MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL
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V SEMESTER B.TECH. (INFORMATION TECHNOLOGY) END SEMESTER
EXAMINATIONS, NOVEMBER 2018
SUBJECT: INTERNET TOOLS & TECHNOLOGIES [ICT 3103]
REVISED CREDIT SYSTEM
(23/11/2018)

Time: 3 Hours   MAX. MARKS: 50

Instructions to Candidates:
❖ Answer **ALL** the questions.
❖ Missing data if any, may be suitably assumed.

1A. Design a working Quiz form as shown in the Fig Q.1A using XHTML and Javascript:

Quiz	
A. Select the state capitals of India:	☑ Bengaluru ☑ Mumbai ☐ Manipal
B. Select the capital of : ● India ○ USA	Delhi ▼
Take Quiz	
	A:Correct B:Correct

Fig Q.1A: Quiz Form

- For the Quiz question A, multiple answers can be selected ("Bengaluru" and "Mumbai" are the correct options). (Refer Fig Q.1A)
- For the Quiz question B, user can either choose "India" or "USA" in the question and accordingly two city options (one correct and one wrong option) should be populated into the dropdown. Say if user chooses "India", then dropdown should be populated with "Delhi" (correct option) and "Mumbai" (wrong option). If user chooses "USA", then "Washington" (correct option) and "California" (wrong option) should be populated. This enables the user to select one city option as answer depending on the country selected. (Refer Fig Q.1A)

On click of the "Take Quiz" button, the user entries against Quiz questions A and B should be validated and should display correct or wrong in the field below the button as shown. (Refer Fig.Q.1A)   **5**

1B. What is CGI? Explain it's working along with a neat diagram.   **3**

1C. Design a XHTML page which displays the sentence "Hello World". When the mouse is moved over each word in the sentence the color of that word should change to "blue" and when the mouse is not on the word, the word should get back its original color "black".   **2**

2A. Explain the following with suitable examples:
   i. XML ii. XSD iii. XSL iv. JQUERY v. JSON   **5**

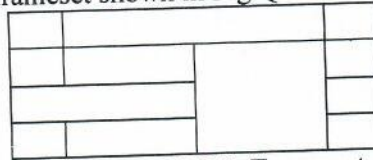**2B.** Using XHTML, create the frameset shown in Fig Q.2B:

Fig Q.2B: Frameset

3

2C. Write the output of the following error-free perl code:

```perl
@alpha1=(A..Z); @alpha2=(A..Z);
print('scalar(@alpha1): ', scalar(@alpha1),"\n");
print('$#alpha1 ', $#alpha1,"\n");
@a1=( ); @a2=( );
while(@alpha1) { push(@a1,shift(@alpha1));}
while(@alpha2) { unshift(@a2,shift(@alpha2)); }
print("\n a1: ",@a1); print("\na2: ",@a2);
```

2

3A. Using XHTML and Javascript, accept a list of "n" emailid/password pairs from the user (where n is the user defined limit). Validate each of the emailid/password pairs in the list and on hitting the "DisplayEmails" button display all of them in html table rows with two columns "Email" and "Password". Email validation is the normal check for a valid email and Password validation is just a check for string with 8 characters or more. All valid emailid/password pairs should be displayed in rows with green background and all invalid emailid/password pairs should be displayed in rows with red background.

5

3B. What is a Window object? Explain any one of its property and any one of its method with an example.

3

3C. Write a python program to display all the CGI environment variables along with their values.

2

4A. Write a python program to read a string from the user and perform the following operations:
  i.   Place the alternate words into a new string named "alt". For example, if the input is "This is an example" then the output is "is example"
  ii. Reverse each word in a string. For example, if the input is "This is an example" then the output is "sihT si na elpmaxe".
  iii. Display all the palindromes present in the input string.
  iv. Copy only the words starting with vowel to a new string named vowel. For example if the input is "This is an example" then output string is "is an example".
  v.   Each words in the input string should be repeated and stored in a string named "repeat". For example if the input is "This is an example" then output string is "ThisThis isis anan exampleexample"

5

4B. Write a perl regular expression for each of the following:
  i.   A valid perl variable name
  ii. A sentence containing exactly 4 words.
  iii. A valid email id

3

2

4C. Explain XSLT with an example code.

5

5A. Explain web services along with WSDL. Also, illustrate working of request and response using javascript code example.

3

5B. Explain the usage of the following HTML tags with examples:
a) mark b) q c) map

2

5C. Represent the given equation using MathML:
$$x = \frac{\pm(-b,\sqrt{b^2-4ac})}{2a}$$