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MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL
(A constituent unit of MAHE, Manipal)

V SEMESTER B.TECH. (INFORMATION TECHNOLOGY) MAKE UP
EXAMINATIONS, DECEMBER 2018
SUBJECT: INTERNET TOOLS & TECHNOLOGIES [ICT 3103]
REVISED CREDIT SYSTEM
(26/12/2018)

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

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

1A. Design an interactive “Student Details” form as shown in the Fig Q.1A using XHTML and Javascript:

Student Details	
Name:	John
Select subjects of: <input checked="" type="radio"/> ICT <input type="radio"/> Physics	<div style="border: 1px solid black; padding: 2px;"> Database GOP Operating Systems Web Design </div>
Choose	
Name: John Subjects: Database; GOP	

Fig Q.1A: Student Details

- The user can enter a name in the first field. (Refer Fig Q.1A)
 - For the second field, the user can choose subjects either “ICT” or “Physics” department and depending on the department chosen, the subjects of the chosen department should be displayed in the list field. If “ICT” department is chosen, then any four subjects of “ICT” department should be shown on the list field. If “Physics” department is chosen, then any four subjects of “Physics” department should be shown on the list field. Once the list field is populated, the user can select multiple subjects from it. (Refer Fig Q.1A)
 - On click of the “Choose” button, the user entries are displayed in the field below the button as shown. (Refer Fig Q.1A) 5
- 1B.** Explain any three text formatting properties in CSS with examples. 3
- 1C.** Explain Javascript slice and splice methods with examples. 2
- 2A.** Write JQuery selector for the following:
- i. selects all p elements that are a direct child of a div element
 - ii. selects all p elements that are siblings of a div element
 - iii. select all p elements that are the 2nd child of their parent
 - iv. select all p elements that are the first p element of their parent
 - v. Select all elements which contains the text "Hello" 5

- 2B.** Explain the following perl regular expressions along with details about it's match.
- `^abc|abc$`
 - `[^abc]+`
 - `\W`
- 3**
- 2C.** Explain the following CGI environment variables along with their usage:
- `QUERY_STRING`
 - `REMOTE_ADDR`
 - `REQUEST_METHOD`
 - `PATH_INFO`
- 2**
- 3A.** Using Javascript, accept a list of "n" US phone numbers of the form ###-###-#### from the user (where n is the user defined limit). Split the phone numbers into country code(the first 3 digits), area code (middle 3 digits) and subscriber number (last 4 digits), and on hitting "DisplayNumbers" button display all of them in html table rows with three columns "CountryCode", "AreaCode" and "SubscriberNumber". Display rows of phone numbers with area code "541" in "blue" background and all other rows of phone numbers in "grey" background.
- 5**
- 3B.** What are HTML DOM objects? Also, explain any two of their usage with examples.
- 3**
- 3C.** Write HTML5 code to create a document containing an ordered list of two hyperlinks. Change the color of each hyperlink when the mouse moves over it.
- 2**
- 4A.** Write a python program to do the following:
- Store the details of 'n' employees. Read 'n' and employee details from user. Each employee's detail should be stored in a tuple in the order: id, name, salary and department. Each tuple should become the member of a list, i.e, t1, t2, ... , tn are stored in the list.
 - Read employee id from user, search the record having the read id from user and display the result.
 - Sort employee details based on their id and display the result.
- 5**
- 4B.** Explain three-tier architecture with a neat diagram.
- 3**
- 4C.** Represent the given equation using MathML:
- $$\sum_{i=1}^n i^3 = \left(\frac{n(n+1)}{2} \right)^2$$
- 2**
- 5A.** Create an XML document which holds a diary of appointments. Each appointment includes serial number (integer type), date, fromTime, toTime and details of each event. The date element has the sub-elements dd, mm and yyyy. The sub-elements of fromTime and toTime are hh, mm, ss. Each appointment element has mandate attribute priority. The possible values of priority attribute are high, medium and low. Create a Document Type Definition for diary by considering all the above mentioned constraints.
- 5**
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- 5B.** Explain WWW operation with a diagram.
- 3**
- 5C.** What is SOAP? Why is it required?
- 2**