

Reg. No.



MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

(A constituent unit of MAHE, Manipal)

V SEMESTER B.TECH. (INFORMATION TECHNOLOGY) END SEMESTER EXAMINATIONS, NOVEMBER 2019

SUBJECT: INTERNET TOOLS & TECHNOLOGIES [ICT 3103]

REVISED CREDIT SYSTEM

(20/11/2019)

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

- ❖ Answer ALL the questions.
- ❖ Missing data, if any, may be suitably assumed.

- 1A.** Explain with an example the following html/CSS concepts.
- a) Frameset
 - b) Nested and ordered list
 - c) noresize attribute
 - d) fixed positioning.
- 1B.** Explain three-tier architecture with a neat diagram.
- 1C.** What is the significance of using CSS? Explain the difference between internal styling and external styling with suitable examples.
- 2A.** Using python CGI, create a Web page containing these fields – a dropdown, 2 checkboxes and a “Retrieve” button. The dropdown named “StudId” to select a student Id (say options “select”, “1”, “2”, “3” are available). The 2 checkboxes allow selections of subjects “Physics” and “Maths”. Once the fields are selected and “Retrieve” button is hit, on successful Javascript validation (a student id should be selected from the dropdown, either one or both the checkboxes should be selected), move to the second page, retrieve and display the marks obtained for the subjects for that particular student id. In the second page populate sqlite with records of 3 students so that the record matching any of their Ids can be retrieved. [Assume table structure and data suitably and sqlite should be managed properly so that it works fine every time user comes to the second page]. If the Javascript validation fails (either no student id selected or none of the subjects selected) in the first page, display appropriate messages to the user and do not move to the second page.
- Example : In the first page if the user selects “2” in “StudId”, selects subjects “Physics” and “Maths” and hit “Retrieve” then the second page display should be:
- Student with Id 2 secured <x> marks in Physics and <y> marks in Maths.
- Note:* Since it is a checkbox, it is also possible to select only “physics” and only “maths” and should work for all cases.
- 2B.** Write Jquery selector for the following:
- i. Select all elements which has the text "world"
 - ii. Select all p elements that are the 2nd child of their parent, counting from the last child
 - iii. Select all p elements that are siblings of a div element

2C. Explain Web Service Description Language (WSDL) and write the structure of WSDL document. 2

3A. Explain the following with suitable examples with respect to javascript: 5

- Event bubbling.
- Dynamic positioning.
- Collections all and children .
- innerHTML and outerHTML.

3B. I have xml in the below structure (assume multiple repeating cd of same structure within catalog)

```

<catalog>
  <cd>
    <title>Big Willie style</title>
    <artist>Will Smith</artist>
    <country>USA</country>
    <company>Columbia</company>
    <price>9.90</price>
    <year>1997</year>
  </cd>
  <cd>...</cd>
</catalog>

```


Write XSLT for displaying every title and price. Display all titles in red and price in green by applying custom templates. 3

3C. Write a perl script to display all the environment variables along with their values. 2

4A. Write a Python program to read two linear expressions from a file named "f1.txt" (which are in 2 different lines) having 2 unknowns "x" and "y". Add the expressions & put the resultant expression to the 3rd line of the same file "f1.txt". For example if the input expressions are 3x+55y and 44x+23y, then the resultant expression is 47x+78y. After reading from the file, validate that "x", "+" and "y" are present in the required order in both the expressions, and if they are not present or not in required order then do not add them and display "expressions are not in valid format." 5

4B. Write the HTML code to generate a Web Page given below:

ITT 2019

Column 1	Column 2	Column 3	
Row 1 Cell 1	Row 1 Cell 2	Row 1 Cell 3	HTML This stands for Hyper Text Markup Language HTTP This stands for Hyper Text Transfer Protocol
	Row 2 Cell 2	Row 2 Cell 3	
Row 3 Cell 1			
			A List <ul style="list-style-type: none"> • Coffee • Tea <ul style="list-style-type: none"> I. Beetroot II. Ginger III. Potato IV. Radish • Milk

3

- 4C.** Write Perl regular expressions for:
- A sentence containing exactly 4 words.
 - To validate that there is a character 'k' at the 4th index of a string of exactly 8 characters.
- 2**

- 5A.** What is JSON? How do you convert JSON object to a string and vice versa:
- in Python
 - in JavaScript

Explain with suitable code snippets. **5**

- 5B.** Explain hypertext transfer protocol. Also mention the difference between GET and POST methods. **3**

- 5C.** Represent the given equation using MathML:

$$\sum_{i=1}^n i^3 = \left(\frac{n(n+1)}{2} \right)^2$$

2