student ID, Semester, CGPA. Student logs in using valid student ID from his/her web browser. On successful login a greeting message with his/her name (eg: Hello Ramesh !!!) and also all details of top scoring students from each semester is displayed. (use CGI concept and python script)	5
1B.	Briefly explain Hyper Text Transfer Protocol.	3
1C.	Write the jQuery selector for the following: a) Select all \<p\> elements that are the first \<p\> element of their parent. b) Select all \<p\> elements that are sibling and follow after the \<h1\> elements.	2
2A.	Explain with an example the following html/CSS concepts. a) Frameset b) Nested and ordered list c) noresize attribute d) fixed positioning.	5
2B.	Write a MathML for the following mathematical equation:	3

$$w = r^{1/4} + \frac{-k \pm \sqrt{b^3 - 5sa}}{3b}$$

2C.	Briefly explain the concept of Web Services Description Language.	2
3A.	Write a dynamic html page which prompts user to enter a choice and performs the following operation based on the user's choice: a) Display the square of the number from 1 to n. b) Factorial of a given number.	5

3B. What is the output of the following error free perl code?　　3

```perl
$v = "We're going to party like it's 2020!! ( Prince?)";
$v = ~m/(.{5}) \w+\s\w+\s(\w+) \D+ (\d+)/ig;
print "$1\n";
print "$2\n";
print "$3\n";
```

3C. Write an XSL stylesheet which displays the following XML in a HTML table format　　2
with the table title as Fruit:

```xml
<?xml version="1.0"?>
  <fruit>
  <item>
      <name>apple</name>
      <price>$1.12</price>
      <quantity>17</quantity>
  </item> <item>
      <name>banana</name>
      <price>$0.69</price>
      <quantity>21</quantity>
  </item>
  </fruit>
```

4A. Write a valid markup that validates the following DTD.　　5

```dtd
<! ELEMENT collection(description, recipe*)>
  <! ELEMENT description ANY>
  <! ELEMENT recipe(title, ingredient*, preparation, comment?, nutrition)>
  <! ELEMENT title(# PCDATA)>
  <! ELEMENT ingredient(preparation?)>
  <! ATTLIST ingredient name CDATA #REQUIRED
                  amount CDATA # IMPLIED
                  unit CDATA #IMPLIED>
  <! ELEMENT preparation(step*)>
  <! ELEMENT step(#PCDATA)>
  <! ELEMENT comment(# PCDATA)>
  <! ELEMENT nutrition EMPTY>
  <! ATTLIST nutrition protein CDATA #REQUIRED
                  carbohydrates CDATA #REQUIRED
                  fats CDATA #REQUIRED
                  calories CDATA #REQUIRED >
```

4B. Write an html program to do the following:　　3
   a) Create an html form consisting of following fields: Name, Email, City (use
      drop down) and submit button.
   b) On submit display the content entered by the user as a JSON object.

4C. What is the output of the following error free python code?　　2

```python
my_list = ['p','r','o','g','r','a','m','i','z']
print(my_list[:-5])
print(my_list[:])
```

5A. Explain the following with suitable examples with respect to javascript:　　5
      a) Collections all and children.
      b) innerHTML and outerHTML.

5B. Create HTML page with the map of India, and create separate links to one state each　　3
from north, south, east and west (use all values of shape attribute).

5C. Write a python program that accepts a hyphen-separated sequence of words as input　　2
and prints the words in a hyphen separated sequence after sorting them
alphabetically.